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September 19, 2014

Mr. Roger Papler
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Subject: Transmittal of Indoor Air Testing and Supplemental Vapor Intrusion Assessment Report
California-Olive-Emerson (COE) Study Area and Perimeter Area, Palo Alto, California

Dear Mr. Papler,

Enclosed is the "Indoor Air Testing and Supplemental Vapor Intrusion Assessment Report" for the California-Olive-Emerson (COE) Study Area and Perimeter Area, Palo Alto, California.

Please contact us if you have any questions regarding the report.

Sincerely,

HEWLETT-PACKARD COMPANY

Paul E Paschke

Paul E. Paschke
Environmental Program Manager

VARIAN MEDICAL SYSTEMS, INC.

John Buchanan
Manager, Environmental Affairs

Enclosure: Indoor Air Testing and Supplemental Vapor Intrusion Assessment Report

cc: Mailing List (Attached)

September 19, 2014

Subject: Transmittal of Indoor Air Testing and Supplemental Vapor Intrusion Assessment Report, **California-Olive-Emerson (COE) Study Area and Perimeter Area, Palo Alto, California**

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INDOOR AIR TESTING AND SUPPLEMENTAL VAPOR INTRUSION ASSESSMENT REPORT

CALIFORNIA-OLIVE-EMERSON (COE) STUDY AREA
PALO ALTO, CALIFORNIA

Prepared for:
Hewlett-Packard Company and
Varian Medical Systems, Inc.

Prepared by:
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September 19, 2014

Sign-off Sheet

This report entitled *Indoor Air Testing and Supplemental Vapor Intrusion Assessment Report* was prepared by Stantec Consulting Services Inc. (Stantec) in accordance with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of Hewlett-Packard Company, Varian Medical Systems, Inc., the Regional Water Quality Control Board and the Unites States Environmental Protection Agency. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

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Table of Contents

EXECUTIVE SUMMARY 1

1.0 INTRODUCTION 3

2.0 BACKGROUND 5

3.0 SCOPE OF WORK OVERVIEW 7

4.0 METHODS AND PROCEDURES 9
4.1 PRE-SAMPLING ACTIVITIES 9
4.2 AIR SAMPLING 10
4.2.1 Residential Property Sampling 11
4.2.2 Commercial Building Sampling 11
4.2.3 Laboratory Analysis 12
4.2.4 Evaluation Criteria 12
4.3 SUPPLEMENTAL VAPOR INTRUSION ASSESSMENT 14

5.0 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) ANALYSIS 17
5.1 FIELD QUALITY QA/QC 17
5.2 LABORATORY QA/QC 18
5.3 EXCEPTIONS 18
5.4 DATA USABILITY ASSESSMENT 18

6.0 FINDINGS 19
6.1 RESIDENTIAL BUILDING TESTING 19
6.2 COMMERCIAL BUILDING TESTING 21
6.3 SUPPLEMENTAL VI ASSESSMENT FINDINGS 22

7.0 CONCLUSIONS 24

LIST OF TABLES

Table 1 - Screening Levels for Comparison of Indoor Air Results
Table 2 - Summary of Air Samples Collected from Residential Properties
Table 3 - Summary of Samples Collected from Commercial Properties
Table 4 - Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
Table 5 - Residential Subgrade Garage Analytical Results
Table 6 - Residential Grab Sample Analytical Results
Table 7 - Commercial Indoor and Outdoor Air Laboratory Analytical Results
Table 8 - Commercial Pathway Laboratory Analytical Results
Table 9 - Commercial Subgrade Garage and Grab Sample Laboratory Analytical Results
Table 10 - June 2014 Groundwater Depth Measurements
Table 11 - Summary of Section 1 Observations and Agency Review
Table 12 - Summary of Section 2 Observations and Agency Review
Table 13 - Summary of Section 3 Observations and Agency Review
Table 14 - Summary of Section 4 Observations and Agency Review
Table 15 - Summary of Section 5 Observations and Agency Review
Table 16 - Summary of Supplemental Vapor Intrusion Assessment

LIST OF FIGURES

Figure 1 - Site Location Map
Figure 2 - TCE Concentration Contours, First Encountered Groundwater – 2011
Figure 3 - TCE Concentration Contours, First Encountered Groundwater –Second Quarter 2014
Figure 4 - Supplemental Vapor Intrusion Assessment – Overview
Figure 5 - Supplemental Vapor Intrusion Assessment – Section 1
Figure 6 - Supplemental Vapor Intrusion Assessment – Section 2
Figure 7 - Supplemental Vapor Intrusion Assessment – Section 3
Figure 8 - Supplemental Vapor Intrusion Assessment – Section 4
Figure 9 - Supplemental Vapor Intrusion Assessment – Section 5

Note: Figures and Tables appear at the end of document.

LIST OF APPENDICES

Appendix A – Regulatory Agency Correspondence
Appendix B – Laboratory Analytical Reports

EXECUTIVE SUMMARY

Stantec Consulting Services Inc. (Stantec) has prepared this *Indoor Air Testing and Supplemental Vapor Intrusion Assessment Report* ("the Report") for the California-Olive-Emerson (COE) Study Area and Perimeter Area in Palo Alto, California. The Report was prepared on behalf of Hewlett-Packard Company and Varian Medical Systems, Inc. (collectively, "the Companies"). The Report presents the methods, findings and conclusions related to implementation of the February 17, 2012 *Revised Work Plan for Indoor Air Testing, COE Study Area, Palo Alto, California* (the "Work Plan") and January 13, 2014 *Addendum to the February 17, 2012 Revised Work Plan for Indoor Air Testing, COE Study Area, Palo Alto, California* (the "Work Plan Addendum").

Over 2-years, the Companies, with the involvement and close cooperation of the United States Environmental Protection Agency (USEPA) and the San Francisco Bay Area Regional Water Quality Control Board (RWQCB), conducted Indoor Air testing in 24 buildings, including single-family homes, multi-family residential buildings, and commercial buildings in the COE Study Area of Palo Alto. For the majority of the buildings, multiple rounds of testing were completed. No contaminants attributable to vapor intrusion were detected in Indoor Air samples (defined as air collected from spaces with the potential to be occupied under normal or reasonably foreseeable conditions) above any screening values or action levels in any of the buildings.

The Companies completed this work within areas where in 2010, the USEPA and the RWQCB desired additional assessment of the potential for vapor intrusion. These areas were defined by the agencies as those overlying first encountered groundwater containing trichloroethene (TCE) concentrations that exceed 50 micrograms per liter (µg/L) for residential properties and 100 µg/L for commercial properties and are referred as the Vapor Intrusion Study Area.

Indoor Air samples were collected from 10 single-family and duplex residential buildings, 6 multi-family residential or mixed use properties, and 8 commercial properties. Air samples were also collected at selected buildings from spaces that are not routinely occupied for extended periods of time: these include Outdoor, Pathway, Crawlspace, subgrade Garage and Grab samples. Residential air samples were collected during separate warm and cold season sampling events.

Indoor Air sample analytical results were compared to short- and long-term screening values and short-term response action levels. None of the Indoor Air samples contained chemicals of concern attributable to vapor intrusion at levels that exceeded any long- or short-term screening levels or response action levels. These findings indicate that there is no unacceptable short- or long-term health risk to residential and commercial building occupants in properties in this area from the vapor intrusion pathway.

The agencies also asked that the Companies gather information and assess the potential for vapor intrusion exposure across a broader area of lower groundwater concentrations (out to 5 µg/L of TCE - the "Supplemental Assessment Area"). The supplemental assessment findings support the conclusion that the vapor intrusion exposure pathway has been assessed across the COE Study Area and Perimeter Area and no unacceptable short- or long-term health risks are expected for building occupants in the Supplemental Assessment Area from the vapor intrusion pathway. This conclusion is based on the following:

- Indoor Air sampling results for occupied portions of structures overlying the Vapor Intrusion Study Area where TCE levels in groundwater are higher than the Supplemental Assessment Area, were generally consistent and did not indicate unacceptable risk from vapor intrusion exposures;
- TCE concentrations in groundwater in the Supplemental Assessment Area are lower than TCE concentrations in the Vapor Intrusion Study Area;
- Depth to first-encountered groundwater in the Supplemental Assessment Area is similar to that in the Vapor Intrusion Study Area;
- Predominantly fine-grained sediments, which tend to inhibit vapor migration, are present above first-encountered groundwater across both study areas; and,
- Building construction in the Supplemental Assessment Area is generally similar to that in the Vapor Intrusion Study Area.

Follow-on work related to this study is anticipated to include:

- Additional testing may be conducted at Building 19 during the 2014-2015 cold season because a cold season Indoor Air sample could not be collected in 2014 due to ongoing construction and associated chemical storage; and,
- USEPA and the Companies will conduct follow-on activities in cooperation with the owner of 1 commercial building related to the TCE detections in samples from within the subgrade Garage at that building.

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has prepared this *Indoor Air Testing and Supplemental Vapor Intrusion Assessment Report* ("the Report") for the California-Olive-Emerson (COE) Study Area and Perimeter Area in Palo Alto, California (Figure 1). The COE Study Area includes the Hewlett-Packard Company (HP) 640 Page Mill Road Superfund Site, the former HP 395 Page Mill Road Site, and the former Varian Medical Systems, Inc. (Varian) 601 California Avenue Site (collectively, the Sites). Areas beyond the boundaries of the Sites are referred to as "Off Property". The Perimeter Area extends southeast of the COE Study Area as illustrated on Figure 1.

This Report was prepared on behalf of HP and Varian (collectively, "the Companies"). The Report presents the methods, findings and conclusions of Stantec's implementation of the February 17, 2012 *Revised Work Plan for Indoor Air Testing, COE Study Area, Palo Alto, California* (the "Work Plan") and January 13, 2014 *Addendum to the February 17, 2012 Revised Work Plan for Indoor Air Testing, COE Study Area, Palo Alto, California* (the "Work Plan Addendum").

The Work Plan was prepared to address requirements set forth in a June 1, 2011 letter to the Companies from the California Regional Water Quality Control Board San Francisco Bay Region (RWQCB) requiring the Companies to conduct Off Property Indoor Air testing in the COE Study Area to evaluate potential vapor intrusion in properties that overlie first encountered groundwater containing trichloroethene (TCE) concentrations that exceed the following values:

- 50 micrograms per liter (µg/L) for residential properties
- 100 µg/L for commercial use properties

This is referred to as the "Vapor Intrusion Study Area".

A groundwater survey was conducted in the COE Study Area during 2011 to better define the extent of TCE in first encountered groundwater prior to preparing the Work Plan. Results of that work are presented in a report prepared by Stantec entitled, *Further Refinement of Volatile Organic Compounds in Groundwater, California-Olive-Emerson (COE) Study Area and Perimeter Area, Palo Alto, California* that was submitted to the RWQCB on October 14, 2011. The groundwater survey results combined with data from an extensive network of existing monitoring wells was used by the RWQCB and the United States Environmental Protection Agency Region 9 (USEPA) to identify particular buildings in the COE Study Area for Indoor Air sampling. Figure 2 is the TCE iso-concentration map that was included in the Work Plan.

The Work Plan was approved by the RWQCB with certain conditions in letters dated March 12, 2012 and December 4, 2012. Copies of the Work Plan requirement letter and the Work Plan approval letters are provided in Appendix A.

The Companies conducted work pursuant to the approved Work Plan and the Work Plan approval letters until the spring of 2013, when the RWQCB and USEPA informed the Companies that new requirements were being developed by USEPA that USEPA would seek to impose on the investigation.

The Work Plan Addendum was prepared in response to discussions between the Companies and USEPA representatives on September 12, October 30, and November 22, 2013 in which the USEPA advised the Companies of new requirements it seeks to integrate into the COE Study Area vapor intrusion investigation, as well as the investigations by others at eight other National Priority List sites in the South Bay Area. The Work Plan Addendum included modifications to the Work Plan project team, sampling methods and screening values, and redefined the Vapor Intrusion Study Area to include properties overlying first encountered groundwater containing greater than 5 µg/L TCE. The RWQCB approved the Work Plan Addendum in an approval and requirements letter dated January 23, 2014 (Appendix A). The Companies filed a protective appeal of that letter, a Petition for Review to the State Water Resources Control Board, on the bases, among others, that the new requirements were not developed nor issued through any formal process, they effectively reversed prior approvals and communications to residents, and they were not based on or consistent with any formally published or issued sampling procedures, standards, screening levels, or action levels of the RWQCB or USEPA. Without waiver of the concerns raised in their Petition for Review (which is still pending and is being held in abeyance), the Companies did, however, move forward to conduct the work.

Extensions to the due date for this report were authorized by the RWQCB in May 7, 2014, July 24, 2014 and September 2, 2014 email correspondence. Copies of that correspondence are included in Appendix A.

The remainder of this report is organized as follows:

- Section 2 provides project background information.
- Section 3 provides an overview of the scope of work.
- Section 4 describes the methods and procedures used to implement the agency-approved scope of work.
- Section 5 summarizes the quality assurance and quality control (QA/QC) procedures that were utilized and associated results.
- Section 6 summarizes the air sampling laboratory analytical results and findings of the supplemental vapor intrusion assessment.
- Section 7 presents conclusions.

To protect the privacy of the owners and occupants, street addresses for buildings where Indoor Air testing was conducted are not disclosed in this Report, with the exception of the Sites. Floor plans showing sampling locations are not provided for the same reason. All sampling locations were mutually agreed upon with USEPA based upon building walkthroughs.

2.0 BACKGROUND

The COE Study Area and Perimeter Area is underlain by alluvial fan deposits associated with the San Francisquito Creek to the west and Matadero Creek to the east. 2 primary shallow water-bearing aquifers have been identified within these alluvial fan deposits. These have been termed the A aquifer and the B aquifer. The depth to first encountered groundwater varies across the COE Study Area and Perimeter Area. The A aquifer extends between approximate depths of 13- to 55-feet below ground surface (bgs) and generally includes the A1 Upper (A1U - shallow), A1 (intermediate), and A2 (deep) water bearing zones. Thickness of the fine grained sediments between these zones varies from several feet to not being present. In the western portion of the Study Area, the A1 and A2 Zone sands are in direct contact and form a single A1/A2 hydraulic unit. The B aquifer is encountered between depths of approximately 60- to 120-feet bgs. Thin sandy lenses that extend into the upper portion of the A/B aquitard have been designated by A2 Deep (A2D).

Throughout most of the COE Study Area and Perimeter Area, the A1U Zone is the first encountered groundwater zone. Predominantly fine grained sediments (clays and silts) overlie the A1U Zone. The significance of this is discussed in Section 4.3 (Supplemental Vapor Intrusion Assessment) of this report. The A1 Zone is the first encountered groundwater zone in areas where the A1U Zone is not saturated.

Groundwater present in the A aquifer beneath the COE Study Area and Perimeter Area is impacted with Volatile Organic Compounds (VOC). VOCs detected in groundwater include TCE, tetrachloroethene (PCE), cis-1,2-dichloroethene (cis 1,2-DCE) , vinyl chloride (VC), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), 1,2-dichlorobenzene (1,2-DCB), 1,1,1-trichloroethane (TCA), and Freon 113. These compounds have been identified by the RWQCB, USEPA and the Companies as the Chemicals of Concern (COC) relating to this assessment.

The RWQCB currently regulates the investigation and cleanup of groundwater in the COE Study Area and Perimeter Area pursuant to *Revised Site Cleanup Requirements, Order No. 94-130*, issued on September 21, 1994. USEPA provides technical guidance and support to the RWQCB related to the HP 640 Page Mill Road Superfund Site and the Off Property Area. VOC-impacted groundwater from the Sites comingles in the Off Property Area, along with VOC-impacted groundwater from other sources in the area.

Beginning in the 1980s, the Companies, with the oversight of the RWQCB, conducted extensive remedial investigations and have implemented various cleanup technologies that have removed thousands of pounds of VOCs from the groundwater and soil. The Companies extracted and treated more than 2-billion gallons of groundwater from the Sites and Off Property Area since the 1990s. Groundwater remediation efforts by the Companies are ongoing.

Details of historical remedial investigations and early remediation activities can be found in the 1994 ENVIRON Remedial Investigation Report – Revised for the Study Area (the Study Area RI Report). Reports documenting annual groundwater self-monitoring activities and results, and more recent investigation and remediation work conducted in the Study Area can be accessed on GeoTracker by Site at the following links:

- **640 Page Mill Road Site**

  http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL720511210

- **601 California Site**

  http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL181201123

- **395 Page Mill Road Site**

  http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL18321741

3.0 SCOPE OF WORK OVERVIEW

This section presents an overview of the key elements of the Work Plan and the Work Plan Addendum. An overview of Stantec's implementation of the Work Plan and Work Plan Addendum is also provided.

Key elements of the Work Plan are noted below.

- Testing Indoor Air quality in the following areas:
  - Residential properties underlain by first encountered groundwater containing a TCE concentration equal to or greater than 50 µg/l.
  - Commercial properties underlain by first encountered groundwater containing a TCE concentration equal to or greater than 100 µg/l.
- Pre-sampling building walk-throughs with USEPA to identify Indoor Air sampling locations.
- Collecting indoor and outdoor air samples from residential buildings.
- Collecting indoor and outdoor air samples from commercial buildings with the Heating Ventilation and Cooling (HVAC) system operating as it normally would during a workday.
- Analyzing collected air samples using EPA Method TO-15 in Selective Ion Mode (SIM).
- Comparing analytical results to background/outdoor ambient air levels (Tier 1) and to short-term (Tier 2) and long-term (Tier 3) health based screening values (Table 1, updated with current values as appropriate).

The Work Plan approval letters included the following approval conditions.

- Using a sufficiently sensitive hand-held device, such as a photoionization detector (PID) with sensitivity in the low parts per billion range, when field screening for potential vapor intrusion pathways.
- Collecting Indoor Air samples from commercial buildings with the HVAC system off for a minimum of 36-hours prior to and during sampling and, if any of the results exceed Indoor Air screening levels, repeating the testing with the HVAC system on.

The Work Plan Addendum included the following changes or additions to the approved Work Plan to address requirements set forth by the RWQCB and USEPA:

- Replacing the short-term TCE screening criteria in the approved Work Plan with "Short-Term Response Action Levels" that were first identified by USEPA in a letter dated December 3, 2013.
- Indoor air sampling procedures for testing air in commercial buildings after the HVAC system has been off for at least 36-hours.
- Re-testing of Indoor Air during cold-season months (e.g., January and/or February) at the residential buildings previously sampled during April, July and September, 2012, with concurrent crawlspace/basement testing where present.
- Crawlspace/basement sampling procedures for residential properties.

- Potential Pathway sampling procedures for residential and commercial properties.
- Supplemental assessment for evaluating the potential for vapor intrusion into buildings in the COE Study Area and Perimeter Area that overlie first encountered groundwater containing TCE concentrations less than the threshold criteria used for the Work Plan (e.g., buildings that overlie first encountered groundwater containing greater than 5 µg/L TCE).

Stantec began implementing the approved Work Plan in March, 2012, and conducted residential air testing during April, July and September, 2012. Commercial building testing was initiated in March, 2013, but was subsequently delayed because USEPA informed the Companies that it would evaluate results against as yet unpublished short-term action levels. USEPA subsequently issued a letter to the RWQCB dated December 3, 2013 that contained "Short-Term Response Action Levels" and related recommendations or requirements. Then on July 11, 2014, USEPA sent to the RWQCB an internal USEPA memo dated July 9, 2014 that includes "Accelerated Response Action Levels" and "Urgent Response Action Levels."

Stantec implemented the Work Plan Addendum scope components beginning in February, 2014, conducting 2 rounds of additional (cold season) residential testing 1- to 2-weeks apart, including concurrent crawlspace testing where applicable. Stantec also initiated the supplemental vapor intrusion assessment for the expanded area that is discussed in Sections 4.3 and 6.3. Testing at the remaining commercial buildings (with HVAC system off and/or on) was completed during April through July, 2014.

As further described in Section 4.2, air samples were collected from spaces with the potential to be occupied under normal or reasonably foreseeable conditions, and from spaces not typically occupied. Only results for samples collected from spaces with the potential to be occupied under normal or reasonably foreseeable conditions are directly comparable to the screening criteria, because these criteria were developed by the agencies for exposures in consistently occupied spaces.

4.0 METHODS AND PROCEDURES

Methods and procedures related to air testing and the supplemental vapor intrusion assessment are described in the following subsections.

4.1 PRE-SAMPLING ACTIVITIES

Stantec completed the following activities before conducting Indoor Air testing:

- Prepared a Health and Safety Plan (HASP) to cover field work conducted to implement the Work Plan and Work Plan Addendum.
- Assisted USEPA in its efforts to request access from owners/occupants of the residential buildings selected for potential testing. USEPA, accompanied by Stantec, made all initial contact attempts door-to-door. A USEPA letter regarding the proposed testing, which included USEPA contact information, was provided to an individual present at each home, or was left on the front door of homes where no one answered. USEPA provided a vapor intrusion fact sheet to many residents/owners. The fact sheet included information on the testing process and examples of household products that may contain VOCs. USEPA explained to residents/owners that the presence of household products that contain VOCs during testing may impact the results, and requested such products be removed prior to testing.
- Contacted commercial building occupants/owners cooperatively with USEPA and the Companies to obtain access for testing. USEPA and/or Stantec provided information about the testing process to the owners/occupants of the commercial buildings, similar to what was done for the residential buildings.
- Conducted pre-testing building walk-throughs (surveys) of commercial buildings and the larger multi-family buildings/complexes jointly with USEPA to identify the number, type and location of air samples to be collected. A goal of the surveys also was to identify conditions that may affect or interfere with the proposed testing. Sampling locations were reviewed by and concurred with by the building/complex owner or manager. Walk-throughs included areas such as subgrade parking areas (where present), maintenance and utility rooms and elevators to identify potential vapor intrusion pathways. A PID was typically used as a screening tool to initially assess potential vapor intrusion pathways. Measurements of the following Indoor Air parameters were sometimes made in commercial buildings during the walk-through: carbon dioxide, temperature, relative humidity, and estimated percent Outside Air. A TSI Q-Trak Model 7575 fitted with a Model 982 multi-function probe or equivalent instrument was used. Stantec and USEPA gathered information regarding the HVAC system during walk-throughs of the commercial buildings, based on field observations and input from the tenant, owner or manager. Stantec utilized the *Air Quality Building Survey* form referenced in the Work Plan when conducting the walk-throughs.

4.2 AIR SAMPLING

Stantec conducted air sampling in accordance with the Work Plan and Work Plan Addendum. Air samples were collected in individually certified 6-liter Summa™ canisters. With the exception of Grab samples (discussed below), the canisters were fitted with laboratory-certified flow controllers set to collect a sample over the specified time interval (e.g., 24-hours for residential samples and 10-hours for commercial building samples). Collected samples were appropriately labelled, then stored at ambient temperature and away from direct sunlight pending transfer to the laboratory for analysis. Air sample types are further classified as follows:

- Indoor Air samples. Time-integrated samples collected in spaces with the potential to be occupied under normal or reasonably foreseeable conditions from a height considered to represent a typical breathing zone (approximately 3- to 5-feet above floor).
- Pathway samples. Time-integrated samples collected in spaces, identified in conjunction with USEPA, that are not typically occupied for extended periods of time (e.g., less than a typical workday) such as electrical, storage and mechanical rooms or other locations with slab and/or ceiling penetrations which could act as a conduit for the transport of VOCs to occupied areas of the building.
- Crawlspace samples. In accordance with USEPA requirements, Crawlspace samples were collected at single-family residences during the cold season residential sampling events. Depending on accessibility, samples were collected from the approximate center of the crawlspace and in locations free of obstacles which might restrict air flow. Crawlspace samples were collected over the same 24-hour duration as the corresponding Indoor Air sample within the residence.
- Garage samples. Samples were collected from semi-enclosed or subterranean parking structures at multi-family residential and commercial buildings. Sampling procedures were the same as those used for Indoor Air sample collection (e.g., the same canister configuration and sampling duration, depending on building use). Samples collected from parking structures are not considered the equivalent of Indoor Air samples because parking structures are not routinely occupied for extended periods of time and often have separate ventilation designed for car exhaust.
- Grab samples. USEPA directed that Grab samples be collected from certain locations that were considered to represent a potential preferential pathway for transport of VOCs to occupied areas of buildings. Examples include the base of an elevator shaft, a catch basin, and chemical storage rooms. Grab samples were collected over a few seconds or minutes, rather than over a defined extended time period. The samples were collected in individually-certified 6-liter canisters that did not have a flow controller. An appropriate length of Teflon® tubing was connected to the canister and extended to the desired sampling location. The volume of dead air within the tubing was removed using a gas-tight syringe. The canister valve was opened and sampling continued until the canister reached ambient conditions; then the canister valve was closed. Grab samples are not considered the equivalent of Indoor Air samples because they are not time integrated and the spaces sampled are not routinely occupied for extended periods.

- Outdoor Air samples. Samples collected from locations determined at the time of sampling to be upwind of the building under evaluation. Outdoor Air samples were collected over the same duration as Indoor Air samples.

4.2.1 Residential Property Sampling

26 single-family residential buildings (homes or duplexes) and 7 multi-family residential buildings or complexes were identified by USEPA for potential testing. Contact was attempted with owners and/or residents of each building to request permission to sample. Occupants of 10 single-family residences granted permission for testing (Buildings 1 through 7, 9, 10 and 12). Permission for testing was granted for 6 of the 7 multi-family residential buildings/complexes. One four-unit multiplex had a single tenant present who declined USEPA's request for access to conduct testing. Consistent with the Work Plan, Stantec and USEPA jointly conducted limited building surveys (a questionnaire completed with input from the occupant) at single-family residences and apartments at the time of sampling.

Table 2 is a summary of the residential building samples that were collected. The table includes information about the type of each building/complex where sampling was conducted, the sample type and/or location, and the number of samples that were collected.

Initial (warm season) Indoor and Outdoor Air sampling was conducted during the period of April 12, 2012 through September 27, 2012. The results, all favorable, were provided by the USEPA to the homeowners and residents by December, 2012. Cold season residential air re-testing was conducted after the development and approval of the Work Plan Addendum during February 11 through 20, 2014 and included 2 sampling events conducted 1- to 2-weeks apart. During the cold season sampling events, samples were concurrently collected from crawlspaces, where present (Buildings 1 through 8 and 10). The USEPA rationale for requiring cold season re-testing was to assess possible seasonal concentration variability.

Cold season Indoor Air samples could not be collected at Buildings 9 and 19. As discussed with USEPA at the time, Building 9 was not accessible due to planned redevelopment (it was fenced off and unoccupied), and there was ongoing construction and associated chemical storage at Building 19.

4.2.2 Commercial Building Sampling

A total of 11 commercial buildings were identified by USEPA for potential testing, including the 3 On-Property buildings (former HP and Varian sites) and 8 Off Property buildings. Testing was conducted at all 3 On-Property buildings, and at 5 of the 8 Off Property buildings. The owners of 2 of the commercial properties declined USEPA's request for access to conduct testing, and 1 of the buildings was not tested due to former and current chemical use (including VOCs) in the building. USEPA determined that testing was not required for these 3 properties during this investigation and that it would evaluate the potential need for future testing based upon the data generated from sampling done at other buildings. Table 3 is a summary of the commercial

building samples that were collected. The table identifies whether or not the HVAC system was operating when air samples were collected, and the types and number of samples collected.

In March, 2013 Building 22 was sampled with the HVAC system off. HVAC-on testing was not required at Building 22 because a majority of the results were non-detect and the screening criteria, including both short-term and long-term levels in the Work Plan Addendum, were not exceeded for the few detections in the HVAC-off samples.

The Work Plan Addendum describes a procedure for testing air at commercial buildings both with the HVAC system on and off (e.g., 2 separate sampling events). This procedure is also described in the December 3, 2013 *EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites*, which specifies that HVAC-off sampling should begin a minimum of 36-hours following shut-down of the building HVAC system and that the system should remain off during the testing. Commencing in April, 2014, for buildings where agreement was reached for testing under these conditions, the general approach used was to collect Indoor and Outdoor Air samples over approximately 10-hour duration on a Friday, after which the HVAC system was shut-down. Samples were collected with the HVAC-off on Sunday (at least 36-hours after the HVAC was shut down).

Due to individual requirements specified by the owner and/or tenants, and with USEPA concurrence, exceptions to the general HVAC-on and HVAC-off testing protocol were necessary as follows:

- Building 23 – An HVAC-off Indoor Air sample was collected May 4, 2014. HVAC-on samples were collected July 11, 2014.
- Building 24 was only sampled with the HVAC system on.
- Building 29 was only sampled with the HVAC system on.

4.2.3 Laboratory Analysis

The collected air samples were transferred under chain-of-custody to Eurofins Air Toxics Inc. (formerly Air Toxics, Ltd.) of Folsom, California, a State of California NELAP accredited laboratory. Samples were analyzed by the laboratory using EPA Method TO-15 SIM for TCE, PCE, cis-1,2-DCE, VC, 1,1-DCA, 1,1-DCE, 1,2-DCB, 1,1,1-TCA, and Freon 113 (the COCs identified in Section 2.0) and chloroform, which was added to the analyte list at the request of USEPA.

4.2.4 Evaluation Criteria

Indoor Air sample results were compared to the screening criteria presented in Table 1 and described below. Only Indoor Air samples collected from spaces that are, or have the potential to be, routinely occupied, are considered appropriate for direct comparison to these screening levels. Direct comparison of Pathway, Crawlspace and Garage sample results to Indoor Air screening criteria is not appropriate because the screening criteria are developed using exposure assumptions that are not met in these areas. For example, garages, utility rooms, and

crawlspaces are not routinely occupied for more than short time periods, and have different natural and mechanical ventilation. Indoor air quality in a parking garage is also influenced by automobile emissions and minor leaks of various automotive fluids.

- *Tier 1 – Outdoor Air:* Outdoor Air samples were collected during each residential and commercial sampling event. Indoor Air sampling results were compared to Outdoor Air sampling results to determine whether Indoor Air quality may have been affected by ambient, outdoor sources unassociated with vapor intrusion.

- *Tier 2 – Short-Term Health-Risk-Based Criteria:* This includes the following:

  - *TCE Indoor Air Short-term Action Levels:* In December, 2013 USEPA issued *Interim TCE Indoor Air Short-term Response Action Levels and Guidelines* for TCE for use in vapor intrusion investigations conducted at South Bay National Priorities List sites identifying "Prompt Action Levels" of 2 µg/m^3 for residential exposure and 9 µg/m^3 and 7 µg/m^3 for commercial/industrial exposure for 8- and 10-hour workdays respectively. These action levels are referenced in the Work Plan Addendum.

    In July, 2014, USEPA issued an internal memorandum, "*EPA Region 9 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Subsurface Vapor Intrusion"* which then identifies "Accelerated Response Action Levels" reducing the December, 2013 Prompt Action Level from 9 to 8 µg/m^3 for commercial/industrial exposure for an 8-hour workday and specifying "Urgent Response Action Levels" set at 6, 24, and 21 µg/m^3 for residential use and commercial/industrial use properties with 8- or 10-hour workdays, respectively.

  - Agency for Toxic Substances and Disease Registry (ATSDR) acute (14-day) and intermediate (15- to 365-day) Minimal Risk Levels (MRL) applicable to short or moderate exposure periods to certain chemicals. An acute or intermediate MRL is an estimate of the daily human exposure to a chemical in air likely to result in no appreciable risk of adverse non-cancer health effects. The ATSDR acute and intermediate MRLs for TCE in the Work Plan were replaced by USEPA's new action levels in the Work Plan Addendum.

- *Tier 3 – Long-Term Health-Risk-Based Criteria:* USEPA Regional Screening Levels (RSL) for Indoor Air were approved by the agencies for use as long-term screening values. These have been established based on the assumption of exposure to chemicals over 25-years, 250-days per year and 8-hours per day by workers at commercial/industrial-use properties. Screening levels for residential properties are based on exposure to chemicals over 30-years, 350-days per year and 24-hours per day. These long-term criteria are the lowest values against which the Indoor Air results were compared. An exception to the use of RSLs was specified by the RWQCB for PCE: because the California EPA Office of Environmental Health Hazard Assessment toxicity value for PCE is more conservative than the value used to derive the USEPA RSL, the California-modified screening levels of 0.42 µg/m^3 for residential and 2.1 µg/m^3 for commercial/industrial use properties are used.

In instances where initially reported Indoor Air sample concentrations exceeded Tier 2 or Tier 3 criteria, the RWQCB and USEPA were notified within 48-hours after data QA/QC validation was completed and potential follow-up actions were subsequently discussed. Further evaluation by EPA indicated that Indoor Air results exceeding Tier 2 or Tier 3 criteria were not attributable to vapor intrusion.

4.3 SUPPLEMENTAL VAPOR INTRUSION ASSESSMENT

The Vapor Intrusion Study Area as specified by USEPA and the RWQCB extended to the 100 µg/L TCE limit in first encountered groundwater for commercial use properties and the 50 µg/L TCE limit in first encountered groundwater for residential use properties. USEPA and the RWQCB subsequently directed the Companies to expand the assessment area to include commercial and residential use properties located between the Vapor Intrusion Study Area and the estimated 5 µg/L limit of TCE in the first encountered groundwater zone. The expanded assessment area is hereinafter referred to as the "Supplemental Assessment Area".

Figure 2 is the TCE iso-concentration contour map for first encountered groundwater from 2011 that was included in the Work Plan. Figure 3 is a TCE iso-concentration contour map for first encountered groundwater based on data collected in 2014. Comparison of these figures demonstrates that changes to the 5 µg/L, 50 µg/L and 100 µg/L TCE limits in the first encountered groundwater zone since 2011 are negligible.

Figure 4 illustrates the Supplemental Assessment Area. The Supplemental Assessment Area has been subdivided into five sections for the purpose of this evaluation. Sections 1 through 5 are shown on Figures 5 through 9, respectively.

As further detailed in Sections 6.1 and 6.2, Indoor Air sample results from buildings sampled within the Vapor Intrusion Study Area revealed no VOC concentrations in living or working spaces attributable to vapor intrusion at or above corresponding long- and short-term screening values and response action levels. These findings indicate there is no unacceptable short- or long-term health risk to residential and commercial building occupants related to TCE in groundwater in the area overlying the highest TCE concentrations (Vapor Intrusion Study Area). It is therefore reasonable to expect that there would be no unacceptable short- or long-term health risk for occupants of residential and commercial buildings within the Supplemental Assessment Area where TCE concentrations are lower unless there are relevant differences in building construction or hydrogeologic characteristics (e.g., depth to groundwater or soil type). Stantec conducted assessment activities for properties in the Supplemental Assessment Area to ascertain whether such differences exist.

Stantec compared building construction and subsurface chemical and hydrogeologic conditions underlying the properties in the Supplemental Assessment Area to evaluate whether there are relevant differences that indicate a given building may have a higher potential for vapor intrusion than buildings in the Vapor Intrusion Study Area where testing results revealed no unacceptable risk in living and working spaces from vapor intrusion.

Stantec conducted the following supplemental assessment activities:

Indoor Air Testing Data Review

Stantec reviewed the air testing data from the Vapor Intrusion Study Area to understand the distribution of detected compounds attributable to vapor intrusion. This included the geographic distribution, location at a given property, type of sample (e.g., Indoor Air, Crawlspace, Pathway, Grab sample), temporal variability, and magnitude of detection (e.g., whether the detection exceeded screening values and response action levels).

Visual Observations and Documentation Review

Stantec made visual observations of each building within the Supplemental Assessment Area from public rights-of-way to ascertain, to the extent practical from external observation, construction attributes of each building. Building construction attributes were evaluated to determine if there were relevant differences compared to buildings that were tested in the Vapor Intrusion Study Area. Stantec reviewed available documentation and had discussions with staff from the City of Palo Alto Building Department and the County of Santa Clara Assessors office regarding key construction attributes for select buildings to supplement visual observations.

Construction attributes for buildings tested in the Vapor Intrusion Study Area varied and included the following:

- Concrete slab foundation (residential and commercial)
- Crawlspace (e.g., pier-post-perimeter with Crawlspace) foundation (residential)
- Finished (e.g., concrete floor and walls) basement (residential)
- Single story (residential and commercial)
- Multi-story (residential and commercial)
- Underlying subgrade parking structures (residential and commercial)
- Elevators and stair wells (residential and commercial)
- Utility rooms and chases (residential and commercial)

As previously noted, none of the Indoor Air samples collected in the Vapor Intrusion Study Area contained VOC concentrations in living or working spaces attributable to vapor intrusion above screening values or response action levels. In some cases, Garage, Grab or Pathway samples contained VOC concentrations; however, VOC concentrations in the corresponding Indoor Air samples were below short- and long-term screening values and response action levels.

Subsurface Chemical and Hydrogeologic Condition Review

Stantec reviewed COE Study Area and Perimeter Area groundwater chemistry and hydrogeologic (e.g., depth to groundwater, soil type) information. TCE concentrations in the first encountered groundwater zone underlying the Supplemental Assessment area are lower than in the Vapor Intrusion Study Area.

Stantec evaluated June, 2014 depth to water measurements for wells completed in the first-encountered groundwater zone, and utilized cross sections from the 1994 Study Area RI Report to compare depth to water and soil types of the Vapor Intrusion Study Area to the Supplemental Assessment Area. Hydrogeologic conditions in the Vapor Intrusion Study Area and the Supplemental Assessment Area are similar.

Soil type and depth to water directly affects attenuation of VOC concentrations in soil vapor. Attenuation refers to the overall reduction in VOC concentrations in vapor as the vapors migrate from a subsurface source (e.g., groundwater) into a building. According to the March 16, 2012 document, *EPA's Vapor Intrusion Database: Evaluation and Characterization of Attenuation Factors for Chlorinated Volatile Organic Compounds and Residential Building* (the "EPA VI Database"), fine grained soils result in 2.5- to 10-times (e.g., an order of magnitude) greater attenuation than coarse or very coarse grained soils. Predominantly fine grained sediments overlie the first encountered groundwater zone, which typically occurs 15- to 20-feet below ground surface, in the COE Study Area and Perimeter Area.

The EPA VI Database notes that attenuation (reduction in vapor concentrations) increases with depth to groundwater, with all other factors (such as soil type) being equal. For example an order of magnitude greater attenuation is reported for groundwater depths between 5- and 10-feet below ground surface than for depths to groundwater of less than 5-feet.

The absence of vapor intrusion-related VOC concentrations in Indoor Air at or above short- and long-term screening values and response action levels in the Vapor Intrusion Study Area, is attributable, in part, to the attenuation afforded by the depth to groundwater and the fine grained sediments that occur between the first encountered groundwater zone and ground surface.

Hydrogeologic conditions in the Vapor Intrusion Study Area and the Supplemental Assessment Area are similar.

Results of the Supplemental VI Assessment are presented and discussed in Section 6.3.

5.0 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) ANALYSIS

This section summarizes the Quality Assurance and Quality Control (QA/QC) procedures implemented during sample collection and analysis. QA/QC procedures presented in Section 4.0 (Quality Assurance Project Plan [QAPP]) of the Work Plan were used to assess the quality of data through an evaluation of accuracy, precision and completeness.

Copies of laboratory analytical reports are provided in Appendix B. Stantec evaluated each laboratory report with respect to case narratives, receiving discrepancies, ship/receipt sample vacuums, canister dilution factors, surrogate recoveries, detections in method blanks, Laboratory Control Spike (LCS) and LCS Duplicate (LSCD) recoveries, and a comparison of results for primary and duplicate field samples, including relative percent difference as feasible. In addition, 20 percent of the laboratory reports issued underwent in-depth data validation of the laboratory-supplied Level 1 electronic comprehensive validation packages.

5.1 FIELD QUALITY QA/QC

All samples were collected in accordance with the Revised Work Plan and Work Plan Addendum, submitted to a NELAP-certified laboratory, (Eurofins Air Toxic of Folsom, California) and prepared and analyzed using USEPA Method TO-15 SIM. No replicate samples or performance evaluation samples were collected by USEPA.

Stantec collected duplicate samples at a frequency of 1 duplicate per 10 primary samples collected, or at least 1 duplicate for each day of sampling.

Since TCE is the primary chemical of concern in the COE Study Area, Relative Percent Differences (%RPD) between TCE in primary and duplicate samples were calculated.

A total of 25 primary/duplicate pairs were collected. The %RPD could not be calculated for 23 of the 25 primary/replicate pairs because 1 or both results were non-detect (e.g., not detected above the laboratory reporting limit). Of the 2 samples with detections of TCE in both primary and duplicate samples, the %RPD was calculated to be 5-percent (7-IA-2/7-IA-2 Duplicate) and 103-percent (23-IA-6/23-IA-6 Duplicate). There is no apparent reason for the relatively large %RPD in the Samples 23-IA-6/23-IA-6 Duplicate pair. The primary and duplicate samples were collected in the same manner and in close proximity and there were no QA/QC discrepancies noted in that particular analytical run. The possible impact of the low precision of this single sample pair in the absence of other indicators of data quality failure is considered to be negligible. In accordance with the Work Plan, the higher of the primary or duplicate results was used for comparison to screening levels.

5.2 LABORATORY QA/QC

In accordance with the Laboratory's Standard Operating Procedures and Method requirements, a minimum of 1 laboratory blank sample was analyzed at the beginning of each day and at least once in every batch or 24-hour shift. A laboratory control standard was analyzed daily prior to sample analysis. Laboratory duplicates were prepared and analyzed on approximately 10-percent of the samples submitted for analysis. Stantec's review of the internal laboratory QA/QC sample results found no exceptions or data qualifiers.

5.3 EXCEPTIONS

Stantec made a request to the project laboratory in April, 2014 to confirm the reported low level detections of VC in laboratory Work Orders 1402165, 1402213, 1402216, 1402371, 1403007, and 1403008. This was requested in part due to the reported concentrations at the reporting limit and the distribution of detections (e.g., reported in Crawlspace samples but not in corresponding Indoor Air or Outdoor Air samples).

On April 4, 2014 the laboratory issued a memo stating that failure of internal identification criteria (retention time must match daily standard; peak shape must be Gaussian for all monitored ions; and, ion-abundance ratios should match the library reference spectrum) resulted in false identification of VC. The laboratory subsequently re-issued the above referenced work order reports which have been used following notification to USEPA for data reporting.

No other data quality exceptions were noted.

5.4 DATA USABILITY ASSESSMENT

Based on Stantec's review of the laboratory and field QA/QC procedures and results discussed above, the data are considered to be reliable and acceptable for their intended use.

6.0 FINDINGS

Laboratory analytical results for air samples collected at residential and commercial properties are summarized in Tables 4 through 6 and Tables 7 through 9, respectively. Tables 4 and 7 summarize results for Indoor Air samples (time-integrated samples collected in spaces with the potential to be occupied under normal or reasonably foreseeable conditions). Copies of laboratory analytical reports are provided in Appendix B.

As further described in the findings presented below, none of the Indoor Air samples collected in this study had reported concentrations of VOCs attributable to vapor intrusion that exceeded long-term screening levels and short-term action levels.

6.1 RESIDENTIAL BUILDING TESTING

A total of 82 Indoor Air samples, 21 Crawlspace samples and 2 basement samples were collected at residential-use properties. 33 Outdoor Air samples were collected concurrently with the residential Indoor Air samples. Table 2 provides a list of the residential air samples that were collected.

One Outdoor Air sample from near Building 4 had a reported concentration of PCE (Sample 4-OA-2 at 0.26 µg/m^3). Two Outdoor Air samples, near Buildings 9 and 10 had reported concentrations of VC (9-OA-1 and 10-OA-1, at 0.05 µg/m^3 and 0.11 µg/m^3, respectively). These compounds were not detected in the concurrently collected Indoor Air samples from those locations. Table 4 summarizes results for residential Indoor Air, Outdoor Air and Crawlspace air samples.

None of the 82 Indoor Air samples contained a COC attributable to vapor intrusion at a concentration at or above the corresponding long-term screening value.

Indoor Air samples from 3 buildings contained a COC at a concentration above the corresponding long-term screening value, but each was attributed to an indoor source.

- TCE was detected in the 2 cold season Indoor Air samples collected from Building 7 (7-IA-2 and 7-IA-3 at 1.9 and 1.6 µg/m^3, respectively). However, there were 2 concurrently collected samples from the crawlspace below the building, which, if vapor intrusion from the subsurface were occurring, would be expected to have higher concentrations than the Indoor Air samples. Crawl space Sample 7-CS-1 had a detection of 0.20 µg/m^3 of TCE, and Crawlspace Sample 7-CS-2 was non-detect for TCE. Because the TCE concentrations in the Indoor Air samples were roughly 9-times higher than the only detection of TCE in the crawlspace, USEPA and Stantec conducted further evaluation of the residence. USEPA and Stantec identified 2 household products that were determined to be the source of the TCE detected in the Indoor Air samples. The occupant removed the products from the residence.

- PCE was detected in both the cold season Indoor Air samples from Building 10, and the concentration of 1 sample was greater than the long-term screening value (10-IA-3 at 0.55 µg/m³). PCE was not detected in either of the concurrently collected Crawlspace samples from Building 10, or in the warm season Indoor Air sample. USEPA and Stantec therefore attributed the Building 10 Indoor Air sample PCE detection to an indoor source.
- PCE was detected at the long-term screening value in just 1 of the 3 Indoor Air samples collected in an office in Building 14; cold season Sample 14-IA-3. PCE was not detected above corresponding laboratory reporting limits in the warm season Indoor Air sample or the other cold season Indoor Air sample, and therefore is attributed to an indoor source.

The infrequent detection in both warm and cold season sample pairs of any COC in Indoor Air samples prevents statistical evaluation of the differences between warm and cold season analytical results; approximately 93-percent of the samples were reported as not-detected both during warm and cooler weather sampling. For the 6 Indoor Air samples where TCE was detected, apparent variability was limited to changes from less than the laboratory reporting limits to values just above the laboratory reporting limit. The high frequency of samples that were reported as not-detected both during warm and cooler weather sampling (93-percent) and limited variability in the remaining 7-percent of samples indicates little to no seasonal variability in TCE analytical results.

Time-integrated warm season and cold season air samples were collected from subgrade parking garages at Buildings 18 through 21. Results are summarized in Table 5. No COCs were detected in the Garage samples from Building 18. TCE was detected in the samples from Buildings 19, 20 and 21 at concentrations ranging from 0.18 µg/m³ (Building 21 Sample 21-IA-15) to 1.3 µg/m³ (Building 20 Sample 20-IA-9). Concentrations of 1,1,1-TCA were also reported in samples from Buildings 20 and 21; 1 or more samples from Building 21 also had reported concentrations of 1,1-DCE, Freon-113 and PCE.

Grab samples were also collected from near the bottoms of elevator shafts in Buildings 18, 20, and 21, and from a sump and 2 chemical storage rooms at Building 20. Grab sample results are summarized in Table 6. COCs were not detected in the Grab samples from Building 18. Reported TCE concentrations in Grab samples from Buildings 19 and 20 ranged from non-detect (Building 21) to 10 µg/m³ (Building 20 Tool Room, Sample 20-GR-4). Concentrations of 1,1,1-TCA were reported in 1 sample from Building 20 and each of the Grab samples from Building 21. PCE was also detected in each Grab sample from Building 20. Concentrations of the other COCs were also detected in at least 2 of the Grab samples from Building 20.

Results for Grab and Garage samples are not appropriate for direct comparison to long-term screening levels or short-term action levels established for residential use-properties. Nonetheless, because the USEPA considers Garage and Grab samples as an indicator of a potential pathway that may affect potential routinely occupied spaces, Indoor Air samples were collected at each of the buildings where there were Garage and Grab samples. Indoor Air samples were collected from common rooms, apartments, and hallways on various floors near

the elevators to further evaluate potential transport of chemicals from the garage and/or elevator shaft to potentially occupied areas of the buildings. TCE was either not detected or detected at concentrations below long-term screening levels and short-term action levels in those samples (Table 4).

6.2 COMMERCIAL BUILDING TESTING

A total of 66 Indoor Air samples, 15 Pathway samples, 2 Garage samples, and 4 Grab samples were collected at commercial-use properties. Thirteen Outdoor Air samples were collected concurrently with the commercial Indoor Air samples. Table 3 provides a summary of the commercial property air samples that were collected, including whether Indoor Air samples were collected with the HVAC on or off. Commercial building Indoor Air and Outdoor Air sampling results are summarized in Table 7. None of the Indoor Air samples (e.g., spaces with the potential to be consistently occupied under normal or reasonably foreseeable conditions) exceeded short-term action levels or long-term screening values for COCs attributable to vapor intrusion.

No compounds were detected in the Outdoor Air samples that were collected at commercial buildings.

TCE and other COCs were not detected at concentrations above long-term screening levels or short-term action levels in Indoor Air samples.

Results for commercial building Pathway samples (collected from Buildings 22, 23, 24, 25, 27 and 29) are summarized in Table 8. Commercial building Garage (Building 23) and Grab sample (Buildings 22, 23, and 24) results are summarized in Table 9. COCs were only detected in the Pathway samples collected from Buildings 22 and 23, and the in the Grab samples from Buildings 23 and 24. Building-specific findings for these buildings are summarized below.

Building 22: The majority of samples had no COCs detected (only HVAC-off samples were collected at Building 22). TCE and PCE were detected in some of the samples at concentrations below screening values and action levels. TCE was only detected in 1 of the 7 Indoor Air samples. PCE was detected in 3 of the Indoor Air samples and 1 of the 3 Pathway samples, but was not detected in the 2 Grab samples.

Building 23: TCE was detected in Pathway, Garage and Grab air samples at concentrations ranging from 9.4 µg/m^3 to 30 µg/m^3. The Pathway samples were collected from a normally unoccupied utility room in the subgrade Garage. TCE was not detected above long-term screening values in Indoor Air samples from the occupied spaces directly above the garage (collected with the HVAC on) or in a sample from the second floor collected with the HVAC off.

In response to the initial Pathway, Garage, and Grab sample results, USEPA and the Companies have initiated follow-up investigation activities and mitigation measures (increased frequency of garage ventilation system operation) to reduce TCE concentrations in the subgrade Garage at

Building 23. A reduction in the Garage TCE concentration was noted in the sample collected when the garage ventilation system was operating. USEPA and the Companies are continuing follow-up activities at Building 23 in cooperation with the building owner as of the date of this report.

Building 24: With the exception of 1 low level TCE concentration (below screening values and action levels), there were no COCs detected in the Indoor Air and Pathway samples collected (only HVAC-on samples were collected at Building 24). 1 compound, PCE, was detected in the Grab sample, but not in Indoor Air or Pathway air samples. PCE was not detected in first encountered groundwater samples from monitoring wells near and immediately down-gradient of Building 24. The detection of PCE in the Building 24 Grab sample may be attributable to chemicals used during elevator maintenance activities.

6.3 SUPPLEMENTAL VI ASSESSMENT FINDINGS

The Supplemental Assessment Area comprises properties located between the Vapor Intrusion Study Area and the estimated 5 µg/L limit for TCE in first encountered groundwater.

Indoor Air sample results from buildings sampled in the Vapor Intrusion Study Area indicate that no VOCs attributable to vapor intrusion were detected at concentrations at or above corresponding short- and long-term screening values and response action levels. These findings indicate there is no unacceptable short- or long-term health risk to residential and commercial building occupants related to TCE in groundwater in the area overlying the highest TCE concentrations (Vapor Intrusion Study Area). It is therefore reasonable to expect that there would be no unacceptable short- or long-term health risk for occupants of residential and commercial buildings within the Supplemental Assessment Area where TCE concentrations are lower, unless there are relevant differences in building construction or hydrogeologic characteristics (e.g., depth to groundwater or soil type).

As described in Section 4.3, Stantec gathered construction information for each building within the Supplemental Assessment Area and reviewed available hydrogeologic information to ascertain whether relevant differences in building construction or hydrogeologic characteristics exist in the Supplemental Assessment Area that would warrant further evaluation.

Figure 3 presents a TCE concentration contour map for the first encountered groundwater zone constructed using data collected in the second quarter 2014. Depth to water measured in first encountered groundwater zone wells during June, 2014 is summarized in Table 10. Stantec utilized cross sections from the 1994 Study Area RI Report to compare soil types of the Vapor Intrusion Study Area to the Supplemental Assessment Area.

Tables 11 through 15 summarize visual observations made during reconnaissance and information from review of available documentation and discussions with staff from the City of Palo Alto Building Department and the County of Santa Clara Assessors office. Table 16 provides an assessment summary for each building in the Supplemental Assessment Area.

Key findings are as follows:

- TCE concentrations in first encountered groundwater underlying the Supplemental Assessment Area are lower than in the Vapor Intrusion Study Area.
- TCE concentrations attributable to vapor intrusion were not detected above screening values and response levels in Indoor Air samples from buildings in the Vapor Intrusion Study Area. In some cases Garage, Grab or Pathway Samples contained VOC concentrations above screening values or response action levels; however, VOC concentrations in the corresponding Indoor Air samples were below short- and long-term screening values and response action levels.
- Depth to groundwater in the Vapor Intrusion Study Area and Supplemental Assessment Area are similar, about 15- to 20-feet below ground surface.
- Subsurface lithology in the Vapor Intrusion Study Area and Supplemental Assessment Area are similar (e.g., predominantly fine grained sediments overlying the first encountered groundwater zone).
- No relevant differences in building construction were identified for the properties located within the Supplemental Assessment Area relative to the Vapor Intrusion Study Area.

These findings support the conclusion that the potential vapor intrusion pathway has been assessed across the COE Study Area and Perimeter Area and no unacceptable short- or long-term health risks are expected for building occupants in the Supplemental Assessment Area from the vapor intrusion pathway.

7.0 CONCLUSIONS

Stantec has formulated the following conclusions based on the air testing results and Supplemental VI Assessment findings.

Indoor Air Testing

Residential Use Properties

- There is no unacceptable short- or long-term health risk to residential building occupants related to COCs in groundwater in the area where air testing occurred. TCE and other COCs were not detected above screening levels in warm season or cold season Indoor Air samples (e.g., air from spaces with the potential to be occupied under normal or reasonably foreseeable conditions) from any of the residential use properties tested within the 50 µg/L limit for TCE in first encountered groundwater except Building 7 where TCE in Indoor Air was attributed to an indoor source.
- TCE was only detected in Crawlspace samples from 3 of the 9 residential buildings where Crawlspace samples were collected, and those TCE detections were not accompanied by detections in Indoor Air. 1 of the 3 residential buildings had Indoor Air TCE detections that were attributed to an indoor source. Similarly, detections of TCE in Grab samples and time-integrated Garage air samples from multi-family buildings were not accompanied by detections in Indoor Air in overlying apartment units.
- The modest temperature differences observed between the warm and cold season in the COE Study Area had no substantial effect on sampling results.
- Because cold season Indoor Air samples could not be collected from Building 19 in 2014 due to ongoing construction and associated chemical storage, USEPA requested permission for a cold season sample to be collected during the 2014-2015 cold season.

Commercial Use Properties

- There is no unacceptable short- or long-term health risk to the commercial building occupants related to TCE in groundwater in the area where air testing occurred. TCE and other COCs were not detected above short- and long-term screening levels in Indoor Air collected from normally-occupied spaces at any of the commercial buildings tested within the 100 µg/L limit for TCE in first encountered groundwater.
- USEPA and the Companies are continuing follow-up activities in cooperation with the building owner related to the TCE detections in samples from within the subgrade Garage at Building 23 as of the date of this report.

Supplemental VI Assessment

VOC concentrations in first encountered groundwater in the Supplemental Assessment Area are lower than in the Vapor Intrusion Study Area where Indoor Air Sample results indicated no unacceptable short- or long-term health risk to residential and commercial building occupants related to TCE in groundwater. Based on lower TCE groundwater concentrations and other lines of evidence indicating no relevant differences in building construction or hydrogeologic characteristics between the Vapor Intrusion Study Area and the Supplemental Assessment Area, it is reasonable to expect that there is no unacceptable short- or long-term health risk related to TCE in groundwater for residential and commercial building occupants in the Supplemental Assessment Area.

Tables

Table 1 - Screening Levels for Comparison of Indoor Air Results
Table 2 - Summary of Air Samples Collected from Residential Properties
Table 3 - Summary of Samples Collected from Commercial Properties
Table 4 - Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
Table 5 - Residential Subgrade Garage Analytical Results
Table 6 - Residential Grab Sample Analytical Results
Table 7 - Commercial Indoor and Outdoor Air Laboratory Analytical Results
Table 8 - Commercial Pathway Laboratory Analytical Results
Table 9 - Commercial Subgrade Garage and Grab Sample Laboratory Analytical Results
Table 10 - June 2014 Groundwater Depth Measurements
Table 11 - Summary of Section 1 Observations and Agency Review
Table 12 - Summary of Section 2 Observations and Agency Review
Table 13 - Summary of Section 3 Observations and Agency Review
Table 14 - Summary of Section 4 Observations and Agency Review
Table 15 - Summary of Section 5 Observations and Agency Review
Table 16 - Summary of Supplemental Vapor Intrusion Assessment

TABLE 1
Screening Levels for Comparison of Indoor Air Results
COE Study Area Indoor Air Testing

Chemical of Concern	TCE	cis-1,2-DCE	VC	PCE	1,1-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Freon 113
Laboratory Reporting Limit	0.18	0.13	0.042	0.22	0.065	0.13	0.20	0.18	3.9
Tier 1 - Comparison to Background/Outdoor Ambient									
Background (outdoor ambient)	(See Outdoor Air Sampling Analytical Results)								
Tier 2 - Comparison to Short-Term Health Based Screening Criteria[1]									
Acute Exposure MRL[2]	NA	810*	1,278	1,357	NA	NA	NA	10,912	NA
Intermediate Exposure MRL[3]	NA	810*	77	NA	79	NA	NA	3,820	NA
EPA Region 9 TCE Indoor Air Accelerated Response Action Level-Residential, July 9, 2014	2	NA	NA	NA	NA	NA	NA	NA	NA
EPA Region 9 TCE Indoor Air Accelerated Response Action Level-Commercial (10-hour work day), July 9, 2014	7	NA	NA	NA	NA	NA	NA	NA	NA
Tier 3 - Comparison to Long-Term Health Based Screening Criteria[4]									
Residential Screening Level[5]	0.43	63*	0.17	0.41	210	1.8	210	5,200	31,000
Industrial/Commercial Screening Level[6]	3.0	260*	2.8	2.1	880	7.7	880	22,000	130,000

Notes:

Units in micrograms per cubic meter ($\mu g/m^3$)

TCE = trichloroethene
cis-1 ,2-DCE = cis-1 ,2-dichloroethene
VC = vinyl chloride

PCE = tetrachloroethene
1,1-DCE-dichloroethene
1,1-DCA = 1,1-dichloroethane

1 ,2-DCB = 1 ,2-dichlorobenzene
1,1,1 -TCA = 1,1 ,1-trichloroethane
Freon 113= Trichlorotrifluoroethane

1 = Except for TCE, short-term health risk based screening criteria obtained from the Agency for Toxic Substances & Disease Registry (ATSDR), Minimal Risk Levels (MRLs) for hazardous substances (July 2013) available at http://www.atsdr.cdc.gov/mrls/index.html)
2 = Acute screening levels (Acute MRLs) (non-cancer health effects) are derived for exposure durations of 1 to 14 days
3 = Intermediate MRLs (non-cancer health effects) are derived for exposure durations of >14 to 364 days
4 = Long-term health risk based screening criteria obtained from the United States Environmental Protection Agency (USEPA), Regional Screening Levels (RSLs USEPA 2012) for Residential and Industrial Air (rev. May 2014)
5 = Residential screening levels (Residential Air RSLs) are derived for exposure durations of 350 days per year and 30 years.
6 = Commercial/Industrial screening levels (Industrial Air RSLs) are derived for exposure durations of 8 hours per day, 250 days per year and 25 years.
* = trans-1, 2-DCE MRLs are used for cis-1, 2-DCE. RSLs not established for this compound.
NA = Not Available

TABLE 2
Summary of Air Samples Collected from Residential Properties
COE Study Area Indoor Air Testing

Building Identifier	Property Type	Samples Collected	Sampling Date	Sample ID and Type							
				Indoor Air	Outdoor Air	Crawl-space	Sub-grade Garage	Basement	Grab	Hallway/ Common Space	Duplicate
1	Single Family	- 1 living space sample	12-Apr-12	1-IA-1	1-OA-1						
			11-Feb-14	1-IA-2	1-OA-2	1-CS-1					1-CS-1 Dup (Dup-2)
			18-Feb-14	1-IA-3		1-CS-2					
2	Single Family	- 1 living space sample	12-Apr-12	2-IA-1							
			11-Feb-14	2-IA-2	2-OA-1	2-CS-1					
			18-Feb-14	2-IA-3	2-OA-2	2-CS-2					
3	Single Family	- 1 living space sample	12-Apr-12	3-IA-1							
			20-Feb-14	3-IA-2	3-OA-1	3-CS-1					
			27-Feb-14	3-IA-3	3-OA-2	3-CS-2					3-CS-2 Dup (Dup-1)
4	Single Family	- 1 living space sample	12-Apr-12	4-IA-1							4-IA-1 Dup (Dup-1)
			13-Feb-14	4-IA-2	4-OA-1	4-CS-1					
			27-Feb-14	4-IA-3	4-OA-2	4-CS-2					
5	Single Family	- 2 living space samples	12-Apr-12	5-IA-1, 5-IA-2							
			18-Feb-14	5-IA-3, 5-IA-4	5-OA-1	5-CS-1					5-IA-3 Dup (Dup-1)
			25-Feb-14	5-IA-5, 5-IA-6	5-OA-2*	5-CS-2					
6	Single Family	- 1 living space sample	12-Apr-12	6-IA-1	6-OA-1						
			13-Feb-14	6-IA-2	6-OA-2	6-CS-1		6-BA-1			
			20-Feb-14	6-IA-3	6-OA-3	6-CS-2		6-BA-2			
7	Duplex	- 1 living space sample	12-Apr-12	7-IA-1	7-OA-1						
			13-Feb-14	7-IA-2	7-OA-2	7-CS-1					7-IA-2 Dup (Dup-1)
			20-Feb-14	7-IA-3	7-OA-3	7-CS-2					
8	Multi-Family[1]	- 1 living space sample	12-Apr-12	8-IA-1	8-OA-1						
			11-Feb-14	8-IA-2	8-OA-2	8-CS-1					
			18-Feb-14	8-IA-3	8-OA-3	8-CS-2					8-CS-2 Dup (Dup-2)
9	Single Family	- 1 living space sample	26-Apr-12	9-IA-1	9-OA-1						9-IA-1 Dup (Dup-1)
10	Single Family	- 1 living space sample	26-Apr-12	10-IA-1	10-OA-1						
			11-Feb-14	10-IA-2	10-OA-2	10-CS-1					
			18-Feb-14	10-IA-3	10-OA-3	10-CS-2					
11	Multi-Family[1]	- 1 living space sample	26-Apr-12	11-IA-1	11-OA-1						
			13-Feb-14	11-IA-2							
			20-Feb-14	11-IA-3							
12	Single Family	- 2 living space samples (main house & out building); Building slated for demo	26-Apr-12	12-IA-1							
			26-Apr-12	12-IA-2							
13	Multi-Family[2]	- 1 living space sample	24-Jul-12	13-IA-1							
			11-Feb-14	13-IA-2							
			25-Feb-14	13-IA-3							13-IA-3 Dup (Dup-1)

TABLE 2
Summary of Air Samples Collected from Residential Properties
COE Study Area Indoor Air Testing

Building Identifier	Property Type	Samples Collected	Sampling Date	Sample ID and Type							
				Indoor Air	Outdoor Air	Crawl-space	Sub-grade Garage	Basement	Grab	Hallway/ Common Space	Duplicate
14	Multi-Family[2]	- 1 common room / office sample	24-Jul-12							14-IA-1	
			11-Feb-14							14-IA-2	
			25-Feb-14							14-IA-3	
15	Multi-Family[2]	- 1 living space sample	24-Jul-12	15-IA-1							
			11-Feb-14	15-IA-2							15-IA-2 Dup (Dup-1)
			25-Feb-14	15-IA-3							
16	Multi-Family[2]	- 1 living space sample	24-Jul-12	16-IA-1	16-OA-1						16-IA-1 Dup (Dup-1)
			11-Feb-14	16-IA-2	16-OA-2						
			25-Feb-14	16-IA-3	16-OA-3						
17	Multi-Family[2]	- 1 living space sample	24-Jul-12	17-IA-1							
			11-Feb-14	17-IA-2							
			25-Feb-14	17-IA-3							
18	Multi-Family with Underground Parking	- 3 garage samples - 1 elevator grab sample	24-Jul-12				18-IA-1, 18-IA-2, 18-IA-3		18-GR-1		18-IA-3 Dup (Dup-2)
			20-Feb-14		18-OA-1*		18-IA-4, 18-IA-5, 18-IA-6		18-GR-2		18-IA-4 Dup (Dup-1)
			27-Feb-14		18-OA-2		18-IA-7, 18-IA-8, 18-IA-9		18-GR-3		
19	Multi-Family with Underground Parking	- 3 garage samples	24-Jul-12				19-IA-1, 19-IA-2, 19-IA-3				
		- 1 apartment (common room) sample	25-Jul-12							19-IA-4	
		- 3 garage samples	13-Feb-14				19-IA-5, 19-IA-6, 19-IA-7				
			20-Feb-14				19-IA-8, 19-IA-9, 19-IA-10				
20	Multi-Family with Underground Parking	- 1 apartment sample (Apt. 115) - 1 interior hallway sample (2nd floor) - 2 garage samples - 1 tool room, 1 paint room, 1 sump, and 1 Building-3 elevator grab sample	24-Jul-12	20-IA-4			20-IA-1, 20-IA-2		20-GR-1, 20-GR-2, 20-GR-3, 20-GR-4	20-IA-3	
		- 1 apartment sample (Apt. 223) - 3 interior hallway samples (2nd, 3rd, 4th floor) - 1 elevator grab sample	27-Sep-12	20-IA-5	20-OA-1				20-GR-5	20-IA-6, 20-IA-7, 20-IA-8	20-IA-7 Dup (Dup-1)
		- 2 apartment samples (Apt. 115 & 223) - 3 interior hallway samples (2nd, 3rd, 4th floor) - 2 garage samples	13-Feb-14	20-IA-11, 20-IA-15	20-OA-2		20-IA-9, 20-IA-10			20-IA-12, 20-IA-13, 20-IA-14	20-IA-11 Dup (Dup-2)
			20-Feb-14	20-IA-18, 20-IA-19	20-OA-3		20-IA-16, 20-IA-17			20-IA-20, 20-IA-21, 20-IA-22	20-IA-22 Dup (Dup-2)

TABLE 2
Summary of Air Samples Collected from Residential Properties
COE Study Area Indoor Air Testing

Building Identifier	Property Type	Samples Collected	Sampling Date	Sample ID and Type							
				Indoor Air	Outdoor Air	Crawl-space	Sub-grade Garage	Basement	Grab	Hallway/ Common Space	Duplicate
21	Multi-Family/Commercial with Underground Parking	- 1 interior hallway sample (2nd floor) - 4 garage samples - 1 elevator grab sample	24-Jul-12		21-OA-1		21-IA-1, 21-IA-2, 21-IA-3, 21-IA-4		21-GR-1	21-IA-5	21-IA-4 Dup (Dup-3)
			13-Feb-14		21-OA-2		21-IA-6, 21-IA-8, 21-IA-9, 21-IA-10		21-GR-2	21-IA-7	21-IA-6 Dup (Dup-3)
			20-Feb-14		21-OA-3		21-IA-11, 21-IA-13, 21-IA-14, 21-IA-15		21-GR-3	21-IA-12	21-IA-12 Dup (Dup-3)

Notes:
(1) Building Identifiers 8 and 11 are apartments in the same multi-family complex
(2) Building Identifiers 13 through 17 are apartments in the same multi-family complex
* - Sample not analyzed

TABLE 3
Summary of Samples Collected from Commercial Properties
COE Study Area Indoor Air Testing

Building Identifier	Sampling Date	HVAC Operating Status	Sample ID and Type					
			Outdoor Air	Indoor Air	Pathway	Sub-grade Garage	Grab[1]	Duplicate
22	03/31/13	HVAC-Off	22-OA-1	22-IA-1, 2, 3, 5, 6, 9, 10	22-IA-4, 7, 8	---	22-GR-1, 2	22-IA-10 (Dup-1)
23	05/04/14	HVAC-Off	23-OA-1	23-IA-1	23-IA-2	23-IA-3	23-GR-1	
	07/11/14	HVAC-On	23-OA-2	23-IA-6, 7, 8, 9, 10	23-IA-5, 11	23-IA-4		23-IA-6 (Dup-1)
24	06/27/14	HVAC-On	24-OA-1	24-IA-1, 3	24-IA-2, 4	---	24-GR-1	24-IA-1 (Dup-1)
25	04/21/14	HVAC-On	25-OA-1	25-IA-1, 2	25-IA-3	---		25-IA-1 (Dup-1)
	04/23/14	HVAC-Off	25-OA-2	25-IA-5, 5	25-IA-6	---		25-IA-5 (Dup-1)
27	05/24/14	HVAC-On	27-OA-1	27-IA-1, 4, 5, 6, 7, 8	27-IA-2, 3	---		27-IA-6 (Dup1)
	05/26/14	HVAC-Off	27-OA-10	27-IA-12, 13, 15, 16, 17, 18	27-IA-11, 14	---		27-IA-16 (Dup1)
28	05/24/14	HVAC-On	28-OA-1	28-IA-1, 2, 3, 4, 5		---		28-IA-4 (Dup-2)
	05/26/14	HVAC-Off	28-OA-7	28-IA-8, 9, 10		---		28-IA-10 (Dup-2)
29	07/18/14	HVAC-On	29-OA-1	29-IA1, 2, 3, 5	29-IA-4	---		29-IA-3 (Dup-1)
30	05/02/14	HVAC-On	30-OA-1	30-IA-1, 2, 3, 4, 5, 6		---		30-IA-5 (Dup-1)
	05/04/14	HVAC-Off	30-OA-2	30-IA-7, 8, 9, 10, 11		---		30-IA-10 (Dup-1)

Notes:

(1) = Air grab sample (i.e. instantaneously collected; no flow controller used) to evaluate possible preferential pathway (e.g., elevator shaft)

HVAC "off" status = Samples collected after building HVAC system had been off for at least 36 hours prior to and during sampling.

TABLE 4
Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
COE Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[1]				0.16	210	1.5	63	5,200	0.43	0.41	31,000	NA	210
1	4/12/2012	1-IA-1	Residence	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	4/12/2012	1-OA-1	Outdoor	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/11/2014	1-IA-2	Residence	24-hour	ND (0.051)	ND (0.079)	ND (0.16)	ND (0.16)	ND (0.22)	ND (0.21)	ND (0.27)	ND (1.5)	ND (0.97)	ND (1.2)
	2/11/2014	1-OA-2	Outdoor	24-hour	ND (0.040)	ND (0.062)	ND (0.13)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.77)	ND (0.94)
	2/11/2014	1-CS-1	Crawl Space	24-hour	ND (0.040)	ND (0.063)	ND (0.13)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.77)	ND (0.95)
	2/11/2014	1-CS-1 Dup (Dup-2)	Crawl Space	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.24	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	2/18/2014	1-IA-3	Residence	24-hour	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
	2/18/2014	1-CS-2	Crawl Space	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
2	4/12/2012	2-IA-1	Residence	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	1.2	ND (1.1)
	2/11/2014	2-IA-2	Residence	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	1.7	ND (1.1)
	2/11/2014	2-OA-1	Outdoor	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.88)	ND (1.1)
	2/11/2014	2-CS-1	Crawl Space	24-hour	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/18/2014	2-IA-3	Residence	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	0.22	ND (0.25)	ND (1.4)	1.2	ND (1.1)
	2/18/2014	2-OA-2	Outdoor	24-hour	ND (0.042)	ND (0.066)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.3)	ND (0.81)	ND (1.0)
	2/18/2014	2-CS-2	Crawl Space	24-hour	ND (0.040)	ND (0.062)	ND (0.13)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.76)	ND (0.94)
3	4/12/2012	3-IA-1	Residence	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/20/2014	3-IA-2	Residence	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	2/20/2014	3-OA-1	Outdoor	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/20/2014	3-CS-1	Crawl Space	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	0.18	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
	2/27/2014	3-IA-3	Residence	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	2/27/2014	3-OA-2	Outdoor	24-hour	ND (0.057)	ND (0.088)	ND (0.18)	ND (0.18)	ND (0.24)	ND (0.24)	ND (0.30)	ND (1.7)	ND (1.1)	ND (1.3)
	2/27/2014	3-CS-2	Crawl Space	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.36	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/27/2014	3-CS-2 Dup (Dup-1)	Crawl Space	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
4	4/12/2012	4-IA-1	Residence	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	1.7	ND (1.0)
	4/12/2012	4-IA-1 Dup (Dup-1)	Residence	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	1.6	ND (1.1)
	2/13/2014	4-IA-2	Residence	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	0.17 J	ND (0.18)	ND (0.22)	1.4	2.6	ND (0.99)
	2/13/2014	4-OA-1	Outdoor	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	2/13/2014	4-CS-1	Crawl Space	24-hour	ND (0.082)	ND (0.13)	ND (0.26)	ND (0.26)	ND (0.35)	ND (0.35)	ND (0.44)	ND (2.5)	ND (1.6)	ND (1.9)
	2/27/2014	4-IA-3	Residence	24-hour	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	1.3	ND (1.0)
	2/27/2014	4-OA-2	Outdoor	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	0.26	ND (1.3)	ND (0.83)	ND (1.0)
	2/27/2014	4-CS-2	Crawl Space	24-hour	ND (0.059)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.25)	ND (0.25)	ND (0.31)	ND (1.8)	ND (1.1)	ND (1.4)

TABLE 4
Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
COE Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[1]				0.16	210	1.5	63	5,200	0.43	0.41	31,000	NA	210
5	4/12/2012	5-IA-1	Residence	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	4/12/2012	5-IA-2	Residence	24-hour	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	2/18/2014	5-IA-3	Residence	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	2/18/2014	5-IA-3 Dup (Dup-1)	Residence	24-hour	ND (0.040)	ND (0.062)	ND (0.13)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.77)	ND (0.94)
	2/18/2014	5-IA-4	Residence	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/18/2014	5-OA-1	Outdoor	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	2/18/2014	5-CS-1	Crawl Space	24-hour	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/25/2014	5-IA-5	Residence	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	1.6	ND (1.0)
	2/25/2014	5-IA-6	Residence	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
	2/25/2014	5-OA-2	Outdoor	24-hour	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]
	2/25/2014	5-CS-2	Crawl Space	24-hour	ND (0.040)	ND (0.063)	ND (0.13)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.77)	ND (0.95)
6	4/12/2012	6-IA-1	Residence	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	1.0	ND (1.0)
	4/12/2012	6-OA-1	Outdoor	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	2/13/2014	6-IA-2	Residence	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	1.2	ND (1.1)
	2/13/2014	6-OA-2	Outdoor	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/13/2014	6-CS-1	Crawl Space	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	1.8	ND (0.84)	ND (1.0)
	2/13/2014	6-BA-1	Basement	24-hour	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	0.20	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	2/20/2014	6-IA-3	Residence	24-hour	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	1.1	ND (1.0)
	2/20/2014	6-OA-3	Outdoor	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.98)
	2/20/2014	6-CS-2	Crawl Space	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	2.2	ND (0.82)	ND (1.0)
	2/20/2014	6-BA-2	Basement	24-hour	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	0.19	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
7	4/12/2012	7-IA-1	Residence	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	4/12/2012	7-OA-1	Outdoor	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
	2/13/2014	7-IA-2	Residence	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	**1.9**	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/13/2014	7-IA-2 Dup (Dup-1)	Residence	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	**1.8**	ND (0.26)	ND (1.4)	ND (0.92)	ND (1.1)
	2/13/2014	7-OA-2	Outdoor	24-hour	ND (0.047)	ND (0.073)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.90)	ND (1.1)
	2/13/2014	7-CS-1	Crawl Space	24-hour	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	0.20	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	2/20/2014	7-IA-3	Residence	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	**1.6**	ND (0.23)	ND (1.3)	0.98	ND (1.0)
	2/20/2014	7-OA-3	Outdoor	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/20/2014	7-CS-2	Crawl Space	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)

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TABLE 4
Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
COE Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[1]				0.16	210	1.5	63	5,200	0.43	0.41	31,000	NA	210
8	4/12/2012	8-IA-1	Apartment	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	2.2	ND (1.1)
	4/12/2012	8-OA-1	Outdoor	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	2/11/2014	8-IA-2	Apartment	24-hour	ND (0.047)	ND (0.073)	ND (0.15)	ND (0.15)	0.28	ND (0.20)	ND (0.25)	ND (1.4)	1.7	ND (1.1)
	2/11/2014	8-OA-2	Outdoor	24-hour	ND (0.040)	ND (0.063)	ND (0.13)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.77)	ND (0.95)
	2/11/2014	8-CS-1	Crawl Space	24-hour	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/18/2014	8-IA-3	Apartment	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	0.25	ND (0.20)	ND (0.25)	ND (1.4)	1.6	ND (1.1)
	2/18/2014	8-OA-3	Outdoor	24-hour	ND (0.050)	ND (0.077)	ND (0.16)	ND (0.15)	ND (0.21)	ND (0.21)	ND (0.26)	ND (1.5)	ND (0.95)	ND (1.2)
	2/18/2014	8-CS-2	Crawl Space	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	2/18/2014	8-CS-2 Dup (Dup-2)	Crawl Space	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
9	4/26/2012	9-IA-1	Residence	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	0.39	ND (0.18)	ND (0.23)	ND (1.3)	1.0	ND (1.0)
	4/26/2012	9-IA-1 Dup (Dup-1)	Residence	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	0.36	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	4/26/2012	9-OA-1	Outdoor	24-hour	0.050	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.3)	0.82	ND (1.0)
10	4/26/2012	10-IA-1	Residence	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	1.0	ND (1.0)
	4/26/2012	10-OA-1	Outdoor	24-hour	0.11	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	2/11/2014	10-IA-2	Residence	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.19)	0.33	ND (1.4)	ND (0.88)	ND (1.1)
	2/11/2014	10-OA-2	Outdoor	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.3)	ND (0.80)	ND (0.99)
	2/11/2014	10-CS-1	Crawl Space	24-hour	ND (0.088)	ND (0.14)	ND (0.28)	ND (0.27)	ND (0.38)	ND (0.37)	ND (0.47)	ND (2.6)	ND (1.7)	ND (2.1)
	2/18/2014	10-IA-3	Residence	24-hour	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	0.23	ND (0.18)	**0.55**	1.6	1.4	ND (1.0)
	2/18/2014	10-OA-3	Outdoor	24-hour	ND (0.042)	ND (0.066)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.3)	ND (0.81)	ND (1.0)
	2/18/2014	10-CS-2	Crawl Space	24-hour	ND (0.050)	ND (0.077)	ND (0.16)	ND (0.15)	ND (0.21)	ND (0.21)	ND (0.26)	ND (1.5)	ND (0.95)	ND (1.2)
11	4/26/2012	11-IA-1	Apartment	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.91)	ND (1.1)
	4/26/2012	11-OA-1	Outdoor	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
	2/13/2014	11-IA-2	Apartment	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/20/2014	11-IA-3	Apartment	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.88)	ND (1.1)
12	4/26/2012	12-IA-1	Residence	24-hour	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	4/26/2012	12-IA-2	Residence	24-hour	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
13	7/24/2012	13-IA-1	Apartment	24-hour	ND (0.066)	ND (0.10)	ND (0.21)	ND (0.20)	ND (0.28)	ND (0.28)	ND (0.35)	ND (2.0)	ND (1.3)	ND (1.6)
	2/11/2014	13-IA-2	Apartment	24-hour	ND (0.046)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	1.9	ND (1.1)
	2/25/2014	13-IA-3	Apartment	24-hour	ND (0.054)	ND (0.084)	ND (0.17)	ND (0.17)	ND (0.23)	ND (0.23)	ND (0.29)	ND (1.6)	2.5	ND (1.3)
	2/25/2014	13-IA-3 Dup (Dup-1)	Apartment	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	2.0	ND (0.97)

TABLE 4
Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
COE Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[1]				0.16	210	1.5	63	5,200	0.43	0.41	31,000	NA	210
14	7/24/2012	14-IA-1	Office	24-hour	ND (0.040)	ND (0.063)	ND (0.13)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.77)	ND (0.95)
	2/11/2014	14-IA-2	Office	24-hour	ND (0.052)	ND (0.080)	ND (0.16)	ND (0.16)	ND (0.22)	ND (0.22)	ND (0.27)	ND (1.5)	ND (0.99)	ND (1.2)
	2/25/2014	14-IA-3	Office	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	**0.41**	ND (1.4)	ND (0.89)	ND (1.1)
15	7/24/2012	15-IA-1	Apartment	24-hour	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	1.0	ND (1.0)
	2/11/2014	15-IA-2	Apartment	24-hour	ND (0.047)	ND (0.073)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.90)	ND (1.1)
	2/11/2014	15-IA-2 Dup (Dup-1)	Apartment	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.91)	ND (1.1)
	2/25/2014	15-IA-3	Apartment	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	0.28	ND (1.4)	1.7	ND (1.1)
16	7/24/2012	16-IA-1	Apartment	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	7/24/2012	16-IA-1 Dup (Dup-1)	Apartment	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	7/24/2012	16-OA-1	Outdoor	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	2/11/2014	16-IA-2	Apartment	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	2/11/2014	16-OA-2	Outdoor	24-hour	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/25/2014	16-IA-3	Apartment	24-hour	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	2/25/2014	16-OA-3	Outdoor	24-hour	ND (0.040)	ND (0.061)	ND (0.12)	ND (0.12)	ND (0.17)	ND (0.17)	ND (0.21)	ND (1.2)	ND (0.76)	ND (0.93)
17	7/24/2012	17-IA-1	Apartment	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
	2/11/2014	17-IA-2	Apartment	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	0.30	0.27	ND (0.23)	1.6	2.8	ND (1.0)
	2/25/2014	17-IA-3	Apartment	24-hour	ND (0.047)	0.073	0.18	ND (0.14)	0.36	0.22	ND (0.25)	1.9	5.5	ND (1.1)
18	2/20/2014	18-OA-1	Outdoor	24-hour	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]	cancelled[2]
	2/27/2014	18-OA-2	Outdoor	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
19	7/25/2012	19-IA-4	Common Room	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.91)	ND (1.1)

TABLE 4
Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
COE Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[1]				0.16	210	1.5	63	5,200	0.43	0.41	31,000	NA	210
20	7/24/2012	20-IA-3	Hallway (2nd fl)	24-hour	ND (0.035)	ND (0.054)	ND (0.11)	ND (0.11)	ND (0.15)	ND (0.15)	ND (0.18)	ND (1.0)	1.1	ND (0.82)
	7/24/2012	20-IA-4	Apartment	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	9/27/2012	20-IA-5	Apartment	24-hour	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	9/27/2012	20-IA-6	Hallway (4th fl)	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	9/27/2012	20-IA-7	Hallway (3rd fl)	24-hour	ND (0.049)	ND (0.076)	ND (0.15)	ND (0.15)	ND (0.21)	ND (0.20)	ND (0.26)	ND (1.5)	ND (0.93)	ND (1.1)
	9/27/2012	20-IA-7 Dup (Dup-1)	Hallway (3rd fl)	24-hour	ND (0.049)	ND (0.076)	ND (0.15)	ND (0.15)	ND (0.21)	ND (0.20)	ND (0.26)	ND (1.5)	ND (0.93)	ND (1.1)
	9/27/2012	20-IA-8	Hallway (2nd fl)	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	9/27/2012	20-OA-1	Outdoor	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.91)	ND (1.1)
	2/13/2014	20-IA-11	Apartment	24-hour	ND (0.047)	ND (0.073)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	1.8	ND (1.1)
	2/13/2014	20-IA-11 Dup (Dup-2)	Apartment	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	1.6	ND (1.1)
	2/13/2014	20-IA-12	Hallway (4th fl)	24-hour	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	0.32	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
	2/13/2014	20-IA-13	Hallway (3rd fl)	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	0.25 J	ND (1.4)	ND (0.89)	ND (1.1)
	2/13/2014	20-IA-14	Hallway (2nd fl)	24-hour	ND (0.046)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	2/13/2014	20-IA-15	Apartment	24-hour	ND (0.050)	ND (0.078)	ND (0.16)	ND (0.16)	ND (0.21)	ND (0.21)	ND (0.26)	ND (1.5)	ND (0.96)	ND (1.2)
	2/13/2014	20-OA-2	Outdoor	24-hour	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.86)	ND (1.0)
	2/20/2014	20-IA-18	Apartment	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	1.7	ND (1.0)
	2/20/2014	20-IA-19	Apartment	24-hour	ND (0.059)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.25)	ND (0.25)	ND (0.31)	ND (1.8)	ND (1.1)	ND (1.4)
	2/20/2014	20-IA-20	Hallway (4th fl)	24-hour	ND (0.046)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	0.30	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	2/20/2014	20-IA-21	Hallway (3rd fl)	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/20/2014	20-IA-22	Hallway (2nd fl)	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	2/20/2014	20-IA-22 Dup (Dup-2)	Hallway (2nd fl)	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/20/2014	20-OA-3	Outdoor	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.98)

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TABLE 4
Residential Indoor, Outdoor, Crawlspace and Basement Analytical Results
COE Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value(1)				0.16	210	1.5	63	5,200	0.43	0.41	31,000	NA	210
21	7/24/2012	21-IA-5	Hallway (2nd fl)	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	7/24/2012	21-OA-1	Outdoor	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.1)	ND (0.91)	ND (1.1)
	2/13/2014	21-IA-7	Hallway (2nd fl)	24-hour	ND (0.048)	ND (0.074)	ND (0.15)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.26)	ND (1.4)	ND (0.92)	ND (1.1)
	2/13/2014	21-OA-2	Outdoor	24-hour	ND (0.046)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	2/20/2014	21-IA-12	Hallway (2nd fl)	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/20/2014	21-IA-12 Dup (Dup-3)	Hallway (2nd fl)	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	2/20/2014	21-OA-3	Outdoor	24-hour	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	0.98	ND (1.0)

Notes:
All samples analyzed using EPA Method TO-15 GC/MS SIM/Full Scan
µg/m^3 = micrograms per cubic meter
ND = Compound not detected: laboratory reporting limit in parentheses
NA = Not Applicable. Chloroform not a COC. Added at EPAs request.
(1) Long-term health risk based screening criteria from Table 1 of agency-approved February 17, 2012 Work Plan. Crawlspace results not directly comparable to indoor air screening criteria, which are developed using exposure assumptions not applicable to a crawlspace.
(2) "cancelled" = Sample not analyzed due to faulty flow controller
VC = Vinyl Chloride

1,1-DCE = 1,1-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis 1,1-DCE = cis-1,2-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
PCE = Tetrachloroethene
Freon 113 = Trichlorotrifluoroethane
1,2-DCB = 1,2-Dichlorobenzene

TABLE 5
Residential Sub-Grade Garage Analytical Results
COE Study Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
18	7/24/2012	18-IA-1	Garage	24-hour	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.17)	ND (0.22)	ND (1.2)	ND (0.79)	ND (0.97)
	7/24/2012	18-IA-2	Garage	24-hour	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	7/24/2012	18-IA-3	Garage	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	7/24/2012	18-IA-3 Dup (Dup-2)	Garage	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	2/20/2014	18-IA-4	Garage	24-hour	ND (0.034)	ND (0.053)	ND (0.11)	ND (0.11)	ND (0.15)	ND (0.14)	ND (0.18)	ND (1.0)	ND (0.65)	ND (0.80)
	2/20/2014	18-IA-4 Dup (Dup-1)	Garage	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	2/20/2014	18-IA-5	Garage	24-hour	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	2/20/2014	18-IA-6	Garage	24-hour	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	2/27/2014	18-IA-7	Garage	24-hour	ND (0.068)	ND (0.11)	ND (0.22)	ND (0.21)	ND (0.29)	ND (0.29)	ND (0.36)	ND (2.0)	ND (1.3)	ND (1.6)
	2/27/2014	18-IA-8	Garage	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	2/27/2014	18-IA-9	Garage	24-hour	ND (0.053)	ND (0.082)	ND (0.17)	ND (0.16)	ND (0.22)	ND (0.22)	ND (0.28)	ND (1.6)	ND (1.0)	ND (1.2)
19	7/24/2012	19-IA-1	Garage	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	0.72	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	7/24/2012	19-IA-2	Garage	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	0.77	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	7/24/2012	19-IA-3	Garage	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	0.65	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	2/13/2014	19-IA-5	Garage	24-hour	ND (0.052)	ND (0.080)	ND (0.16)	ND (0.16)	ND (0.22)	0.32	ND (0.27)	ND (1.5)	ND (0.99)	ND (1.2)
	2/13/2014	19-IA-6	Garage	24-hour	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	0.23	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	2/13/2014	19-IA-7	Garage	24-hour	ND (0.049)	ND (0.076)	ND (0.16)	ND (0.15)	ND (0.21)	0.23	ND (0.26)	ND (1.5)	ND (0.94)	ND (1.2)
	2/20/2014	19-IA-8	Garage	24-hour	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	0.52	ND (0.24)	ND (1.3)	ND (0.86)	ND (1.0)
	2/20/2014	19-IA-9	Garage	24-hour	ND (0.042)	ND (0.066)	ND (0.13)	ND (0.13)	ND (0.18)	0.24	ND (0.22)	ND (1.3)	ND (0.81)	ND (1.0)
	2/20/2014	19-IA-10	Garage	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	0.29	ND (0.24)	ND (1.4)	ND (0.88)	ND (1.1)
20	7/24/2012	20-IA-1	Garage	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	0.44	0.20	0.52	ND (1.4)	ND (0.87)	ND (1.1)
	7/24/2012	20-IA-2	Garage	24-hour	ND (0.051)	0.083	ND (0.16)	ND (0.16)	1.1	0.36	ND (0.27)	ND (1.5)	ND (0.98)	ND (1.2)
	2/13/2014	20-IA-9	Garage	24-hour	ND (0.043)	0.19	ND (0.14)	ND (0.13)	1.6	1.3	0.24	2.7	ND (0.82)	ND (1.0)
	2/13/2014	20-IA-10	Garage	24-hour	ND (0.046)	0.080	ND (0.14)	ND (0.14)	0.70	0.51	ND (0.24)	1.5	ND (0.87)	ND (1.1)
	2/20/2014	20-IA-16	Garage	24-hour	ND (0.044)	0.16	ND (0.14)	ND (0.14)	1.4	0.98	ND (0.23)	2.1	ND (0.83)	ND (1.0)
	2/20/2014	20-IA-17	Garage	24-hour	ND (0.046)	0.11	ND (0.15)	ND (0.14)	0.67	0.43	ND (0.24)	ND (1.4)	ND (0.88)	ND (1.1)

TABLE 5
Residential Sub-Grade Garage Analytical Results
COE Study Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
21	7/24/2012	21-IA-1	Garage	24-hour	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	0.22	ND (0.18)	ND (0.23)	ND (1.3)	4.1	ND (1.0)
	7/24/2012	21-IA2	Garage	24-hour	ND (0.050)	ND 90.078)	ND (0.16)	ND (0.16)	0.24	ND (0.21)	ND (0.26)	ND (1.5)	2.2	ND (1.2)
	7/24/2012	21-IA-3	Garage	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	0.22	ND (0.20)	ND (0.25)	ND (1.4)	2.1	ND (1.1)
	7/24/2012	21-IA-4	Garage	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	7/24/2012	21-IA-4 Dup (Dup-3)	Garage	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	2/13/2014	21-IA-6	Garage	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	0.24	ND (0.24)	ND (1.4)	ND (0.88)	ND (1.1)
	2/13/2014	21-IA6 Dup (Dup-3)	Garage	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	0.22	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	2/13/2014	21-IA-8	Garage	24-hour	ND (0.046)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	2/13/2014	21-IA-9	Garage	24-hour	ND (0.053)	ND (0.082)	ND (0.17)	ND (0.16)	ND (0.23)	ND (0.22)	ND (0.28)	ND (1.6)	ND (1.0)	ND (1.2)
	2/13/2014	21-IA-10	Garage	24-hour	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
	2/20/2014	21-IA-11	Garage	24-hour	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	0.25	ND (0.24)	ND (1.4)	ND (0.88)	ND (1.1)
	2/20/2014	21-IA-13	Garage	24-hour	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	2/20/2014	21-IA-14	Garage	24-hour	ND (0.050)	ND (0.078)	ND (0.16)	ND (0.16)	ND (0.21)	ND (0.21)	ND (0.26)	ND (1.5)	ND (0.96)	ND (1.2)
	2/20/2014	21-IA-15	Garage	24-hour	ND (0.042)	ND (0.066)	ND (0.13)	ND (0.13)	ND (0.18)	0.18	ND (0.22)	ND (1.3)	ND (0.81)	ND (1.0)

Notes:
All samples analyzed using EPA Method TO-15 GC/MS SIM/Full Scan
µg/m^3 = micrograms per cubic meter
Garage = Sample collected from a sub-grade parking garage.
ND = Compound not detected: laboratory reporting limit in parentheses.
VC = Vinyl Chloride
1,1-DCE = 1,1-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis 1,1-DCE = cis-1,2-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
PCE = Tetrachloroethene
Freon 113 = Trichlorotrifluoroethane
1,2-DCB = 1,2-Dichlorobenzene

TABLE 6
Residential Grab Sample Analytical Results
COE Study Area Indoor Air Testing

Building Number	Date	Sample ID	Location	Sample Type	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
18	7/24/2012	18-GR-1	Elevator Shaft	Grab	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	12	ND (1.0)
	2/20/2014	18-GR-2	Elevator Shaft	Grab	ND (0.034)	ND (0.053)	ND (0.11)	ND (0.11)	ND (0.15)	ND (0.14)	ND (0.18)	ND (1.0)	ND (0.65)	ND (0.80)
	2/27/2014	18-GR-3	Elevator Shaft	Grab	ND (0.035)	ND (0.054)	ND (0.11)	ND (0.11)	ND (0.15)	ND (0.15)	ND (0.18)	ND (1.0)	1.6	ND (0.82)
20	7/24/2012	20-GR-1	Tool Room	Grab	ND (0.034)	ND (0.053)	ND (0.11)	ND (0.11)	0.37	0.18	40	ND (1.0)	ND (0.65)	ND (0.80)
	7/24/2012	20-GR-2	Paint Room	Grab	ND (0.034)	ND (0.053)	ND (0.11)	ND (0.11)	4.9	1.2	2.5	ND (1.0)	ND (0.65)	ND (0.80)
	7/24/2012	20-GR-3	Sump/Drain	Grab	0.088	0.070	ND (0.11)	ND (0.11)	1.2	0.30	2.3	7.3	27	ND (0.80)
	7/24/2012	20-GR-4	Elevator Shaft	Grab	ND (0.042)	3.0	0.56	1.3	16	10	0.26	14	ND (0.80)	ND (0.99)
	9/27/2012	20-GR-5	Elevator Shaft	Grab	0.092	1.4	0.30	0.94	8.7	6.8	0.22	7.9	ND (0.79)	ND (0.97)
21	7/24/2012	21-GR-1	Elevator Shaft	Grab	ND (0.041)	ND (0.064)	ND (0.13)	ND (0.13)	0.19	ND (0.17)	ND (0.22)	ND (1.2)	1.8	ND (0.97)
	2/13/2014	21-GR-2	Elevator Shaft	Grab	ND (0.035)	ND (0.055)	ND (0.11)	ND (0.11)	ND (0.15)	0.15	ND (0.19)	ND (1.0)	ND (0.67)	ND (0.83)
	2/20/2014	21-GR-3	Elevator Shaft	Grab	ND (0.035)	ND (0.054)	ND (0.11)	ND (0.11)	ND (0.15)	ND (0.15)	ND (0.18)	ND (1.0)	3.8	ND (0.82)

Notes:
All samples analyzed using EPA Method TO-15 GC/MS SIM/Full Scan
µg/m^3 = micrograms per cubic meter
Grab = Air grab sample (i.e. instantaneously collected; no flow controller used)
ND = Compound not detected: laboratory reporting limit in parentheses.
VC = Vinyl Chloride
1,1-DCE = 1,1-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis 1,1-DCE = cis-1,2-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
PCE = Tetrachloroethene
Freon 113 = Trichlorotrifluoroethane
1,2-DCB = 1,2-Dichlorobenzene

TABLE 7
Commercial Indoor and Outdoor Air Laboratory Analytical Results
COE Study Area Indoor Air Testing

Building Number	Date	Sample ID	HVAC Status	Sample Type[1]	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[2]				2.8	880	7.7	260	22,000	3.0	2.1	130,000	NA	880
22	3/31/2013	22-IA-1	off	IA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	3/31/2013	22-IA-2	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	0.39	ND (1.3)	ND (0.83)	ND (1.0)
	3/31/2013	22-IA-3	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	0.39	ND (1.3)	ND (0.83)	ND (1.0)
	3/31/2013	22-IA-5	off	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	3/31/2013	22-IA-6	off	IA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.86)	ND (1.0)
	3/31/2013	22-IA-9	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.24	1.1	ND (1.3)	ND (0.84)	ND (1.0)
	3/31/2013	22-IA-10	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	3/31/2013	22-IA-10 DUP (DUP-1)	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	3/31/2013	22-OA-1	--	OA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
23	5/4/2014	23-IA-1	off [3]	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	0.89	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/4/2014	23-OA-1	--	OA	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	7/11/2014	23-IA-6	on [4]	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.26	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	7/11/2014	23-IA-6 DUP (DUP-1)	on [4]	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	0.82	ND (0.23)	ND (1.3)	0.91	ND (1.0)
	7/11/2014	23-IA-7	on [4]	IA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	0.25	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
	7/11/2014	23-IA-8	on [4]	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.36	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	7/11/2014	23-IA-9	on [4]	IA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	0.26	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	7/11/2014	23-IA-10	on [4]	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.24	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	7/11/2014	23-OA-2	--	OA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
24	6/27/2014	24-IA-1	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	6/24/2014	24-IA-1 DUP (DUP-1)	on	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	6/27/2014	24-IA-3	on	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	0.96	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	6/27/2014	24-OA-1	--	OA	ND (0.047)	ND (0.073)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.90)	ND (1.1)

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TABLE 7
Commercial Indoor and Outdoor Air Laboratory Analytical Results
COE Study Area Indoor Air Testing

Building Number	Date	Sample ID	HVAC Status	Sample Type[1]	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[2]				2.8	880	7.7	260	22,000	3.0	2.1	130,000	NA	880
25	4/21/2014	25-IA-1	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.27	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	4/21/2014	25-IA-1 DUP (DUP-1)	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	4/21/2014	25-IA--2	on	IA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	4/21/2014	25-OA-1	--	OA	ND (0.047)	ND (0.073)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.90)	ND (1.1)
	4/23/2014	25-IA-4	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	4/23/2014	25-IA-5	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	4/23/2014	25-IA-5 DUP (DUP-1)	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	4/23/2014	25-OA-2	--	OA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
27	5/24/2014	27-IA-1	on	IA	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/24/2014	27-IA-4	on	IA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
	5/24/2014	27-IA-5	on	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/24/2014	27-IA-6	on	IA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/24/2014	27-IA-6 DUP (DUP-1)	on	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/24/2014	27-IA-7	on	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/24/2014	27-IA-8	on	IA	ND (0.046)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	5/24/2014	27-OA-1	--	OA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/26/2014	27-IA-12	off	IA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/26/2014	27-IA-13	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	5/26/2014	27-IA-15	off	IA	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	5/26/2014	27-IA-16	off	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/26/2014	27-IA-16 DUP (DUP-1)	off	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/26/2014	27-IA-17	off	IA	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.88)	ND (1.1)
	5/26/2014	27-IA-18	off	IA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.86)	ND (1.0)
	5/26/2014	27-OA-10	--	OA	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)

TABLE 7
Commercial Indoor and Outdoor Air Laboratory Analytical Results
COE Study Area Indoor Air Testing

Building Number	Date	Sample ID	HVAC Status	Sample Type[1]	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[2]				2.8	880	7.7	260	22,000	3.0	2.1	130,000	NA	880
28	5/24/2014	28-IA-1	on	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/24/2014	28-IA-2	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	0.29	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	5/24/2014	28-IA-3	on	IA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	0.42	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/24/2014	28-IA-4	on	IA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.86)	ND (1.0)
	5/24/2014	28-IA-4 DUP (DUP-2)	on	IA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.86)	ND (1.0)
	5/24/2014	28-IA-5	on	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/24/2014	28-OA1	--	OA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/26/2014	28-IA-8	off	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	0.24	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/26/2014	28-IA-9	off	IA	ND (0.048)	ND (0.075)	ND (0.15)	ND (0.15)	ND (0.21)	0.38	ND (0.26)	ND (1.4)	ND (0.92)	ND (1.1)
	5/26/2014	28-IA-10	off	IA	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	ND (0.20)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	5/26/2014	28-IA-10 DUP (DUP-2)	off	IA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
	5/26/2014	28-OA-7	--	OA	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
29	7/18/2014	29-IA-1	on	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	7/18/2014	29-IA-2	on	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	7/18/2014	29-IA-3	on	IA	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	7/18/2014	29-IA-3 DUP (DUP-1)	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
	7/18/2014	29-IA-5	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	7/18/2014	29-OA-1	--	OA	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)

TABLE 7
Commercial Indoor and Outdoor Air Laboratory Analytical Results
COE Study Area Indoor Air Testing

Building Number	Date	Sample ID	HVAC Status	Sample Type[1]	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
	Long-term Screening Value[2]				2.8	880	7.7	260	22,000	3.0	2.1	130,000	NA	880
30	5/2/2014	30-IA-1	on	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/2/2014	30-IA-2	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	5/2/2014	30-IA-3	on	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/2/2014	30-IA-4	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	5/2/2014	30-IA-5	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	5/2/2014	30-IA-5 DUP (DUP-1)	on	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/2/2014	30-IA-6	on	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	5/2/2014	30-OA-1	--	OA	ND (0.047)	ND (0.072)	ND (0.15)	ND (0.14)	ND (0.20)	ND (0.20)	ND (0.25)	ND (1.4)	ND (0.89)	ND (1.1)
	5/4/2014	30-IA-7	off	IA	ND (0.045)	ND (0.069)	ND (0.14)	ND (0.14)	0.34	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	5/4/2014	30-IA-8	off	IA	ND (0.042)	ND (0.065)	ND (0.13)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.22)	ND (1.2)	ND (0.80)	ND (0.99)
	5/4/2014	30-IA-9	off	IA	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	0.32	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/4/2014	30-IA-10	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	5/4/2014	30-IA-10 DUP (DUP-1)	off	IA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	0.19	ND (0.18)	ND (0.23)	4.7	ND (0.83)	ND (1.0)
	5/4/2014	30-IA-11	off	IA	ND (0.046)	ND (0.071)	ND (0.14)	ND (0.14)	0.26	0.35	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	5/4/2014	30-OA-2	--	OA	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)

Notes:

All samples analyzed using EPA Method TO-15 GC/MS SIM/Full Scan; Samples collected over an approximately 10 hour period.

µg/m^3 = micrograms per cubic meter

ND = Compound not detected: laboratory reporting limit in parentheses.

NA = Not Applicable. Not a COC. Compound added at request of EPA.

HVAC "off" status = Samples collected after building HVAC system had been off for at least 36 hours; Building HVAC system remained off during sampling.

(1) Sample Types:

IA = 10-hour sample from a space with the potential to be routinely occupied during typical business hours

OA = 10-hour outdoor air sample

(2) Long-term health risk based screening criteria from Table 1 of agency-approved February 17, 2012 Work Plan.

(3) Building HVAC off, garage ventilation off.

(4) Building HVAC on, garage ventilation on.

VC = Vinyl Chloride
1,1-DCE = 1,1-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis 1,2-DCE = cis-1,2-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
PCE = Tetrachloroethene
Freon 113 = Trichlorotrifluoroethane
1,2-DCB = 1,2-Dichlorobenzene

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TABLE 8
Commercial Pathway Laboratory Analytical Results
COE Study Area Indoor Air Testing

Building No.	Date	Sample ID	HVAC Status	Sample Type(1)	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
22	3/31/2013	22-IA-4	off	PW	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	0.38	ND (1.3)	1.3	ND (1.0)
	3/31/2013	22-IA-7	off	PW	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	0.83	ND (1.0)
	3/31/2013	22-IA-8	off	PW	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
23	5/4/2014	23-IA-2	off [2]	PW	ND (0.045)	0.34	ND (0.14)	1.8	ND (0.19)	51	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	7/11/2014	23-IA-5	on [3]	PW	ND (0.045)	0.82	0.28	5.3	0.36	130	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	7/11/2014	23-IA-11	on [3]	PW	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	0.26	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
24	6/27/2014	24-IA-2	on	PW	ND (0.044)	ND (0.069)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.3)	ND (0.85)	ND (1.0)
	6/27/2014	24-IA-4	on	PW	ND (0.045)	ND (0.070)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.19)	ND (0.24)	ND (1.4)	ND (0.86)	ND (1.1)
25	4/21/2014	25-IA-3	on	PW	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	4/23/2014	25-IA-6	off	PW	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
27	5/24/2014	27-IA-2	on	PW	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)
	5/24/2014	27-IA-3	on	PW	ND (0.043)	ND (0.066)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/26/2014	27-IA-11	off	PW	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.82)	ND (1.0)
	5/26/2014	27-IA-14	off	PW	ND (0.044)	ND (0.068)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
29	7/18/2014	29-IA-4	on	PW	ND (0.043)	ND (0.067)	ND (0.14)	ND (0.13)	ND (0.18)	ND (0.18)	ND (0.23)	ND (1.3)	ND (0.83)	ND (1.0)

Notes:

All samples analyzed using EPA Method TO-15 GC/MS SIM/Full Scan; Samples collected over an approximately 10 hour period.

µg/m^3 = micrograms per cubic meter

ND = Compound not detected: laboratory reporting limit in parentheses.

HVAC "off" status = Samples collected after building HVAC system had been off for at least 36 hours; Building HVAC system remained off during sampling.

(1) Sample Types:

PW = 10-hour sample from a potential pathway location such as a utility room or closet

(2) Building HVAC off, garage ventilation off.

(3) Building HVAC on, garage ventilation on.

VC = Vinyl Chloride
1,1-DCE = 1,1-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis 1,2-DCE = cis-1,2-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
PCE = Tetrachloroethene
Freon 113 = Trichlorotrifluoroethane
1,2-DCB = 1,2-Dichlorobenzene

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TABLE 9
Commercial Sub-Grade Garage and Grab Sample Laboratory Analytical Results
COE Study Area Indoor Air Testing

Building No.	Date	Sample ID	HVAC Status	Sample Type[1]	Compound and Reported Concentration (µg/m^3)									
					VC	1,1-DCE	1,1-DCA	cis 1,2-DCE	1,1,1-TCA	TCE	PCE	Freon 113	Chloroform	1,2-DCB
22	3/31/2013	22-GR-1	--	GR	ND (0.036)	ND (0.055)	ND (0.11)	ND (0.11)	ND (0.15)	ND (0.15)	ND (0.19)	ND (1.1)	ND (0.68)	ND (0.84)
	3/31/2013	22-GR-2	--	GR	ND (0.036)	ND (0.057)	ND (0.12)	ND (0.11)	ND (0.16)	ND (0.15)	ND (0.19)	ND (1.1)	ND (0.70)	ND (0.86)
23	5/4/2014	23-IA-3	off[2]	GAR	ND (0.046)	0.15	ND (0.14)	0.72	ND (0.20)	23	ND (0.24)	ND (1.4)	ND (0.87)	ND (1.1)
	5/4/2014	23-GR-1	--	GR	ND (0.034)	0.16	ND (0.11)	0.99	ND (0.15)	27	ND (0.18)	ND (1.0)	ND (0.65)	ND (0.80)
	7/11/2014	23-IA-4	on[3]	GAR	ND (0.044)	0.069	ND (0.14)	0.45	ND (0.19)	9.4	ND (0.23)	ND (1.3)	ND (0.84)	ND (1.0)
24	6/27/2014	24-GR-1	--	GR	ND (0.034)	ND (0.053)	ND (0.11)	ND (0.10)	ND (0.14)	ND (0.14)	4.4	ND (1.0)	ND (0.65)	ND (0.80)

Notes:

All samples analyzed using EPA Method TO-15 GC/MS SIM/Full Scan; Samples collected over an approximately 10 hour period.

µg/m^3 = micrograms per cubic meter

ND = Compound not detected: laboratory reporting limit in parentheses.

(1) Sample Types:

GR = Potential pathway grab sample (e.g. elevator shaft)

GAR = 10-hour sample from the sub-grade parking garage

(2) Building HVAC and garage ventilation systems were off for at least 36 hours prior to and during sampling.

(3) Building HVAC and garage ventilation systems were operating during sampling.

VC = Vinyl Chloride
1,1-DCE = 1,1-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis 1,2-DCE = cis-1,2-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
PCE = Tetrachloroethene
Freon 113 = Trichlorotrifluoroethane
1,2-DCB = 1,2-Dichlorobenzene

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TABLE 10
June 2014 Groundwater Depth Measurements
COE Study Area Indoor Air Testing

Well	TOC Elevation (msl)	Top of Screen Elevation (msl)	Bottom of Screen Elevation (msl)	Depth to Water (ft btoc) 10-Jun-14
EW-4	34.52	9.22	-7.28	20.63
EW-5	27.41	10.70	-9.30	13.72
EW-7	35.48	10.43	-0.58	22.01
EW-12	29.76	13.09	3.09	16.79
EW-15	24.84	2.84	-2.16	16.36
F21A1U	34.53	14.00	4.00	21.28
F22A1U	34.56	19.10	9.10	21.39
F29A1U	30.06	14.56	4.56	19.68
F36A	34.35	5.21	-7.29	22.71
F38A	33.26	6.55	-8.95	22.07
F40A	30.86	9.06	-11.44	19.92
F42A1R	33.19	13.51	-0.99	19.82
F53A1U	25.61	8.86	-1.14	19.42
F54A1U	24.13	2.56	-4.44	17.91
F55A1U	26.26	5.01	-2.49	20.41
F57A1U	22.41	8.89	-3.61	15.84
F59A1U	27.03	8.52	-1.48	20.80
F61A1U	28.29	6.20	-3.80	23.58
F63A1U/A1	33.55	16.64	1.64	19.98
F65A1U	29.76	-2.74	-10.24	Dry
F66A	29.40	-2.41	-9.91	20.61
F71A1U	26.68	9.00	3.00	18.74
F75A1U	22.06	7.46	-4.29	15.36
F77A1U	28.94	11.10	1.10	18.90
F78A1	35.95	14.49	2.49	22.44
F83A1U	29.67	12.17	7.17	17.22
F85A1	34.36	7.75	-4.25	21.02
F88A1U	26.57	13.26	-1.74	17.98
F90A1U	21.33	10.33	-4.67	14.77
F93A1U	28.92	14.55	4.55	20.31
F95A	35.61	11.48	-3.52	23.74
F106A1	36.67	12.08	2.08	22.76
F123A1	34.16	6.77	-3.23	20.71
F125A1	34.16	14.69	4.69	20.66
F130A1U	32.86	20.27	10.27	19.84
F137A1	33.75	8.75	-1.25	20.29
F138A1U	28.73	4.31	0.31	15.66
F141A1U	23.64	0.24	-4.76	16.98
F143A1U	25.49	0.42	-4.58	14.98
F148A1U	22.79	1.79	-8.21	14.73
F149A1U	33.79	12.49	2.49	20.33
F153A1U	30.88	19.38	14.38	Dry

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TABLE 10
June 2014 Groundwater Depth Measurements
COE Study Area Indoor Air Testing

Well	TOC Elevation (msl)	Top of Screen Elevation (msl)	Bottom of Screen Elevation (msl)	Depth to Water (ft btoc) 10-Jun-14
F154A1U	29.10	19.60	15.60	Dry
F155A1U	27.52	16.02	6.02	17.56
F156A1U	32.45	18.45	8.45	19.23
F159A1U	26.79	10.79	0.79	18.20
F160A1U	24.45	8.49	-1.55	17.79
F161A1U	24.43	7.43	-2.57	17.74
F167A1U	32.51	20.51	17.30	19.60
F168A1U	34.30	23.30	17.30	Dry
H1	27.10	NA	NA	20.52
H2	26.84	NA	NA	18.51
M-1	34.26	14.65	-14.85	20.49
O27A1	40.04	NA	NA	25.60
O28A1	38.55	13.95	3.95	25.12
O68A1	37.27	10.81	-4.19	23.86
O70A1	35.20	5.64	0.14	21.62
O104A1	36.67	16.58	6.58	22.63
O108A1	35.74	15.46	5.46	21.88
O110A1	37.04	13.70	3.70	23.31
O112A1	37.80	11.33	3.33	24.19
O115A1	34.78	10.36	4.36	21.05
O116A1	30.42	11.70	4.70	16.72
O119A1	39.82	9.40	-0.60	26.41
OB4-1	37.34	9.29	1.29	23.43
OB5-2	40.02	42.47	3.77	26.42
OB5-3	30.24	11.80	4.30	16.51
OB7-1	38.63	9.48	-0.52	25.22
OB7-2	39.85	9.22	-0.78	26.41
OB7-3	40.14	10.30	0.30	26.77
OB11-1	27.60	6.35	-3.65	18.93
OB11-2	23.87	7.12	-2.88	17.51
OB11-3	28.38	8.96	-1.04	19.33
OB12-1	31.09	15.48	0.48	Dry
OB12-2	31.82	12.18	-0.82	18.80
OB15-1	26.15	4.67	-0.33	17.69
P1-A1	34.33	10.13	0.13	20.70
P2-1	26.04	5.99	0.99	21.80
P3-1	25.06	6.84	1.84	19.87
RW-1	25.63	18.90	-1.10	16.69

TABLE 10
June 2014 Groundwater Depth Measurements
COE Study Area Indoor Air Testing

Well	TOC Elevation (msl)	Top of Screen Elevation (msl)	Bottom of Screen Elevation (msl)	Depth to Water (ft btoc) 10-Jun-14
RW-2	25.84	19.20	-0.80	17.52
RW-4	25.16	18.87	-1.13	15.99
RW-5	22.96	19.03	-0.97	13.75
RW-6	25.56	18.73	-1.27	16.61
SH1	27.99	9.69	-5.31	22.48
SH2	30.22	NA	NA	23.19
T1A	34.25	-0.75	-10.75	20.57
V8-1	37.38	13.16	-6.84	23.36
V8-2	39.43	12.77	-7.23	25.51
V8-2X	35.59	14.01	-5.99	21.58
V8-5	37.98	12.43	-7.57	24.00
V8-6	37.57	11.32	-8.18	23.52
V8-22	36.60	3.50	-6.50	22.80
V8-34	35.96	6.96	-8.04	22.35
V-10	36.34	7.00	-8.00	23.43
V-16A1U	36.17	27.12	17.12	21.63
VB-1	27.82	11.99	-7.01	22.21
W-3A1U	28.89	14.19	-0.81	17.82
W-7A1U	31.09	16.55	4.05	18.79
W-10A1U	27.80	5.91	0.91	20.08
W-11A1U	34.72	2.76	-2.24	23.03
W-12A1U-R	28.38	10.56	0.56	19.21
W157A1U	30.96	21.96	11.96	18.42
W158A1U	29.19	14.19	9.19	18.71

Notes and Abbreviations:

NA = not available

TOC = top of casing

msl = mean sea level

ft btoc = feet below top of casing

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TABLE 11
Summary of Section 1 Observations and Agency Review
Supplemental Vapor Intrusion Assessment
COE Study Area Indoor Air Testing

Property ID	No. of Buildings	Observed Building Use	Estimated Building Dimensions (ft)	No. of Floors	Foundation Type	Basement	Comments
32	1	Commercial	45 x 60 45 x 165	1+ 2	SOG	No	Slab up to 1' thick; no elevator.
33	1	Resid Apts	150 x 60	3	SOGPG	No	1/4 of bldg footprint open air garage; no elevator; separate grg in back.
34	1	Resid Apts	120 x 110	3	SOGPG	No	Open air grg under bldg; Utility room in each corner of grg; grg half below grade.
35	1	Resid Apts	120 x 110	3	SOGPG	No	Open air grg under bldg; Utility room in each corner of grg; grg half below grade.
36	2	Church	60 x 100 70 x 140	1 1	SOG/SOG	No	
37	1	Resid Apts	120 x 180	3	SOG	No	
38	1	Resid Apts	30 x 75	3	SOGPG	No	Apts over grgs; Enclosed stairways and closed grgs on first floor.
39	1	Government	65 x 135	1	SOG	No	
40	1	Commercial	100 x 60	1	SOG	No	
41	5	Resid Apts Complex	4-large bldgs 4-small bldgs	3 3	SOGPG	Grg	Apts over below grade grg; 4-small apts share walls; elevator?
42	1	Commercial	150 x 35	1	SOG	No	
43	1	Commercial	160 x 180	3	SOGPG	No	Offices over 1st floor open air grg; grgs half below grade.
44	2	Open air garage	240 x 120	2	SOG	No	Open air grg, half below grade.
45	1	Commercial	135 x 135	4	SOG	Yes	Elevator, one occupied floor below grade.
46	1	Commercial under Resid	75 x 160	3	SOGPG	Grg	Under construction: Reportedly 1st floor offices over below grade grg; townhouses over offices.
47	1	Resid Apts	240 x 120	4	SOGPG	No	Open air grg beneath apts; half below grade; utility room?, elevator?
48	1	Commercial	35 x 80	1	SOG	No	
49	1	Commercial	65 x 120	1	SOG	No	

Notes:
Information is based on visual observations of building exteriors made from public rights of way, and review of records at the City of Palo Alto Building Department and/or Santa Clara County Assessor's office.

ft	feet
Resid Apts	Residential Apartments
SOG	Concrete slab
SOGPG	Concrete slab parking garage beneath occupied living or work space
grg	Garage
ECR	El Camino Real
PMR	Page Mill Road

TABLE 12
Summary of Section 2 Observations and Agency Review
Supplemental Vapor Intrusion Assessment
COE Study Area Indoor Air Testing

Property ID	No. of Buildings	Observed Building Use	Estimated Building Dimensions (ft)	No. of Floors	Foundation Type	Basement	Comments
50	1	Resid SFH	40 x 60	1	SOG	No	Attached grg.
51	1	Resid SFH	40 x 60	1	SOG	No	Attached grg.
52	1	Resid SFH	40 x 60	1	SOG	No	Attached grg.
53	1	Resid Apts	50 x 60	2	SOG?	No	Could not confirm SOG or Elevator
54	2	Resid Apts	65 x 45 65 x 45	2	CS	No	No elevator.
55	2	Resid Apts	30 x 55 30 x 55	2	CS	No	No elevator.
56	1	Resid Apts	30 x 60	1	SOG	No	Open air grg in back.
57	3	Resid Apts	30 x 80 30 x 80 30 x 80	2 2 2	SOG	No	No elevators.
58	2	Resid Apts	35 x 80 35 x 80	1 2	CS SOG	No	Front Apt has CS, attached grg; back apt 2nd floor over open air grg.
59	1	Resid Apts	26 x 40	1	SOG?	No	Could not confirm SOG.
60	1	Resid Apts	26 x 40	1	SOG?	No	Could not confirm SOG.
61	1	Resid Apts	26 x 40	1	SOG?	No	Could not confirm SOG.
62	1	Resid Apts	45 x 45	1	SOG	No	
63	2	Resid Apts	40 x 60 40 x 60	1 1	CS	No	
64	1	Resid Apts	50 x 60	1	SOG	No	
65	1	Resid Apts	25 x 60	1	SOG	No	
66	3	Resid Apts	50 x 60 50 x 60 50 x 30	1 1 2	SOG	No	
67	1	Resid Apts	75 x 40	1	SOG?	No	Could not confirm SOG.
68	1	Resid SFR	20 x 50	1	SOG?	No	Could not confirm SOG.
69	2	Resid Apts	40 x60 40 x 60	1 2	SOG?	No	Front Apt on 2nd floor over closed grg, back Apt 1-floor; Could not confirm SOG

Notes:

Information is based on visual observations of building exteriors made from public rights of way, and review of records at the City of Palo Alto Building Department and/or Santa Clara County Assessor's office.

ft	feet
Resid	Residential
Apt(s)	Apartment(s)
SFH	Single family residence (or duplex)
SOG	Concrete slab
CS	Crawl space
grg	Garage

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TABLE 13
Summary of Section 3 Observations and Agency Review
Supplemental Vapor Intrusion Assessment
COE Study Area Indoor Air Testing

Property ID	No. of Buildings	Observed Building Use	Estimated Building Dimensions (ft)	No. of Floors	Foundation Type	Basement	Comments
70	1	Commercial	55 x 150	1	SOG	No	
71	1	Apparent Commercial	90 x 60	2	SOG	NA	Attached 1-floor grg w/ roll up door
72	1	Commercial	50 x 50	1	SOG	No	
73	1	Resid SFR	45 x 60	1	CS	No	Converted attached grg.
74	1	Resid SFR	60 x 140	1	SOG	No	
75	1	Resid SFR	35 x 70	1	CS	No	
76	1	Resid SFR	40 x 60	1	CS	No	
77	1	Commercial	210 x 50	1	SOG	No	For lease; back warehouse occupied
78	1	Commercial	45 x 30	1	SOG	No	
79	1	Commercial	105 x 75	1	SOG	No	
80	1	Commercial	35 x 120	1	SOG	No	
81	1	Resid SFR	45 x 70	2	CS	No	
82	1	Resid SFR	45 x 50	1	CS	No	
83	1	Resid SFR	35 x 80	1	CS	No	
84	1	Resid SFR	45 x 50	1	CS	No	
85	1	Resid SFR	45 x 50	1	CS	No	
86	1	Resid SFR	45 x 50	1	CS	No	
87	1	Resid SFR	45 x 50	1	CS	No	Possible converted attached grg.
88	1	Resid SFR	45 x 80	1	CS	No	
89	1	Resid SFR	45 x 60	1	CS	No	Converted attached grg in back.
90	1	Resid SFR	45 x 30	1	CS	No	
91	1	Resid SFR	45 x 30	1	CS	No	
92	1	Resid SFR	45 x 30	1	CS	No	Separate studio on lot.
93	1	Commercial	80 x 40	1	SOG	No	Roll up door in side of building
94	1	Commercial	80x40	1	SOG	No	Large roll up doors, hydraulic lifts
95	1	Commercial	135 x 135	2	SOG	No	Multiple roll up doors
96	1	Commercial	135 x 135	3	SOG	No	Below grade grg.
97	1	Commercial	125 x 125	1	SOG	No	
98	1	Commercial & Retail	925 x 210	1	SOG	No	Multiple businesses, all SOG; multiple roll up doors
99	1	Commercial	400 x 135	1	SOG	No	Multiple businesses w/ roll up doors; open parking lot on SE side of building has sub grade closed grg.
100	1	Commercial	135 x 60	1	SOG	No	Building attached to adjacent property building
101	1	Commercial	45 x 45	2	SOG	No	First floor half below grade

Notes:
Information is based on visual observations of building exteriors made from public rights of way, and review of records at the City of Palo Alto Building Department and/or Santa Clara County Assessor's office.

ft	feet
Resid	Residential
SFR	Single family residence (or duplex)
SOG	Concrete slab
CS	Crawl space
grg	Garage
ECR	El Camino Real
PMR	Page Mill Road

TABLE 14
Summary of Section 4 Observations and Agency Review
Supplemental Vapor Intrusion Assessment
COE Study Area Indoor Air Testing

Property ID	No. of Buildings	Observed Building Use	Estimated Building Dimensions (ft)	No. of Floors	Foundation Type	Basement	Notes
102	1	Commercial	100 x 110	1	SOG	No	
103	1	Commercial	75 x 210	1	SOG	No	Same parcel as Map ID 104
104	1	Commercial	75 x 160	2	SOG	No	Elevator; ground floor open air grg
105	1	Commercial	70 x 140	1	SOG	No	Warehouse; large sliding doors
106	1	Commercial	75 x 120	1	SOG	No	
107	1	Commercial	150 x 50	1	CS/SOG	No	
108	1	Commercial	50 x 150	1	SOG	No	Large roll up door
109	1	Commercial	75 x 75	2	SOG	No	
110	1	Commercial	70 x 70	1	CS&SOG	No	Attached grg; converted SFR
111	2	Commercial	165 x 200	2	SOG	No	Bldgs adjacent; 2nd floor loft space
112	1	Commercial	60 x 180	2	SOG	No	2nd floor may be loft or high ceilings
113	1	Resid SFR	35 x 45	1	CS	No	Open grg in back
114	1	Commercial	35 x 50	1	CS	No	Former SFR
115	1	Commercial	75 x 115	1	SOG	No	Large roll up doors
116	1	Commercial	50 x 200	1	SOG	No	
117	1	Commercial	30 x 165	1	SOG	No	
118	1	Commercial	45 x 45	1	SOG	No	Vacant
119	1	Commercial	25 x 480	2	SOG	No	1/3 of ground floor open air grgs; C-shaped building.
120	1	Commercial	50 x 60	1	SOG	No	
121	1	Commercial	30 x 210	2	SOG	No	L-shaped building

TABLE 14
Summary of Section 4 Observations and Agency Review
Supplemental Vapor Intrusion Assessment
COE Study Area Indoor Air Testing

Property ID	No. of Buildings	Observed Building Use	Estimated Building Dimensions (ft)	No. of Floors	Foundation Type	Basement	Notes
122	3	Commercial and Resid Apts	50 x 100	3	SOG	No	Elevator; ground floor open air grg and 1 business, APTs on 2nd & 3rd floors
123	1	Resid SFR	35 x 40	1	CS	No	

Notes:
Information is based on visual observations of building exteriors made from public rights of way, and review of records at the City of Palo Alto Building Department and/or Santa Clara County Assessor's office.

ft	feet
Resid	Residential
Apt(s)	Apartment(s)
SFR	Single family residence (or duplex)
SOG	Concrete slab
CS	Crawl space
grg	Garage
ECR	El Camino Real

TABLE 15
Summary of Section 5 Observations and Agency Review
Supplemental Vapor Intrusion Assessment
COE Study Area, Indoor Air Testing

Property ID	No. of Buildings	Observed Building Use	Estimated Building Dimensions (ft)	No. of Floors	Foundation Type	Basement	Notes
124	1	Commercial	75 x 100	2	SOG	No	
125	1	Commercial	30 x 80	2	SOG	No	City of Palo Alto records indicate a basement; however, field observations indicate otherwise
126	1	Commercial	75 x 75	2	SOG	No	
127	1	Commercial	100 x 250	2	SOG	No	Freestanding elevator between bldgs A and B
128	1	Commercial	100 x 250	2	SOG	No	Freestanding elevator between bldgs A and B
129	1	Commercial	100 x 180	3	SOG	No	1st floor half below grade; elevator likely
130	1	Commercial	125 x 125	2	SOG	No	
131	1	Commercial	135 x 135	10	SOG	No	Elevator
132	1	Commercial	105 x 135	2	SOG	No	Theater, some portion below grade
133	1	Commercial	135 x 135	10	SOG	No	Elevator
134	1	Commercial	105 x 115	2	SOG	No	
135	1	Garage	135 x 320	2	SOG	No	Open air grg half below grade
136	1	Commercial	100 x 120	1	SOG	No	
137	1	Commercial	50 x 70	1	SOG	No	
138	1	Commercial	80 x 160	1	SOG	No	
139	1	Commercial	45 x 45	2	SOG	No	Offices for restaurant
140	1	Commercial	30 x 340	2	SOG	No	Half of ground floor open air grg; L-shaped bldg

Notes:
Information is based on visual observations of building exteriors made from public rights of way, and review of records at the City of Palo Alto Building Department and/or Santa Clara County Assessor's office.

ft	feet
SOG	Concrete slab
grg	Garage
ECR	El Camino Real
PMR	Page Mill Road

TABLE 16
Summary of Supplemental Vapor Intrusion Assessment
COE Study Area Indoor Air Testing

Property ID No.	Use	IA TCE	CONST	DTW	Lithology	GW TCE	PP	Comments
32	com	X	X	X	X	X	X	
33	resid apts	X	X	X	X	X	X	Open air garage under 1/4 of bldg.
34	resid apts	X	X	X	X	X	X	Open air garage under bldg.
35	resid apts	X	X	X	X	X	X	Open air garage under bldg.
36	church	X	X	X	X	X	X	
37	resid apts	X	X	X	X	X	X	
38	resid apts	X	X	X	X	X	X	Apartments over closed garages
39	com	X	X	X	X	X	X	
40	com	X	X	X	X	X	?	
41	resid apts	X	X	X	X	X	X	Apartments over underground parking garage
42	com	X	X	X	X	X	X	
43	com	X	X	X	X	X	X	Open air garage under bldg.
44	parking	---	---	---	---	---	---	2-story open air parking structure
45	com	X		X	X	X	X	
46	mixed	X	X	X	X	X	X	Under construction - reportedly planned mixed use
47	resid apts	X	X	X	X	X	X	Apartments over open air garages
48	com	X	X	X	X	X	X	
49	com	X	X	X	X	X	X	
50	resid	X	X	X	X	X	X	
51	resid	X	X	X	X	X	X	
52	resid	X	X	X	X	X	X	
53	resid apts	X	X	X	X	X	X	
54	resid apts	X	X	X	X	X	X	
55	resid apts	X	X	X	X	X	X	
56	resid apts	X	X	X	X	X	X	
57	resid apts	X	X	X	X	X	X	
58	resid apts	X	X	X	X	X	X	
59	resid apts	X	X	X	X	X	X	
60	resid apts	X	X	X	X	X	X	
61	resid apts	X	X	X	X	X	X	
62	resid apts	X	X	X	X	X	X	
63	resid apts	X	X	X	X	X	X	
64	resid apts	X	X	X	X	X	X	
65	resid apts	X	X	X	X	X	X	
66	resid apts	X	X	X	X	X	X	
67	resid apts	X	X	X	X	X	X	
68	resid	X	X	X	X	X	X	
69	resid apts	X	X	X	X	X	X	
70	com	X	X	X	X	X	X	
71	com	X	X	X	X	X	X	Under construction; apparent commercial use
72	com	X	X	X	X	X	X	
73	resid	X	X	X	X	X	X	
74	resid	X	X	X	X	X	X	
75	resid	X	X	X	X	X	X	
76	resid	X	X	X	X	X	X	
77	com	X	X	X	X	X	X	
78	com	X	X	X	X	X	X	
79	com	X	X	X	X	X	X	
80	com	X	X	X	X	X	X	
81	resid	X	X	X	X	X	X	
82	resid	X	X	X	X	X	X	
83	resid	X	X	X	X	X	X	
84	resid	X	X	X	X	X	X	
85	resid	X	X	X	X	X	X	
86	resid	X	X	X	X	X	X	
87	resid	X	X	X	X	X	X	
88	resid	X	X	X	X	X	X	
89	resid	X	X	X	X	X	X	
90	resid	X	X	X	X	X	X	
91	resid	X	X	X	X	X	X	
92	resid	X	X	X	X	X	X	
93	com	X	X	X	X	X	X	
94	com	X	X	X	X	X	X	Hydraulic lifts

TABLE 16
Summary of Supplemental Vapor Intrusion Assessment
COE Study Area Indoor Air Testing

Property ID No.	Use	IA TCE	CONST	DTW	Lithology	GW TCE	PP	Comments
95	com	X	X	X	X	X	X	
96	com	X	X	X	X	X	X	
97	com	X	X	X	X	X	X	
98	com	X	X	X	X	X	X	
99	com	X	X	X	X	X	X	
100	com	X	X	X	X	X	X	
101	com	X		X	X	X	X	
102	com	X	X	X	X	X	X	
103	com	X	X	X	X	X	X	
104	com	X	X	X	X	X	X	Open air garage on ground floor
105	com	X	X	X	X	X	X	
106	com	X	X	X	X	X	X	
107	com	X	X	X	X	X	X	
108	com	X	X	X	X	X	X	
109	com	X	X	X	X	X	X	
110	com	X	X	X	X	X	X	Converted single family residence; attached garage
111	com	X	X	X	X	X	X	
112	com	X	X	X	X	X	X	
113	resid	X	X	X	X	X	X	
114	resid	X	X	X	X	X	X	Converted single family residence; attached garage
115	com	X	X	X	X	X	X	
116	com	X	X	X	X	X	X	
117	com	X	X	X	X	X	X	
118	com	X	X	X	X	X	X	
119	com	X	X	X	X	X	X	
120	com	X	X	X	X	X	X	
121	com	X	X	X	X	X	X	
122	mixed	X	X	X	X	X	X	Resid over ground floor open air garage and com
123	resid	X	X	X	X	X	X	
124	com	X	X	X	X	X	X	
125	com	X	X	X	X	X	X	
126	com	X	X	X	X	X	X	
127	com	X	X	X	X	X	X	
128	com	X	X	X	X	X	X	
129	com	X		X	X	X	X	
130	com	X	X	X	X	X	X	
131	com	X	X	X	X	X	X	
132	com	X	X	X	X	X	X	
133	com	X	X	X	X	X	X	
134	com	X	X	X	X	X	X	
135	parking	X	X	X	X	X	X	Open air garage
136	com	X	X	X	X	X	X	
137	com	X	X	X	X	X	X	
138	com	X	X	X	X	X	X	
139	com	X	X	X	X	X	X	
140	com	X	X	X	X	X	X	Half of ground floor open air garage

Notes and Abbreviations:

com = commercial use property

resid = residential use property

resid apts = residential apartment use property

IA TCE = TCE attributable to vapor intrusion was not detected above screening values in indoor air samples collected from spaces in nearby buildings with the potential to be occupied under normal or reasonably foreseeable conditions

CONST = Building construction is consistent with, or more protective than, nearby buildings of same use where testing was previously conducted

DTW = Depth to groundwater is consistent with (same or greater than) areas where testing was previously conducted

Lithology = Subsurface lithology is consistent with that observed in nearby area where testing previously conducted (fine grained sediments between water bearing zone and ground surface)

GW TCE = TCE concentrations in groundwater underlying property are lower than areas where testing was previously conducted (Maybe this should be VOCs?)

PP = No evidence of preferential pathways or substantially different building construction (e.g. unfinished basement, sub-grade residential living space) from buildings where testing was previously conducted, based on visual observations of building exteriors from public rights of way and review of records at the City of Palo Alto Building Department and/or Santa Clara County Assessor's office. None of the building characteristics information was independently verified through interviews with building occupants.

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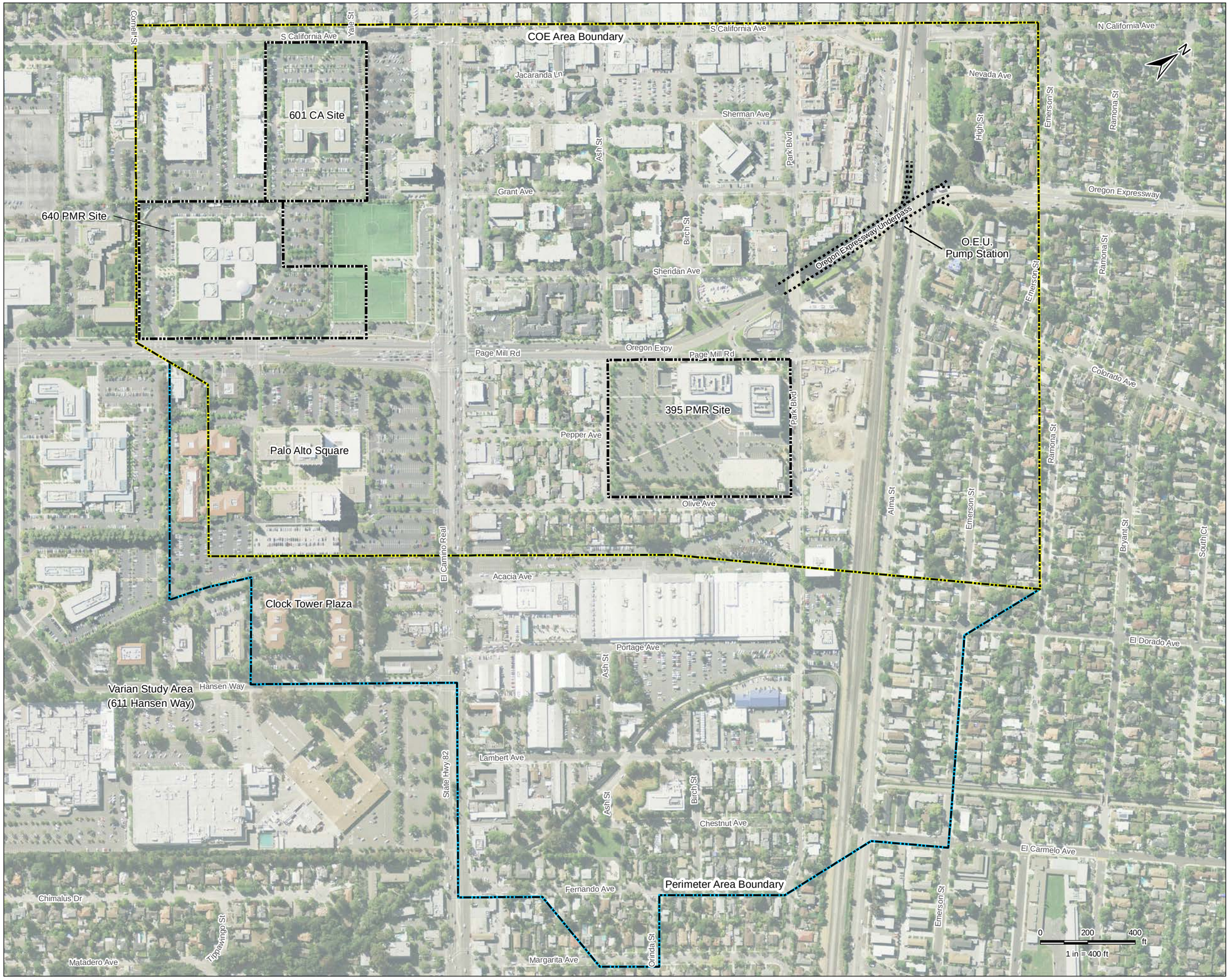
Figures

Figure 1 - Site Location Map
Figure 2 - TCE Concentration Contours, First Encountered Groundwater – 2011
Figure 3 - TCE Concentration Contours, First Encountered Groundwater –Second Quarter 2014
Figure 4 - Supplemental Vapor Intrusion Assessment – Overview
Figure 5 - Supplemental Vapor Intrusion Assessment – Section 1
Figure 6 - Supplemental Vapor Intrusion Assessment – Section 2
Figure 7 - Supplemental Vapor Intrusion Assessment – Section 3
Figure 8 - Supplemental Vapor Intrusion Assessment – Section 4
Figure 9 - Supplemental Vapor Intrusion Assessment – Section 5



Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Aerial imagery provided by Digital Globe, 2010.

August 2014
185702767

Client/Project

Hewlett-Packard Company and Varian Medical Systems, Inc.
COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

Figure No.

1

Title

Site Location Map

\\cd1004-f01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\Atesting\185702767_COE2014_Fig01_SiteLoc.mxd
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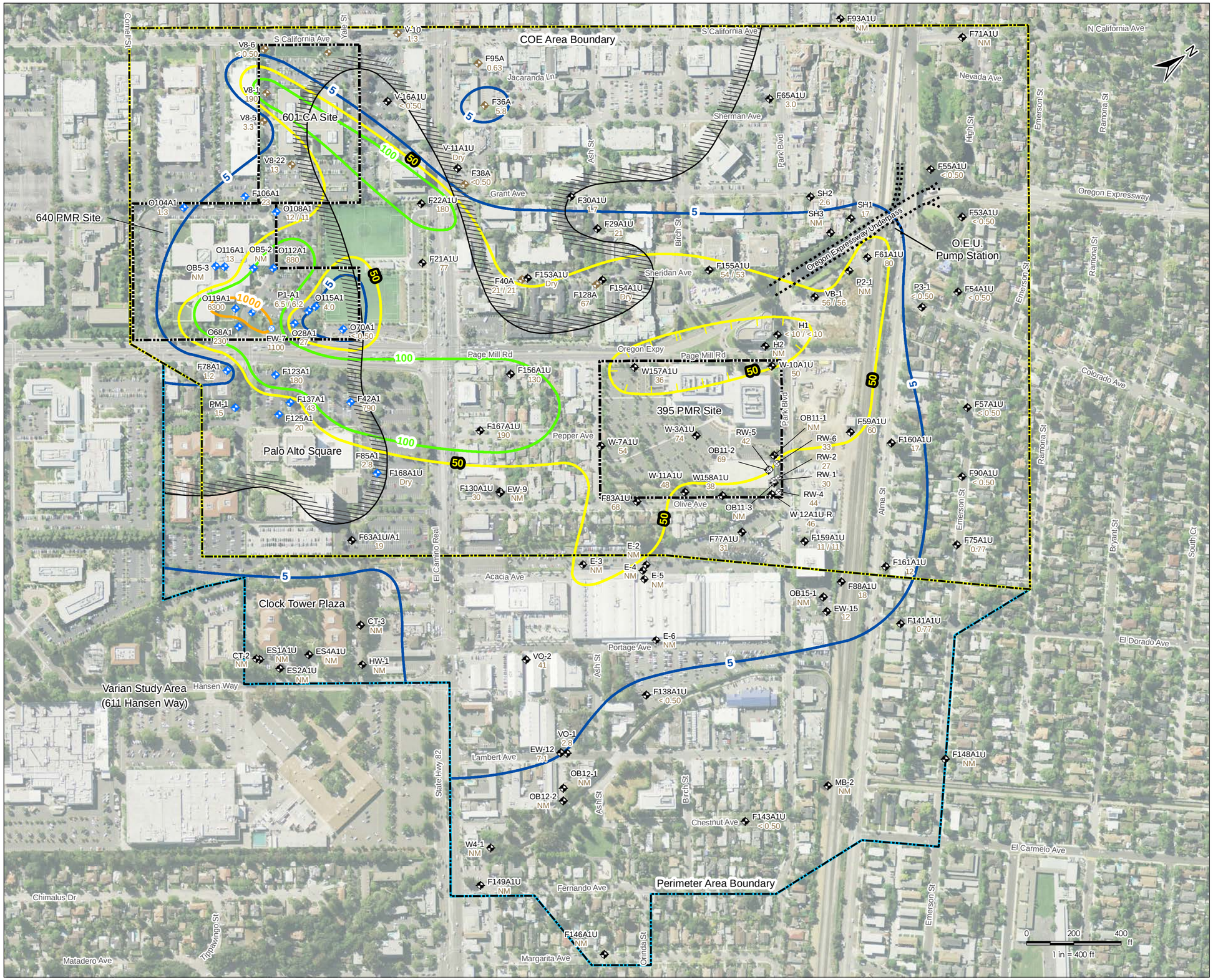

Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- A1U Zone Monitoring Well
- A1U Zone Extraction Well
- A1 Zone Monitoring Well
- A1 Zone Extraction Well
- A Zone Monitoring Well
- Approximate Extent of Unsaturated A1 Upper Zone

TCE Isoconcentration Contour (µg/L)

- 5 µg/L
- 50 µg/L
- 100 µg/L
- 1000 µg/L
- 25 TCE Concentration (µg/L)
- NM Not Measured
- DRY Well Dry or Insufficient Water to Sample

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Aerial imagery provided by Digital Globe, 2010.
3. "D" suffix indicates well screed in deep subunit.
4. "OB" prefixes indicates observation well for extraction pumping.
5. "P" prefix indicates observation well for Oregon Expressway Subdrain Pumping.
6. Data collected June through September 2011.

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Client/Project

Hewlett-Packard Company and Varian Medical Systems, Inc.
COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

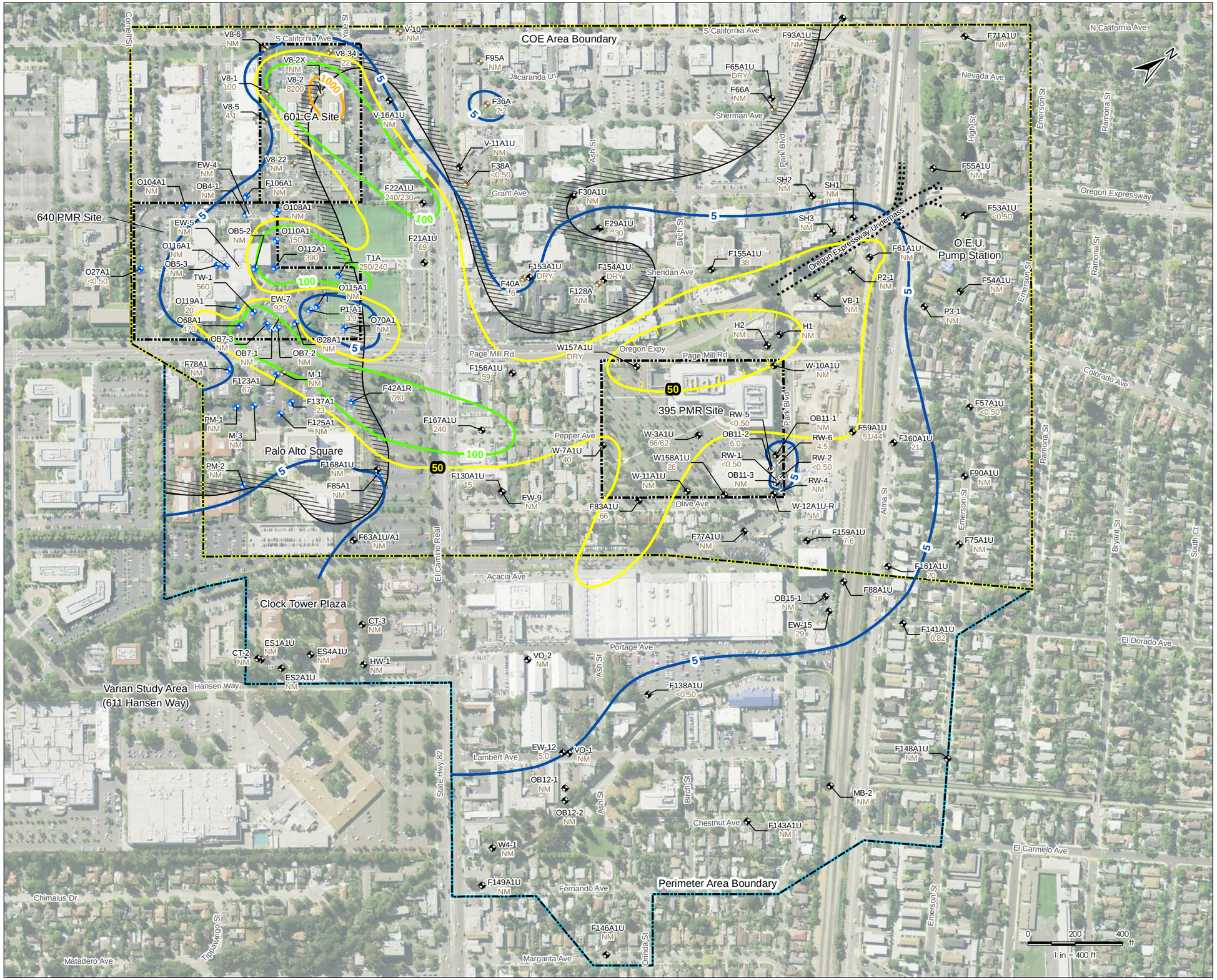
Figure No.

2

Title

TCE Concentration Contours, First Encountered Groundwater – 2011

\\cd1004-f01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\Atesting\185702767_COE2014_Fig02_TCEConcs20120202.mxd
Revised: 2014-08-18 By: mkirkpatrick



Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- A1U Zone Monitoring Well
- A1U Zone Extraction Well
- A1 Zone Monitoring Well
- A1 Zone Extraction Well
- A Zone Monitoring Well
- A Zone Extraction Well
- Approximate Extent of Unsaturated A1 Upper Zone

TCE Isoconcentration Contour (µg/L)

- 5 µg/L
- 50 µg/L
- 100 µg/L
- 1000 µg/L
- 25 TCE Concentration (µg/L)
- NM Not Measured
- DRY Well Dry or Insufficient Water to Sample

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Aerial imagery provided by Digital Globe, 2010.
3. "D" suffix indicates well screed in deep subunit.
4. "OB" prefixes indicates observation well for extraction pumping.
5. "P" prefix indicates observation well for Oregon Expressway Subdrain Pumping.

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185702767

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Hewlett-Packard Company and Varian Medical Systems, Inc.
COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

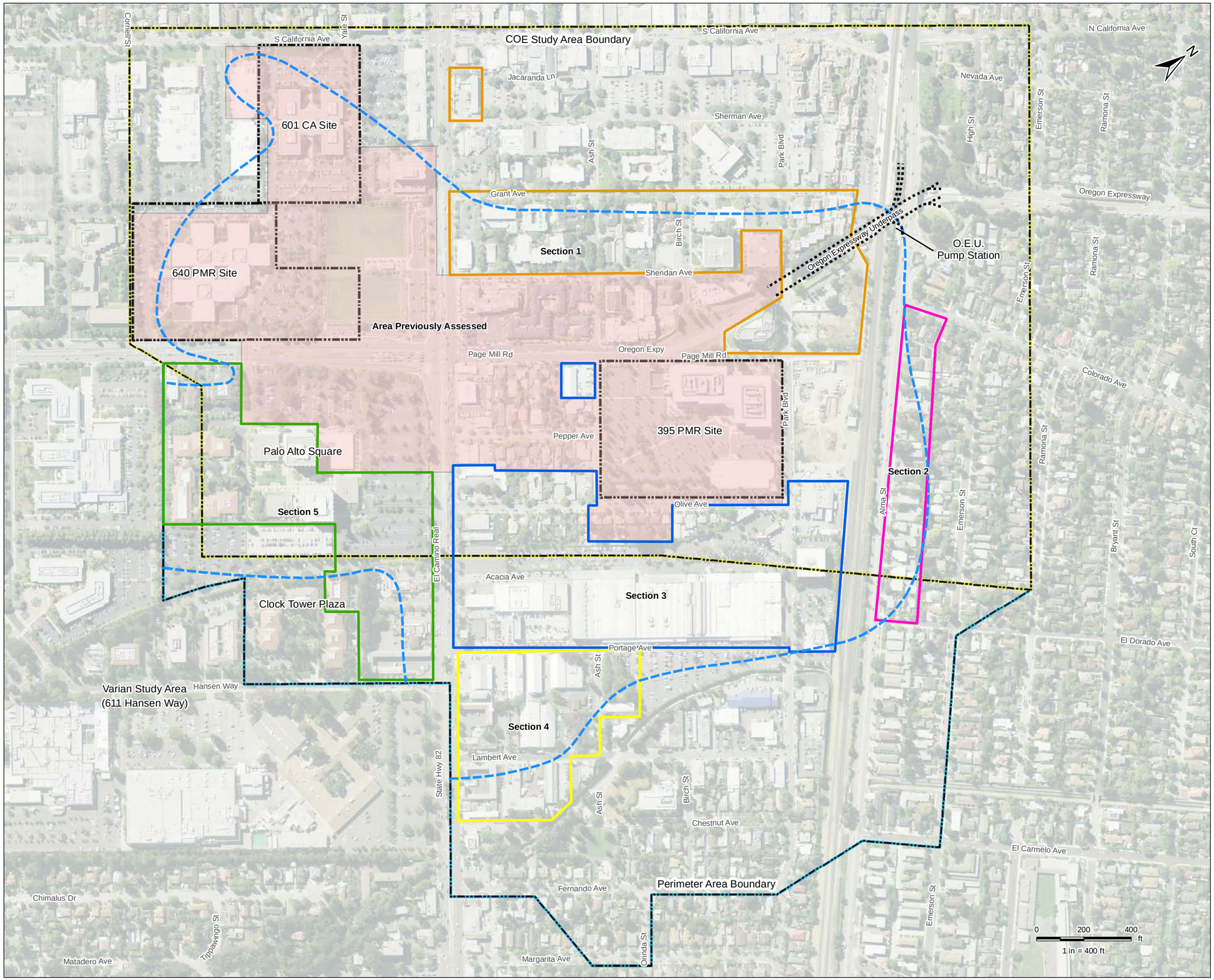
Figure No.

3

Title

TCE Concentration Contours, First Encountered Groundwater – Second Quarter 2014

\\cd1004-f01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\1Testing\185702767_COE2014_Fig03_TCEConcs201408.mxd
Revised: 2014-08-18 By: mkirkpatrick



Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- Section 1
- Section 2
- Section 3
- Section 4
- Section 5
- Area Previously Assessed
- 5 µg/L TCE Concentration

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Aerial imagery provided by Digital Globe, 2010.

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185702836

Client/Project

Hewlett-Packard Company and
Varian Medical Systems, Inc.
COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

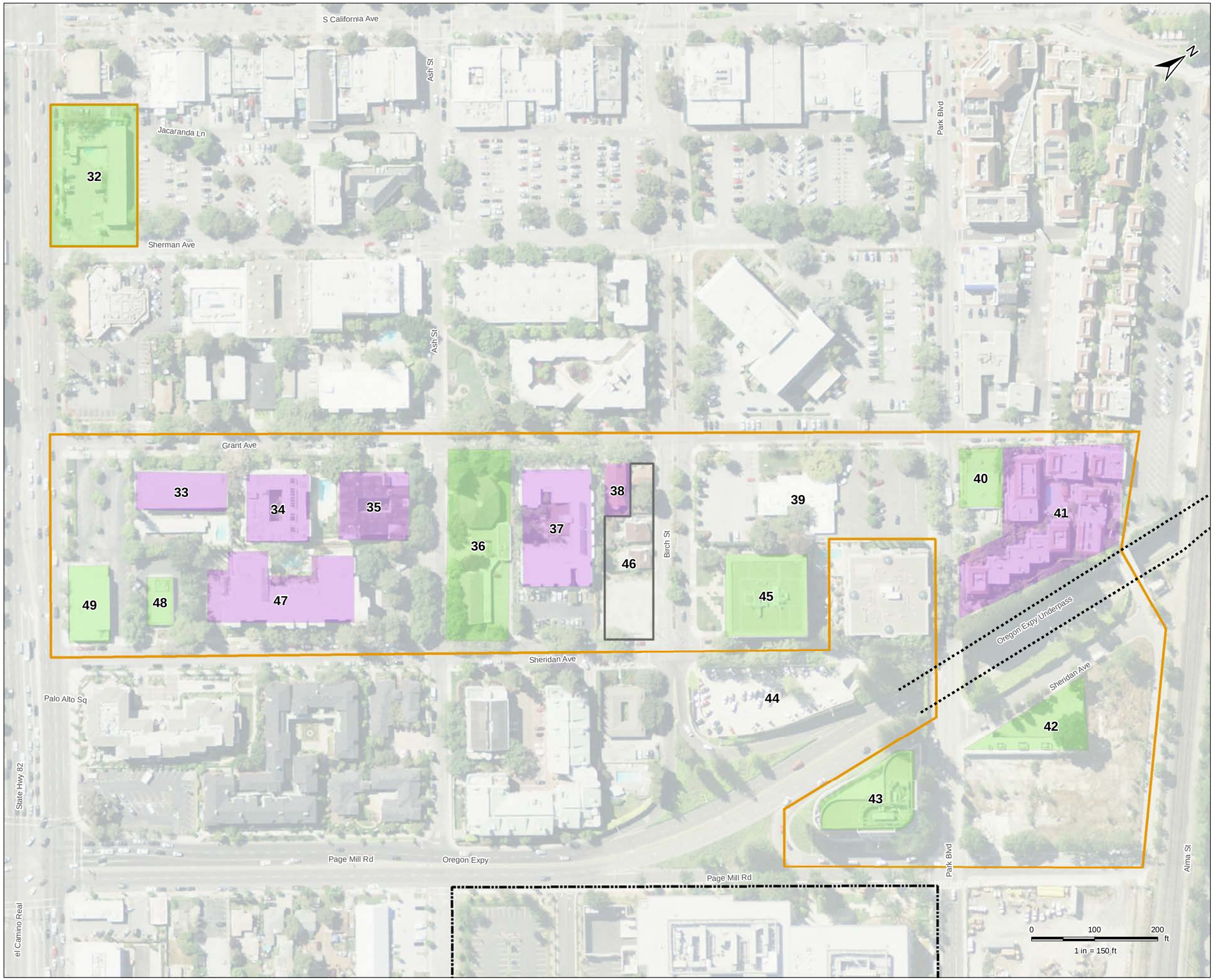
Figure No.

4

Title

Supplemental Vapor Intrusion Assessment - Overview

\\cd1004-f01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\VaporIntrusionSupplemental\185702836_V6_Fig04_Summary.mxd
Revised: 2014-09-18 By: mkirkpatrick



Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- Section 1

Building Use

- Commercial
- Residential

Notes

1. Property 46 under construction at time of reconnaissance. Reportedly will be mixed use (commercial under residential) with a subgrade parking garage.
2. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
3. Aerial imagery provided by Digital Globe, 2010.

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Client/Project

Hewlett-Packard Company and
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COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

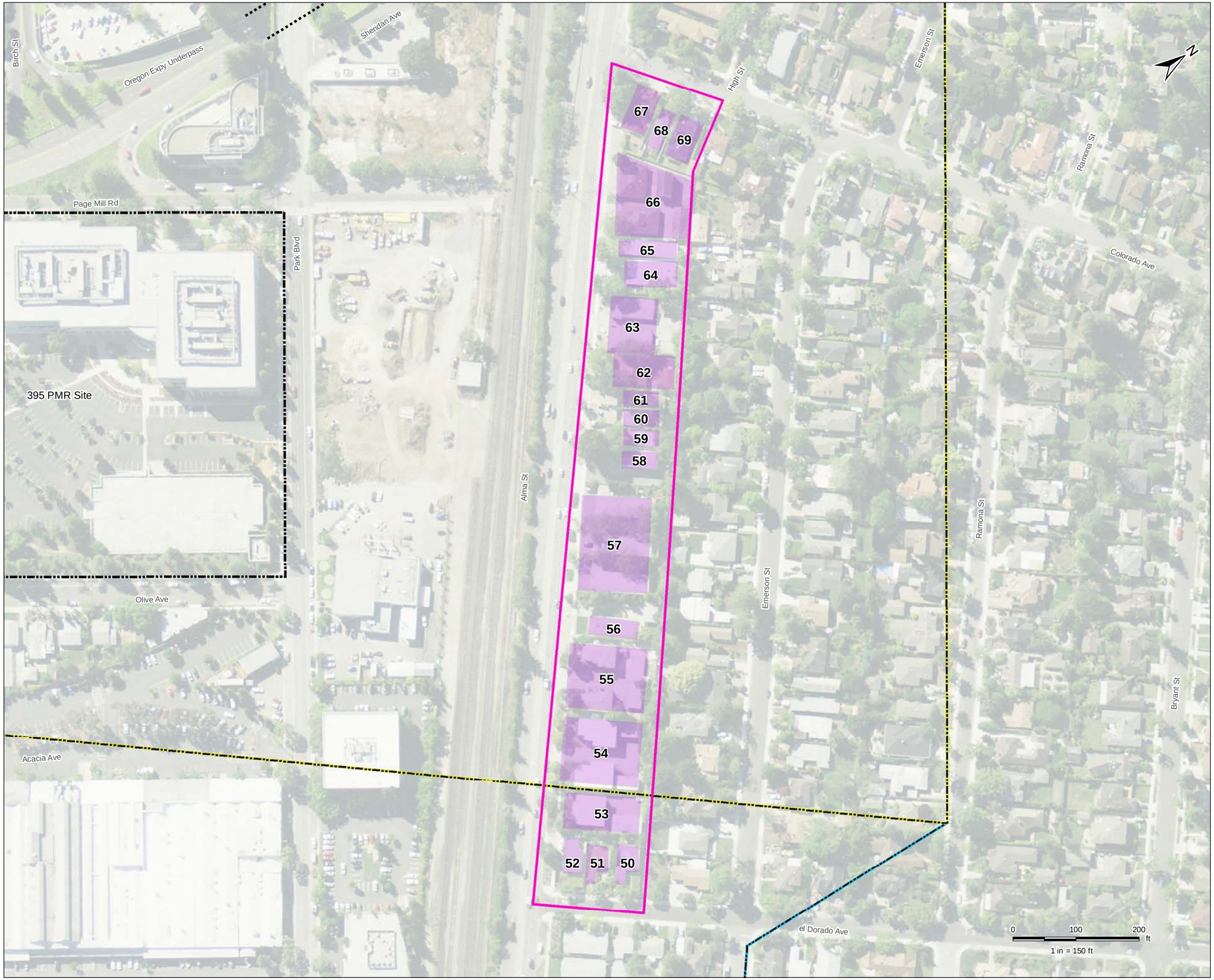
Figure No.

5

Title

Supplemental Vapor Intrusion Assessment - Section 1

\\cd1004-f01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\VaporIntrusionSupplemental\185702836_V6_Fig05_Section1.mxd
Revised: 2014-09-18 By: mkirkpatrick



Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- Section 2

Building Use

- Commercial
- Residential

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Aerial imagery provided by Digital Globe, 2010.

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Hewlett-Packard Company and
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COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

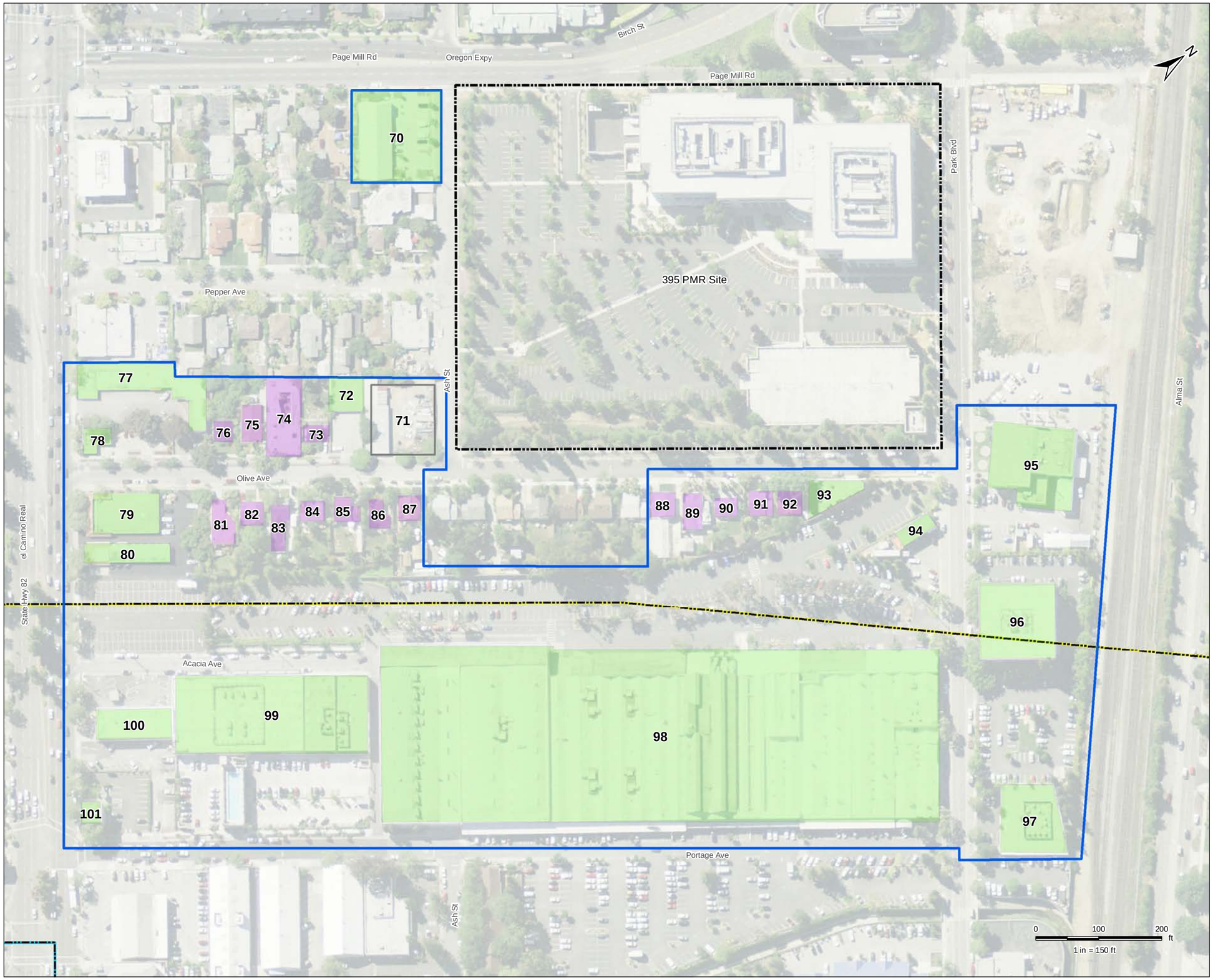
Figure No.

6

Title

Supplemental Vapor Intrusion Assessment - Section 2

\\cd1004-01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\VaporIntrusionSupplemental\185702836_V5_Fig06_Section2.mxd
Revised: 2014-09-18 By: mkirkpatrick



Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- Section 3

Building Use

- Commercial
- Residential

Notes

1. Property 71 under construction at time of reconnaissance; building appeared to be for commercial use.
2. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
3. Aerial imagery provided by Digital Globe, 2010.

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Client/Project

Hewlett-Packard Company and
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COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

Figure No.

7

Title

Supplemental Vapor Intrusion Assessment - Section 3

\\cd1004-f01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\VaporIntrusionSupplemental\185702836_V5_Fig07_Section3.mxd
Revised: 2014-09-18 By: mkirkpatrick

Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- Section 4

Building Use

- Commercial
- Residential

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Aerial imagery provided by Digital Globe, 2010.

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Hewlett-Packard Company and
Varian Medical Systems, Inc.
COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

Figure No.

8

Title

Supplemental Vapor Intrusion Assessment - Section 4

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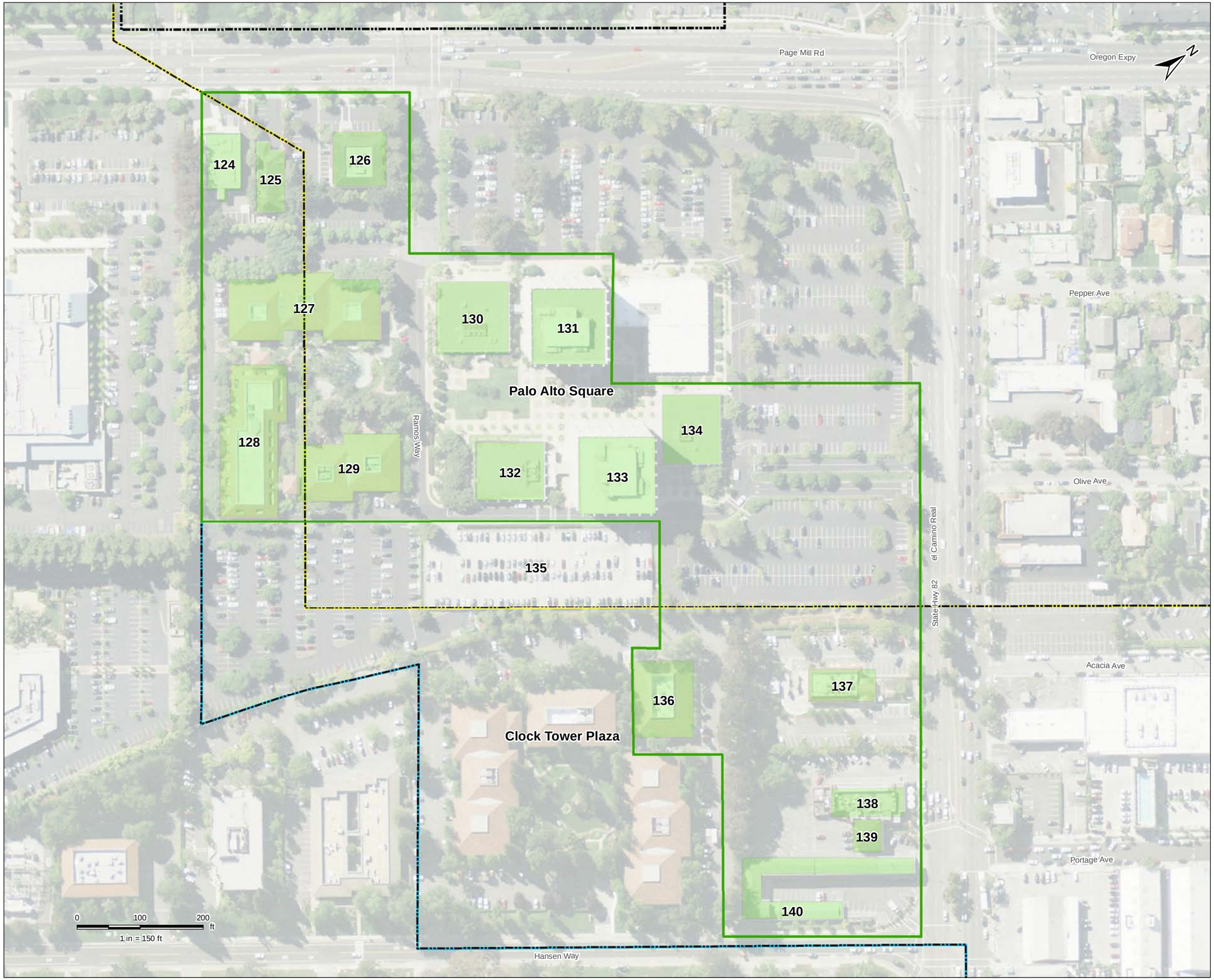
Revised: 2014-09-18 By: mkirkpatrick



Stantec

Legend

- Site Boundary
- COE Study Area Boundary
- Perimeter Area Boundary
- Section 5

Building Use

- Commercial
- Residential

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Aerial imagery provided by Digital Globe, 2010.

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Client/Project

Hewlett-Packard Company and
Varian Medical Systems, Inc.
COE Study Area and Perimeter Area
Palo Alto, Santa Clara County, California

Figure No.

9

Title

Supplemental Vapor Intrusion Assessment - Section 5

\\cd1004-f01\Work_group\01221\active\122140012_data_base_mgmt\Databases\185702367\Drawing\MXD\COE\VaporIntrusionSupplemental\185702836_VS_Fig09_Section5.mxd
Revised: 2014-09-18 By: mkirkpatrick

Appendix A

Regulatory Agency Correspondence

California Regional Water Quality Control Board
San Francisco Bay Region

Linda S. Adams
Acting Secretary for Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www. waterboards.ca.gov/sanfranciscobay

Edmund G. Brown, Jr.
Governor

Date: June 1, 2011
File No. 43S0051 (RWP)

Hewlett Packard Company
ATTN: Mr. Paul Paschke
1501 Page Mill Road
Palo Alto, CA 94304

paul_paschke@hp.com

Varian Medical Systems
ATTN: Mr. Alan Palter
3100 Hansen Way
Palo Alto, CA 94304

alan.palter@varian.com

SUBJECT: Conditional Approval of *Work Plan for A1U, A1, A2 Groundwater Zone Plume Definition; Updated Work Plans; Addendum to March 31, 2011 Updated Work Plans Document,* and Requirement for Report, 640 Page Mill Road, Palo Alto, Santa Clara County

Dear Mr. Paschke and Palter:

This letter responds to your January 31, 2011 *Work Plan for A1U, A1, A2 Groundwater Zone Plume Definition* (Workplan); March 31, 2011, *Updated Work Plans* (Addendum 1); and May 11, 2011, *Addendum to March 31, 2011 Updated Work Plans Document* (Addendum 2). As explained below, I approve the Workplan, Addendum 1, and Addendum 2 subject to a condition and require you to submit a report.

Background

The Regional Water Board regulates the site under Order No. 94-130 (Order). Our November 18, 2010, letter (Letter) required you to submit a workplan to provide enough data to fully define the A1U, A1, and A2 Zones to State and Federal maximum contaminant levels (MCLs) and enough A1U-Zone data to evaluate potential indoor air vapor intrusion.

Summary of Workplan, Addendum 1 and Addendum 2

Attachment 1 summarizes the Workplan, Addendum 1, and Addendum 2.

Regional Water Board Response

The Workplan, Addendum 1 and Addendum 2 do not completely satisfy the requirements of the Letter for the following reason: Addendum 2 indicates that the proposal to destroy well F87A2 will be re-evaluated after additional groundwater monitoring of this well, and there is no definite plan to replace well F87A2. This well is downgradient from A1-Zone well OB8-3 that penetrates the A1/A2 aquitard and leaves less than two feet of aquitard between the A1 and A2 Zones. OB8-3 may have compromised this aquitard and we need F87A2 retained or replaced to monitor potential current and future cross contamination of the A2 Zone downgradient of OB8-3.

It is our understanding that you do not propose to install the A1- and A2-Zone wells with conductor casing because the groundwater contamination levels are low enough in the proposed well installation areas to address potential cross contamination. It is also our understanding that the industry standard for installing deeper-zone monitoring wells involves installing conductor casing where the contaminants of concern are also present in the upper water-bearing zones. Without installing conductor casing, we cannot be sure that detected constituents of concern in the deeper zones represent pre-existing contamination or cross contamination from drilling. If these constituents are detected where they were not anticipated, we will consider those detected constituents as pre-existing contamination.

I hereby approve the Workplan, Addendum 1 and Addendum 2 subject to retaining or replacing well F87A2 regardless of the results of the results of the next two groundwater monitoring events.

You are required to submit the following:

- By **September 30, 2011**, a groundwater report documenting the implementation of the A1U-Zone portion of the Workplan that delineates residential and commercial areas for conducting indoor air testing.
- By **September 30, 2011**, a workplan for conducting indoor air testing in buildings within areas delineated by the groundwater report. The workplan should propose air testing in residential areas where groundwater-TCE exceeds 50 µg/l in residential areas and air testing in commercial/industrial areas where groundwater-TCE exceeding 100 µg/l.

This requirement for reports is made pursuant to Water Code Section 13267, which allows the Regional Water Board to require technical or monitoring program reports from any person who has discharged, discharges, proposes to discharge, or is suspected of discharging waste that could affect water quality. The attachment provides additional information about Section 13267 requirements. Any extension in the above deadline must be confirmed in writing by Regional Water Board staff.

You are required to submit all documents in electronic format to the State Water Resources Control Board's GeoTracker database and in hard copy format to this office. Guidance for electronic information submittal is available at http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal.

If you have any questions, please contact Roger Papler of my staff at (510) 622-2435 [e-mail rpapler@waterboards.ca.gov].

Sincerely,

for

Digitally signed by Stephen Hill
Date: 2011.06.01 15:14:17 -07'00'

Bruce H. Wolfe
Executive Officer

Attachments: Summary of Workplan, Addendum 1 and Addendum 2
13267 Fact Sheet
cc w/attachments: Mailing List

MAILING LIST

USEPA
ATTN: Mr. Matt Salazar salazar.matt@epa.gov
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City of Palo Alto Fire Department
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Stantec Consulting, Inc.
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57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549

Stanford Management Company
ATTN: Ms. Annette Walton nettie@stanford.edu
2777 Sand Hill Road
Menlo Park, CA 94303

Attachment 1: Summary of Workplan, Addendum 1 and Addendum 2

This attachment summarizes the January 31, 2011, *Work Plan for A1U, A1, A2 Groundwater Zone Plume Definition* (Workplan); March 31, 2011, *Updated Work Plans* (Addendum 1); and May 11, 2011, *Addendum to March 31, 2011 Updated Work Plans Document* (Addendum 2).

Workplan

In the A1U Zone, the Workplan proposes twelve additional groundwater monitoring wells mostly within an estimated limit of the area where trichloroethene (TCE) in groundwater is greater than 50 micrograms per liter (μg/l) and 100 μg/l. In the A1 Zone, the Workplan proposes two additional groundwater monitoring wells to define the A1 Zone to State Maximum Contaminant Levels (MCLs) downgradient of well F74A. In the A2 Zone, the Workplan proposes one additional A2 Zone well upgradient of well O67A2 to define the upgradient limit of the A2 Zone to MCLs.

The Workplan proposes using a hollow-stem auger drilling rig to advance the well boreholes no further than two feet into the aquitards underlying the A1U, A1, and A2 Zones. The wells will then be constructed inside the boreholes as 2-inch diameter monitoring wells. It is our understanding that the Workplan proposes no conductor casing for installing the A1- and A2-Zone wells because cross contamination issues are not anticipated in the areas of these wells.

Addendum 1

In the A1U Zone, Addendum 1 proposes installing an additional well on Pepper Avenue near existing well F127A1 and destroying two wells F127A1 and F87A2 because of proposed future construction in this area. Addendum 1 also proposes deleting previously proposed A1U-Zone wells A, G and J from the Workplan and monitoring existing A1U Zone wells V-11A1U, F30A1U, F83A1U and P3-1 instead. Because well F87A2 is not part of the present Self Monitoring Plan for the site, Addendum 1 does not propose replacing this well. In the A2 Zone, Addendum 1 cites the existence of another plume from an off-property source upgradient of wells O121A2 and O122A2. Based on future groundwater analytical results, the need for installing additional A2-Zone wells upgradient of O121-A2 and O122-A2 will be re-evaluated.

Addendum 1 proposes using previous site data to determine the target depth of each individual monitoring well and limiting sampling runs to twelve inches using a drilling rig with hollow stem auger and direct push capabilities. Alternatively, Addendum 1 proposes using direct push technology to advance a narrow diameter borehole to the target installation depth.

Addendum 2

In the A1U Zone, Addendum 2 proposes adding one groundwater monitoring well in the Palo Alto Square area. In the A2 Zone, Addendum 2 proposes re-evaluating the need for additional A2-Zone wells upgradient of O67A2 after installing the A2-Zone well proposed in the Workplan and re-evaluating the need to destroy F87A2 after two additional monitoring events.

California Regional Water Quality Control Board
San Francisco Bay Region

Matthew Rodriquez
Secretary for
Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www. waterboards.ca.gov/sanfranciscobay

Edmund G. Brown, Jr.
Governor

Date: March 12, 2012
File Nos. 43S0051 & 43S0188 (RWP)

Hewlett Packard Company
ATTN: Mr. Paul Paschke paul_paschke@hp.com
1501 Page Mill Road
Palo Alto, CA 94304

Varian Medical Systems
ATTN: Mr. Alan Palter alan.palter@varian.com
3100 Hansen Way
Palo Alto, CA 94304

SUBJECT: Approval of *Revised Work Plan for Indoor Air Testing - COE Study Area* for 640 Page Mill Road and 601 California Avenue, Palo Alto, Santa Clara County

Dear Mr. Paschke and Mr. Palter:

This letter responds to your February 17, 2012, *Revised Work Plan for Indoor Air Testing - COE Study Area* (Workplan) for the subject site. As explained below, I approve the Workplan. You are required to submit a report documenting the implementation of the Workplan **60 days after collecting the indoor air data**.

The Regional Water Board regulates the site under Order No. 94-130 (Order). Our June 1, 2011, letter (Letter) required you to submit a workplan to evaluate potential indoor air vapor intrusion in the off-property area.

Workplan Summary

The Workplan proposes the following activities:

- Testing indoor air quality in the following areas:
  - Residential properties where trichloroethene (TCE) is greater than 50 micrograms per liter (ug/l) in groundwater.
  - Commercial properties where TCE is greater than 100 ug/l in groundwater.
- Pre-sampling building walk through to identify indoor air sampling locations.
- Collecting indoor and outdoor air samples with Summa canisters from residential buildings over a 24-hour period and from commercial buildings over an 8-hour period.
- Analyzing the indoor air samples using EPA Method TO 15.

Regional Water Board Response

USEPA has also reviewed and approved the Workplan.

The Workplan does not completely satisfy the requirements of the Letter for the following reasons:

- The Workplan did not specify a sufficiently sensitive hand-held screening device. A screening device with sensitivity in the parts per billion range is not sufficiently sensitive to screen for potential indoor air vapor intrusion.
- The Workplan did not specify testing the indoor air of commercial buildings with the heating, ventilation and air conditioning (HVAC) system off. Air testing the commercial buildings with HVAC system on does not account for HVAC use and settings that change over time and with different building owners.

I hereby approve the Workplan subject to the following conditions:

- Using a sufficiently sensitive hand-held screening device. One option is to use a photoionization detector with sensitivity in the low parts per billion range.
- Testing the indoor air of commercial buildings with the HVAC system off and, if any of the results exceed indoor air ESLs, repeating the testing with the HVAC system on.

You are required to submit a report documenting the implementation of the Workplan by **60 days after collecting the indoor air data**. The report shall include an evaluation of the definition of vapor intrusion and a proposal for additional investigation to fully define the extent of vapor intrusion concerns.

This requirement for a report is made pursuant to Water Code Section 13267, which allows the Regional Water Board to require technical or monitoring program reports from any person who has discharged, discharges, proposes to discharge, or is suspected of discharging waste that could affect water quality. The attachment provides additional information about Section 13267 requirements. Any extension in the above deadline must be confirmed in writing by Regional Water Board staff.

You are required to submit all documents in electronic format to the State Water Resources Control Board's GeoTracker database and in hard copy format to this office. Guidance for electronic information submittal is available at http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal.

If you have any questions, please contact Roger Papler of my staff at (510) 622-2435 [e-mail rpapler@waterboards.ca.gov].

Sincerely,

Stephen Hill for

Digitally signed by Stephen Hill
Date: 2012.03.12 13:02:37
-07'00'

Bruce H. Wolfe
Executive Officer

Attachment
cc w/attach:

USEPA
ATTN: Mr. Matt Salazar salazar.matt@epa.gov
75 Hawthone Street
San Francisco, CA 94105

USEPA
ATTN: Ms. Vickie Rosen rosen.vicki@epa.gov
75 Hawthone Street
San Francisco, CA 94105

Santa Clara Valley Water District
ATTN: Mr. George Cook gcook@valleywater.org
5150 Almaden Expressway
San Jose, CA 95118

City of Palo Alto Fire Department
ATTN: Mr. Gordon Simpkinson gordon.simpkinson@cityofpaloalto.org
250 Hamilton Avenue
Palo Alto, CA 94301

Stantec Consulting, Inc.
ATTN: Mr. Chris Maxwell chris.maxwell@stantec.com
57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549

Stantec Consulting, Inc.
ATTN: Mr. Mark Becker mark.becker@stantec.com
57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549

Stanford Management Company
ATTN: Ms. Annette Walton nettie@stanford.edu
2777 Sand Hill Road
Menlo Park, CA 94303

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

Date: December 4, 2012
File Nos. 43S0051 & 43S0188 (RWP)

Hewlett Packard Company
ATTN: Mr. Paul Paschke paul_paschke@hp.com
1501 Page Mill Road
Palo Alto, CA 94304

Varian Medical Systems
ATTN: Mr. Alan Palter alan.palter@varian.com
3100 Hansen Way
Palo Alto, CA 94304

SUBJECT: Response to *Response to Conditional Approval of Revised Indoor Air Testing Work Plan* for 640 Page Mill Road and 601 California Avenue, Palo Alto, Santa Clara County

Dear Mr. Paschke and Mr. Palter:

This letter responds to the May 24, 2012, *Response to Conditional Approval of Revised Indoor Air Testing Work Plan* (Letter Response). The Letter Response objected to conducting commercial/industrial indoor air sampling with the heating, ventilation, air conditioning (HVAC) system off as required by the March 12, 2012, conditional approval letter (Letter). We appreciate the Letter Response and understand your concerns. As explained below, we disagree with your technical argument and require that you comply with the Letter and submit a report documenting implementation of the February 17, 2012, *Revised Work Plan for Indoor Air Testing - COE Study Area* (Workplan) with a new submittal date of **60 days after receiving the laboratory analytical data and no later than April 30, 2013.**

The Regional Water Board regulates the site under Order No. 94-130 (Order). In order to determine whether the current remedy, as outlined in the Order and the Record of Decision, is protective of the occupants of buildings overlying the off-Property California-Olive-Emerson (COE) plume, we need to evaluate the potential vapor intrusion pathway in this area. Sampling indoor air with the HVAC system on does not allow us to properly evaluate potential indoor air vapor intrusion with certainty and we cannot determine whether the current remedy is protective. We do not have multiple lines of evidence such as soil gas and sub-slab soil vapor data. HVAC operation can vary over time and we need to evaluate vapor intrusion potential over a range of HVAC operating conditions. Indoor air testing with the HVAC system off is

consistent with requirements for other Superfund sites in USEPA Region 9. We require you to conduct indoor air testing in the commercial buildings overlying the COE plume in a manner that allows us to properly evaluate potential vapor intrusion. Below are two alternative approaches that would address our concerns:

1. Collecting sub-slab soil vapor and indoor air samples in each building with the HVAC system on. If lab analysis of the sub-slab soil vapor samples indicates that sub-slab soil vapor levels exceed DTSC screening levels for vapor intrusion using a sub-slab to indoor air attenuation factor of 0.05, the indoor air sampling will need to be conducted again with the HVAC off.
2. Collecting indoor air samples with the building's HVAC system off for a minimum of 36 to 48 hours prior to and during sampling. If lab analysis of the indoor air samples indicates that chlorinated volatile organic compounds of concern in indoor air exceed California Human Health Screening Levels, then the indoor air sampling will need to be conducted again with the HVAC on.

We understand you are concerned about obtaining access to the off-property commercial buildings over the COE plume. However, USEPA staff has offered to be available to explain the purpose of the sampling to the building owners and tenants. And if needed, the Regional Water Board can also assist your site access effort.

If you have any questions, please contact Roger Papler of my staff at (510) 622-2435 [e-mail rpapler@waterboards.ca.gov].

Sincerely,

Stephen Hill for

Digitally signed by Stephen Hill
Date: 2012.12.04 15:52:51
-08'00'

Bruce H. Wolfe
Executive Officer

cc: Mailing List

MAILING LIST

USEPA
ATTN: Mr. Matt Salazar salazar.matt@epa.gov
75 Hawthone Street
San Francisco, CA 94105

USEPA
ATTN: Ms. Vickie Rosen rosen.vicki@epa.gov
75 Hawthone Street
San Francisco, CA 94105

Santa Clara Valley Water District
ATTN: Mr. George Cook gcook@valleywater.org
5150 Almaden Expressway
San Jose, CA 95118

City of Palo Alto Fire Department
ATTN: Mr. Gordon Simpkinson gordon.simpkinson@cityofpaloalto.org
250 Hamilton Avenue
Palo Alto, CA 94301

Stantec Consulting, Inc.
ATTN: Mr. Chris Maxwell chris.maxwell@stantec.com
57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549

Stantec Consulting, Inc.
ATTN: Mr. Mark Becker mark.becker@stantec.com
57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549

Stanford Management Company
ATTN: Ms. Annette Walton nettie@stanford.edu
2777 Sand Hill Road
Menlo Park, CA 94303

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

January 23, 2014
File Nos. 43S0051 & 43S0188 (RWP)

Hewlett Packard Company
ATTN: Mr. Paul Paschke
1501 Page Mill Road
Palo Alto, CA 94304

paul_paschke@hp.com

Varian Medical Systems
ATTN: Mr. John Buchanan
3100 Hansen Way
Palo Alto, CA 94304

john.buchanan@varian.com

SUBJECT: Approval of *Addendum to the February 17, 2013 Revised Work Plan for Indoor Air Testing* and Requirement for Report for 640 Page Mill Road, Palo Alto, Santa Clara County

Dear Mr. Paschke and Mr. Buchanan:

This letter responds to your December 13, 2013, *Addendum to the February 17, 2013 Revised Work Plan for Indoor Air Testing* (Addendum). As explained below, I approve the Addendum and require you to submit a report documenting implementation of the Addendum.

Background

Our March 12, 2012, letter (Letter) conditionally approved Hewlett Packard's and Varian's February 17, 2013, *Revised Work Plan for Indoor Air Testing* (Workplan). You then implemented the Workplan in the off-property residential area of the California-Olive-Emerson (COE) plume and found no detectable levels of trichloroethene (TCE) levels in indoor air. However, an emerging body of data referenced in USEPA's December 3, 2013, *EPA Region 9 Guidelines for Vapor Intrusion Evaluations at South Bay National Priority List (NPL) Sites* (Guidelines) indicates that the COE vapor intrusion evaluation is incomplete without additional data. After USEPA discussed the basis for the Guidelines with you in several meetings, you submitted the Addendum and we emailed the Guidelines to you on December 5, 2013.

Addendum Summary

The Addendum incorporates the Workplan by reference and proposes the following additional activities to evaluate vapor intrusion:

- Sampling as follows:
  - On- and off-property commercial indoor air overlying plume areas with groundwater-TCE levels higher than 100 micrograms per liter, with the heating, ventilation, and air conditioning (HVAC) system turned off for at least 36 hours prior to and during sampling.
  - Off-Property residential indoor air overlying plume areas with groundwater-TCE levels higher than 50 micrograms per liter a concurrent with crawl space or basement air sampling at those residences previously sampled in April, July and September 2012, in cold weather.
- Collecting grab samples to evaluate potential preferential pathways for soil vapor to enter buildings.
- Using Method TO-15 Summa canisters over a 24-hour sampling period for residential buildings and over a 10-hour period for commercial buildings.
- Comparing the indoor air testing results with outdoor air levels, USEPA interim TCE indoor short-term response action levels, and long-term screening levels.
- Evaluating further phased potential indoor air vapor intrusion investigations, including potential sampling where commercial and residential buildings overly plume areas with groundwater-TCE levels higher than 5 micrograms per liter.

.

Regional Water Board Response

I hereby approve the Addendum as the next phase of vapor intrusion evaluation.

However, we recommend an alternate means of assessing average concentrations over a longer period of exposure than 24 hours while still utilizing the TO-15 canisters. Specifically, you can conduct two closely spaced sampling events one or two weeks apart, ideally timed during a period of colder weather. Regardless of whether these sampling events can be timed to coincide with cooler temperatures, multiple sampling rounds facilitate an evaluation of data variability from other factors than just temperature such as time-dependent changes in soil gas entry rates, building exchange rates, and intra-building mixing.

You are required to submit a report by **May 15, 2014**, documenting the implementation of the Addendum. The report should evaluate the sampling results and make recommendations for the next phase of vapor intrusion investigation.

This requirement for a report is made pursuant to Water Code Section 13267, which allows the Regional Water Board to require technical or monitoring program reports from any person who has discharged, discharges, proposes to discharge, or is suspected of discharging waste that could affect water quality. The attachment provides additional information about Section 13267 requirements. Any extension in the above deadline must be confirmed in writing by Regional Water Board staff.

If you have any questions, please contact Roger Papler of my staff at (510) 622-2435 [e-mail rpapler@waterboards.ca.gov].

Sincerely,

Digitally signed by Stephen Hill
Date: 2014.01.23 12:17:51 -08'00'

Bruce H. Wolfe
Executive Officer

Attachment: 13267 Fact Sheet
cc w/Attachment: Mailing List

MAILILNG LIST

USEPA
ATTN: Ms. Melanie Morash morash.melanie@epa.gov
75 Hawthone Street
San Francisco, CA 94105

Santa Clara Valley Water District
ATTN: Mr. George Cook gcook@valleywater.org
5150 Almaden Expressway
San Jose, CA 95118

City of Palo Alto Fire Department
ATTN: Mr. Gordon Simpkinson gordon.simpkinson@cityofpaloalto.org
250 Hamilton Avenue
Palo Alto, CA 94301

Stantec Consulting, Inc.
ATTN: Mr. Chris Maxwell chris.maxwell@stantec.com
57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549

Stantec Consulting, Inc.
ATTN: Mr. Mark Becker mark.becker@stantec.com
15575 Los Gatos Boulevard Building C
Los Gatos CA 95032

Stanford Management Company
ATTN: Ms. Annette Walton nettie@stanford.edu
2777 Sand Hill Road
Menlo Park, CA 94303

Becker, Mark

From: Papler, Roger@Waterboards <Roger.Papler@waterboards.ca.gov>
Sent: Wednesday, May 07, 2014 4:18 PM
To: Becker, Mark
Cc: Melanie Morash (Morash.melanie@Epa.gov); Paschke, Paul E (paul.paschke@hp.com); 'John Buchanan' (John.Buchanan@varian.com); Alan Palter (Alan.Palter@varian.com)
Subject: COE/PA: Response - Report Submittal Extension Request

Mark:

Thank you for the 1May14 email providing an update regarding the vapor intrusion evaluation for the subject site.

On behalf of Hewlett Packard, you requested an extension for the vapor intrusion evaluation report based on commercial access issues. Given our experience with substantially extended access negotiations at some properties in all our Superfund sites, your request is reasonable and hereby granted.

Based on prior experience working closely with USEPA staff, it is our understanding that refusing access to commercial buildings is not an option. Please do not hesitate to engage State or Federal assistance if you encounter resistance to commercial buildings within the COE plume.

We look forward to receiving the report by **15Aug14.**

Respectfully,

Roger W. Papler, P.G.
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

From: Becker, Mark [mailto:Mark.Becker@stantec.com]
Sent: Thursday, May 01, 2014 4:34 PM
To: Papler, Roger@Waterboards
Cc: Melanie Morash (Morash.melanie@Epa.gov); Paschke, Paul E (paul.paschke@hp.com); 'John Buchanan' (John.Buchanan@varian.com); Alan Palter (Alan.Palter@varian.com)
Subject: COE IA Testing - Request for Report Due Date Extension

Roger,

Per our telephone discussion this afternoon, this message is a request for an extension to the May 15, 2014 report due date specified in the January 23, 2014 Water Board letter approving the COE Area Indoor Air Testing Work Plan Addendum. As I conveyed during our call, we have been working diligently with EPA staff and property owners and have made a good deal of progress implementing the work plan and addendum. Due to access and scheduling limitations, however, we have not yet completed all of the indoor air testing. Outstanding sample collection is expected to be completed by the end of June. Therefore, on behalf of HP and Varian, I respectfully request that the reporting due date be extended to August 15, 2014.

Thank you for considering this request.

Regards,
Mark

Mark Becker
Principal Scientist
Stantec
15575 Los Gatos Boulevard, Building C
Los Gatos CA 95032-2569
Phone: (408) 827-3874
Cell: (831) 246-0711 Fax: (408) 356-6138
mark.becker@stantec.com

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Please consider the environment before printing this email.

Becker, Mark

From: Papler, Roger@Waterboards <Roger.Papler@waterboards.ca.gov>
Sent: Thursday, July 24, 2014 4:46 PM
To: Becker, Mark
Cc: Melanie Morash (Morash.melanie@Epa.gov); Paschke, Paul E (paul.paschke@hp.com); 'John Buchanan' (John.Buchanan@varian.com); 'Alan Palter (Alan.Palter@varian.com)'; Vaughan, Patrick
Subject: COE/PA: Response - Submittal Extension Request

Mark:

Thank you for the notification.

Based on your 24July15 email requesting permission to submit the indoor air (IA) testing report for the COE area on 29Aug14 (Email). The Email indicates that access for IA testing could not be arranged for one of the buildings until recently on 18July14. Based on the justification presented in the Email, the Regional Water Board grants your extension. Please submit the report by **COB 29Aug14** and include this email in the report appendix to document your compliance.

Please contact this office if you have any questions.

Respectfully,

Roger W. Papler, P.G.
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

From: Becker, Mark [mailto:Mark.Becker@stantec.com]
Sent: Thursday, July 24, 2014 8:09 AM
To: Papler, Roger@Waterboards
Cc: Melanie Morash (Morash.melanie@Epa.gov); Paschke, Paul E (paul.paschke@hp.com); 'John Buchanan' (John.Buchanan@varian.com); 'Alan Palter (Alan.Palter@varian.com)'; Vaughan, Patrick
Subject: COE IA Testing - Request for Extension of Report Due Date

Roger,

Stantec, on behalf of HP and Varian, requests that the due date for the COE Indoor Air Testing report be extended to August 29, 2014. As discussed during our recent phone conversation, the extension is required because of challenges encountered in obtaining access to commercial buildings - testing could not be conducted in one of the buildings until July 18. Please reply to this message to confirm that the revised due date of August 29, 2014 is acceptable.

Regards,
Mark

Mark Becker
Principal Scientist
Stantec
15575 Los Gatos Boulevard, Building C

Los Gatos CA 95032-2569
Phone: (408) 827-3874
Cell: (831) 246-0711 Fax: (408) 356-6138
mark.becker@stantec.com

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Please consider the environment before printing this email.

Becker, Mark

From: Papler, Roger@Waterboards <Roger.Papler@waterboards.ca.gov>
Sent: Tuesday, September 02, 2014 2:21 PM
To: paul_paschke@hp.com; John.Buchanan@varian.com
Cc: Becker, Mark; alan.palter@varian.com; morash.melanie@epa.gov
Subject: COE/PA - Off-Property: Submittal Extension Request - VI Evaluation Rept

Hello Paul and John:

Thank you for the 27Aug14 email (Email) submitted on your behalf that notifies the Regional Water Board and USEPA on the subject report status.

The Email requests a three-week submittal extension of the subject report to 19Sept14. Since the Email requests only a three-week extension and most of your workplans and reports have been submitted in a timely manner, your request is hereby granted. However, our January 23, 2014 letter (Letter) required a report submittal date of 15May14 and our 24July14 email granted a report extension to 29Aug14. So this is the second submittal extension and we might not be granting additional submittal extensions for the report.

Please make sure that you submit the report by **19Sept14**. You may include this email in the report appendix to explain the discrepancy between the Letter requirement and the report date.

Respectfully,

Roger W. Papler, P.G.
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

-----Original Message-----
From: MORASH, MELANIE [mailto:morash.melanie@epa.gov]
Sent: Wednesday, August 27, 2014 4:22 PM
To: Becker, Mark
Cc: Papler, Roger@Waterboards; Paschke, Paul E (paul.paschke@hp.com); 'John Buchanan' (John.Buchanan@varian.com); 'Alan Palter (Alan.Palter@varian.com)'; Vaughan, Patrick
Subject: RE: COE IA Testing Report Submittal Date

Hi Mark,

Please use this e-mail as my concurrence of the proposed workplan due date extension. However, please follow up with Roger upon his return to the office after Labor Day.

Best Regards,

Melanie

Melanie Morash, Remedial Project Manager California Site Cleanup Section I, Superfund Division

US EPA Region 9
75 Hawthorne Street (SFD-7-1)
San Francisco, CA 94105

(415) 972-3050 [phone]
(415) 947-3528 [fax]
morash.melanie@epa.gov

From: Becker, Mark [Mark.Becker@stantec.com]
Sent: Wednesday, August 27, 2014 4:19 PM
To: MORASH, MELANIE
Cc: Roger Papler (Roger.Papler@waterboards.ca.gov); Paschke, Paul E (paul.paschke@hp.com); 'John Buchanan' (John.Buchanan@varian.com); 'Alan Palter (Alan.Palter@varian.com)'; Vaughan, Patrick
Subject: COE IA Testing Report Submittal Date

Melanie,

Per our telephone conversation, Stantec requests a three week extension to the due date of the COE indoor air testing report (to September 19, 2014) on behalf of HP and Varian . Stantec and the Companies have been making every effort to meet the current due date; however, additional time is required to complete the report. As we discussed, I attempted to reach Roger Papler regarding this matter, but he is out of the office this week. We appreciate your consideration of this request.
Regards
Mark

Mark Becker
Principal Scientist
Stantec
15575 Los Gatos Boulevard, Building C
Los Gatos CA 95032-2569
Phone: (408) 827-3874
Cell: (831) 246-0711 Fax: (408) 356-6138 mark.becker@stantec.com<mailto:mark.becker@stantec.com>

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[Twitter]<https://twitter.com/stantec>

[Blog]<http://www.stantecinc.blogspot.ca/>

[Google+]<https://plus.google.com/112504287730358583553/posts>

[LinkedIn]<http://www.linkedin.com/company/stantec>

[YouTube]<http://www.youtube.com/user/StantecInc>

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Appendix B

Laboratory Analytical Reports

eurofins | Air Toxics

4/16/2012
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1204296

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 4/13/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1204296

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	04/13/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/16/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	1-IA-1	Modified TO-15	8.0 "Hg	5 psi
01B	1-IA-1	Modified TO-15	8.0 "Hg	5 psi
02A	1-OA-1	Modified TO-15	6.5 "Hg	5 psi
02B	1-OA-1	Modified TO-15	6.5 "Hg	5 psi
03A	2-IA-1	Modified TO-15	8.5 "Hg	5 psi
03B	2-IA-1	Modified TO-15	8.5 "Hg	5 psi
04A	6-IA-1	Modified TO-15	6.5 "Hg	5 psi
04B	6-IA-1	Modified TO-15	6.5 "Hg	5 psi
05A	6-OA-1	Modified TO-15	7.5 "Hg	5 psi
05B	6-OA-1	Modified TO-15	7.5 "Hg	5 psi
06A	5-IA-1	Modified TO-15	6.0 "Hg	5 psi
06B	5-IA-1	Modified TO-15	6.0 "Hg	5 psi
07A	5-IA-2	Modified TO-15	7.0 "Hg	5 psi
07B	5-IA-2	Modified TO-15	7.0 "Hg	5 psi
08A	8-IA1	Modified TO-15	7.5 "Hg	5 psi
08B	8-IA1	Modified TO-15	7.5 "Hg	5 psi
09A	8-OA-1	Modified TO-15	5.5 "Hg	5 psi
09B	8-OA-1	Modified TO-15	5.5 "Hg	5 psi
10A	7-IA-1	Modified TO-15	5.5 "Hg	5 psi
10B	7-IA-1	Modified TO-15	5.5 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

eurofins | Air Toxics

WORK ORDER #: 1204296

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	04/13/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/16/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Linda J. Freeman

Laboratory Director

DATE: 04/16/12

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1204296

Ten 6 Liter Summa Canister (100% Certified) samples were received on April 13, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 1-IA-1

Lab ID#: 1204296-01A

No Detections Were Found.

Client Sample ID: 1-IA-1

Lab ID#: 1204296-01B

No Detections Were Found.

Client Sample ID: 1-OA-1

Lab ID#: 1204296-02A

No Detections Were Found.

Client Sample ID: 1-OA-1

Lab ID#: 1204296-02B

No Detections Were Found.

Client Sample ID: 2-IA-1

Lab ID#: 1204296-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.19	0.25	0.91	1.2

Client Sample ID: 2-IA-1

Lab ID#: 1204296-03B

No Detections Were Found.

Client Sample ID: 6-IA-1

Lab ID#: 1204296-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.20	0.83	1.0

Client Sample ID: 6-IA-1

Lab ID#: 1204296-04B

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 6-IA-1

Lab ID#: 1204296-04B

No Detections Were Found.

Client Sample ID: 6-OA-1

Lab ID#: 1204296-05A

No Detections Were Found.

Client Sample ID: 6-OA-1

Lab ID#: 1204296-05B

No Detections Were Found.

Client Sample ID: 5-IA-1

Lab ID#: 1204296-06A

No Detections Were Found.

Client Sample ID: 5-IA-1

Lab ID#: 1204296-06B

No Detections Were Found.

Client Sample ID: 5-IA-2

Lab ID#: 1204296-07A

No Detections Were Found.

Client Sample ID: 5-IA-2

Lab ID#: 1204296-07B

No Detections Were Found.

Client Sample ID: 8-IA1

Lab ID#: 1204296-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.45	0.87	2.2

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 8-IA1

Lab ID#: 1204296-08B
No Detections Were Found.

Client Sample ID: 8-OA-1

Lab ID#: 1204296-09A
No Detections Were Found.

Client Sample ID: 8-OA-1

Lab ID#: 1204296-09B
No Detections Were Found.

Client Sample ID: 7-IA-1

Lab ID#: 1204296-10A
No Detections Were Found.

Client Sample ID: 7-IA-1

Lab ID#: 1204296-10B
No Detections Were Found.

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Client Sample ID: 1-IA-1

Lab ID#: 1204296-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041409**	**Date of Collection:**	**4/12/12 8:23:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**4/14/12 06:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 1-IA-1

Lab ID#: 1204296-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041409sim**	**Date of Collection:**	**4/12/12 8:23:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**4/14/12 06:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 1-OA-1

Lab ID#: 1204296-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041407**	**Date of Collection:**	**4/12/12 8:30:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/14/12 04:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 1-OA-1

Lab ID#: 1204296-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041407sim**	**Date of Collection:**	**4/12/12 8:30:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/14/12 04:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 2-IA-1

Lab ID#: 1204296-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041408**	**Date of Collection:**	**4/12/12 8:46:00 AM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**4/14/12 05:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	0.25	0.91	1.2
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 2-IA-1

Lab ID#: 1204296-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041408sim**	**Date of Collection:**	**4/12/12 8:46:00 AM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**4/14/12 05:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 6-IA-1

Lab ID#: 1204296-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041410**	**Date of Collection:**	**4/12/12 9:09:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/14/12 07:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.20	0.83	1.0
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 6-IA-1

Lab ID#: 1204296-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041410sim**	**Date of Collection:**	**4/12/12 9:09:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/14/12 07:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 6-OA-1

Lab ID#: 1204296-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041411**	**Date of Collection:**	**4/12/12 9:13:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**4/14/12 08:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 6-OA-1

Lab ID#: 1204296-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041411sim**	**Date of Collection:**	**4/12/12 9:13:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**4/14/12 08:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 5-IA-1

Lab ID#: 1204296-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041412**	**Date of Collection:**	**4/12/12 11:07:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/14/12 09:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 5-IA-1

Lab ID#: 1204296-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041412sim**	**Date of Collection:**	**4/12/12 11:07:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/14/12 09:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 5-IA-2

Lab ID#: 1204296-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041413**	**Date of Collection:**	**4/12/12 11:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/14/12 09:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 5-IA-2

Lab ID#: 1204296-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041413sim**	**Date of Collection:**	**4/12/12 11:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/14/12 09:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 8-IA1

Lab ID#: 1204296-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041607**	**Date of Collection:**	**4/12/12 12:10:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**4/16/12 01:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.45	0.87	2.2
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 8-IA1

Lab ID#: 1204296-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041607sim**	**Date of Collection:**	**4/12/12 12:10:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**4/16/12 01:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 8-OA-1

Lab ID#: 1204296-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041414**	**Date of Collection:**	**4/12/12 12:16:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**4/14/12 10:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 8-OA-1

Lab ID#: 1204296-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041414sim**	**Date of Collection:**	**4/12/12 12:16:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**4/14/12 10:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 7-IA-1

Lab ID#: 1204296-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041608**	**Date of Collection:**	**4/12/12 12:36:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**4/16/12 02:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 7-IA-1

Lab ID#: 1204296-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041608sim**	**Date of Collection:**	**4/12/12 12:36:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**4/16/12 02:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1204296-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 02:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1204296-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041405sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 02:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204296-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 01:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204296-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 01:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1204296-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 12:26 PM**	

Compound	**%Recovery**
Freon 113	93
Chloroform	88
1,2-Dichlorobenzene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 1204296-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 12:26 PM**	

Compound	**%Recovery**
Vinyl Chloride	89
1,1-Dichloroethene	90
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	88
Trichloroethene	84
Tetrachloroethene	88

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1204296-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 09:38 AM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	92
1,2-Dichlorobenzene	103

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1204296-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 09:38 AM**	

Compound	**%Recovery**
Vinyl Chloride	94
1,1-Dichloroethene	96
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	98
1,1,1-Trichloroethane	94
Trichloroethene	90
Tetrachloroethene	94

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1204296-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 01:11 PM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	95
1,2-Dichlorobenzene	104

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1204296-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 01:50 PM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	94
1,2-Dichlorobenzene	102

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 1204296-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 01:11 PM**	

Compound	**%Recovery**
Vinyl Chloride	97
1,1-Dichloroethene	105
1,1-Dichloroethane	99
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	99
Trichloroethene	93
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1204296-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 01:50 PM**	

Compound	**%Recovery**
Vinyl Chloride	96
1,1-Dichloroethene	104
1,1-Dichloroethane	98
cis-1,2-Dichloroethene	101
1,1,1-Trichloroethane	98
Trichloroethene	92
Tetrachloroethene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1204296-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 10:24 AM**	

Compound	**%Recovery**
Freon 113	101
Chloroform	96
1,2-Dichlorobenzene	102

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: LCSD

Lab ID#: 1204296-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 11:02 AM**	

Compound	**%Recovery**
Freon 113	99
Chloroform	95
1,2-Dichlorobenzene	103

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1204296-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 10:24 AM**	

Compound	**%Recovery**
Vinyl Chloride	95
1,1-Dichloroethene	103
1,1-Dichloroethane	97
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	98
Trichloroethene	92
Tetrachloroethene	94

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1204296-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e041604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/12 11:02 AM**	

Compound	**%Recovery**
Vinyl Chloride	94
1,1-Dichloroethene	101
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	98
1,1,1-Trichloroethane	97
Trichloroethene	89
Tetrachloroethene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Mark Becker M. Becker
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd, MS1254 City Palo Alto State CA Zip 94304
Phone 650-813-3106 Fax 650-813-3644

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name COE IA Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas:
N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01AB	1-IA-1	5796	4/12/12	0823	TO15 *See Notes for list	-30	-8		
02AB	1-OA-1	4217	4/12/12	0830		-30	-7		
03AB	2-IA-1	33560	4/12/12	0846		-30	-11		
04AB	6-IA-1	23882	4/12/12	0909		-30	-6		
05AB	6-OA-1	34494	4/12/12	0913		-30	-9		
06AB	5-IA-1	35268	4/12/12	1107		-30	-7		
07AB	5-IA-2	33792	4/12/12	1115		-30	-8		
08AB	8-IA-1	34251	4/12/12	1210		-30	-8		
09AB	8-OA-1	5733	4/12/12	1216		-30	-7		
10AB	7-IA-1	34028	4/12/12	1236		-30	-6		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
M. Becker 4/13/12 1414	[illegible] 1414 4/13/12
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

***Notes:**
TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Drop Off		N/A	Good	Yes No (None)	1204296

Form 1293 rev.11

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4/16/2012
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1204297

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 4/13/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1204297

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	04/13/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/16/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	7-OA-1	Modified TO-15	5.0 "Hg	5 psi
01B	7-OA-1	Modified TO-15	5.0 "Hg	5 psi
02A	3-IA-1	Modified TO-15	6.5 "Hg	5 psi
02B	3-IA-1	Modified TO-15	6.5 "Hg	5 psi
03A	4-IA-1	Modified TO-15	6.0 "Hg	5 psi
03B	4-IA-1	Modified TO-15	6.0 "Hg	5 psi
04A	DUP-1	Modified TO-15	8.0 "Hg	5 psi
04B	DUP-1	Modified TO-15	8.0 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
05B	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
06B	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA
07B	LCS	Modified TO-15	NA	NA
07BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Linda J. Freeman

Laboratory Director

DATE: 04/16/12

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1204297

Four 6 Liter Summa Canister (100% Certified) samples were received on April 13, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 7-OA-1

Lab ID#: 1204297-01A

No Detections Were Found.

Client Sample ID: 7-OA-1

Lab ID#: 1204297-01B

No Detections Were Found.

Client Sample ID: 3-IA-1

Lab ID#: 1204297-02A

No Detections Were Found.

Client Sample ID: 3-IA-1

Lab ID#: 1204297-02B

No Detections Were Found.

Client Sample ID: 4-IA-1

Lab ID#: 1204297-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.34	0.82	1.7

Client Sample ID: 4-IA-1

Lab ID#: 1204297-03B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1204297-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.33	0.89	1.6

Client Sample ID: DUP-1

Lab ID#: 1204297-04B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-1

Lab ID#: 1204297-04B

No Detections Were Found.

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Client Sample ID: 7-OA-1

Lab ID#: 1204297-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041418**	**Date of Collection:**	**4/12/12 12:39:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**4/14/12 09:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	88	70-130

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Client Sample ID: 7-OA-1

Lab ID#: 1204297-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041418sim**	**Date of Collection:**	**4/12/12 12:39:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**4/14/12 09:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 3-IA-1

Lab ID#: 1204297-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041419**	**Date of Collection:**	**4/12/12 1:01:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/14/12 09:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 3-IA-1

Lab ID#: 1204297-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041419sim**	**Date of Collection:**	**4/12/12 1:01:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/14/12 09:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 4-IA-1

Lab ID#: 1204297-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041420**	**Date of Collection:**	**4/12/12 1:48:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/14/12 10:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.34	0.82	1.7
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 4-IA-1

Lab ID#: 1204297-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041420sim**	**Date of Collection:**	**4/12/12 1:48:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/14/12 10:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: DUP-1

Lab ID#: 1204297-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041421**	**Date of Collection:**	**4/12/12**
Dil. Factor:	**1.83**	**Date of Analysis:**	**4/14/12 10:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.33	0.89	1.6
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: DUP-1

Lab ID#: 1204297-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041421sim**	**Date of Collection: 4/12/12**	
Dil. Factor:	**1.83**	**Date of Analysis: 4/14/12 10:58 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204297-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041417**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 08:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204297-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041417sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 08:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1204297-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041414**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 06:00 PM**	

Compound	**%Recovery**
Freon 113	94
Chloroform	101
1,2-Dichlorobenzene	86

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: CCV

Lab ID#: 1204297-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041414sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 06:00 PM**	

Compound	**%Recovery**
Vinyl Chloride	93
1,1-Dichloroethene	87
1,1-Dichloroethane	95
cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane	93
Trichloroethene	100
Tetrachloroethene	102

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1204297-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041415**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 06:48 PM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	116
1,2-Dichlorobenzene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: LCSD

Lab ID#: 1204297-07AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041416**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 07:29 PM**	

Compound	**%Recovery**
Freon 113	110
Chloroform	118
1,2-Dichlorobenzene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: LCS

Lab ID#: 1204297-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041415sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 06:48 PM**	

Compound	**%Recovery**
Vinyl Chloride	106
1,1-Dichloroethene	102
1,1-Dichloroethane	106
cis-1,2-Dichloroethene	100
1,1,1-Trichloroethane	104
Trichloroethene	109
Tetrachloroethene	112

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1204297-07BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a041416sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/12 07:29 PM**	

Compound	**%Recovery**
Vinyl Chloride	108
1,1-Dichloroethene	104
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	107
Trichloroethene	112
Tetrachloroethene	115

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Mark Becker M. Becker
Company: Stantec Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd, MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 650-813-3106 Fax: 650-813-3644

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name: COE IA Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

BW 4/14/12

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01AB ~~HAB~~	7-OA-1	35243	4/12/12	1239	TO15 *See Notes for list	-28.5	-6		
02AB ~~12AB~~	3-IA-1	21001	4/12/12	1301		-30	-7		
03AB ~~13AB~~	4-IA-1	35977	4/12/12	1348		-30	-6		
04AB ~~14AB~~	DUP-1	10797	4/12/12	—		-30	-10		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
M. Becker	4/13/12 1414	[signature]	4/13/12 1414
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
*TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

1204297

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	AIC Drop Off		N/A	Good	Yes No ~~None~~	~~1204296~~

BW 4/14/12

Form 1293 rev.11

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5/9/2012
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: MarkBecker
Project #: 185702524
Workorder #: 1204607

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 4/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1204607

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524
FAX:	503-297-5429	**PROJECT #**	185702524 MarkBecker
DATE RECEIVED:	04/26/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/08/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	9-OA-1	Modified TO-15	5.0 "Hg	5 psi
01B	9-OA-1	Modified TO-15	5.0 "Hg	5 psi
02A	9-IA-1	Modified TO-15	6.0 "Hg	5 psi
02B	9-IA-1	Modified TO-15	6.0 "Hg	5 psi
03A	10-IA-1	Modified TO-15	6.5 "Hg	5 psi
03B	10-IA-1	Modified TO-15	6.5 "Hg	5 psi
04A	10-OA-1	Modified TO-15	7.0 "Hg	5 psi
04B	10-OA-1	Modified TO-15	7.0 "Hg	5 psi
05A	11-IA-1	Modified TO-15	8.5 "Hg	5 psi
05B	11-IA-1	Modified TO-15	8.5 "Hg	5 psi
06A	11-OA-1	Modified TO-15	5.0 "Hg	5 psi
06B	11-OA-1	Modified TO-15	5.0 "Hg	5 psi
07A	12-IA-1	Modified TO-15	7.0 "Hg	5 psi
07B	12-IA-1	Modified TO-15	7.0 "Hg	5 psi
08A	12-IA-2	Modified TO-15	7.0 "Hg	5 psi
08B	12-IA-2	Modified TO-15	7.0 "Hg	5 psi
09A	Dup-1	Modified TO-15	6.5 "Hg	5 psi
09B	Dup-1	Modified TO-15	6.5 "Hg	5 psi
10A	Lab Blank	Modified TO-15	NA	NA
10B	Lab Blank	Modified TO-15	NA	NA
11A	CCV	Modified TO-15	NA	NA
11B	CCV	Modified TO-15	NA	NA
12A	LCS	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1204607

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524
FAX:	503-297-5429	**PROJECT #**	185702524 MarkBecker
DATE RECEIVED:	04/26/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/08/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12AA	LCSD	Modified TO-15	NA	NA
12B	LCS	Modified TO-15	NA	NA
12BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Linda J. Freeman

Laboratory Director

DATE: 05/09/12

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1204607

Nine 6 Liter Summa Canister (100% Certified) samples were received on April 26, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) information for sample 10-OA-1 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a

"sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 9-OA-1

Lab ID#: 1204607-01A

No Detections Were Found.

Client Sample ID: 9-OA-1

Lab ID#: 1204607-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.019	0.041	0.050

Client Sample ID: 9-IA-1

Lab ID#: 1204607-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.17	0.82	0.82

Client Sample ID: 9-IA-1

Lab ID#: 1204607-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.034	0.071	0.18	0.39

Client Sample ID: 10-IA-1

Lab ID#: 1204607-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.21	0.83	1.0

Client Sample ID: 10-IA-1

Lab ID#: 1204607-03B

No Detections Were Found.

Client Sample ID: 10-OA-1

Lab ID#: 1204607-04A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 10-OA-1

Lab ID#: 1204607-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.042	0.045	0.11

Client Sample ID: 11-IA-1

Lab ID#: 1204607-05A

No Detections Were Found.

Client Sample ID: 11-IA-1

Lab ID#: 1204607-05B

No Detections Were Found.

Client Sample ID: 11-OA-1

Lab ID#: 1204607-06A

No Detections Were Found.

Client Sample ID: 11-OA-1

Lab ID#: 1204607-06B

No Detections Were Found.

Client Sample ID: 12-IA-1

Lab ID#: 1204607-07A

No Detections Were Found.

Client Sample ID: 12-IA-1

Lab ID#: 1204607-07B

No Detections Were Found.

Client Sample ID: 12-IA-2

Lab ID#: 1204607-08A

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 12-IA-2

Lab ID#: 1204607-08B

No Detections Were Found.

Client Sample ID: Dup-1

Lab ID#: 1204607-09A

No Detections Were Found.

Client Sample ID: Dup-1

Lab ID#: 1204607-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.034	0.065	0.19	0.36

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Client Sample ID: 9-OA-1

Lab ID#: 1204607-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043012**	**Date of Collection:**	**4/26/12 10:23:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**4/30/12 05:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 9-OA-1

Lab ID#: 1204607-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043012sim**	**Date of Collection:**	**4/26/12 10:23:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**4/30/12 05:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.019	0.041	0.050
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 9-IA-1

Lab ID#: 1204607-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043013**	**Date of Collection:**	**4/26/12 10:17:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/30/12 06:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.17	0.82	0.82
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 9-IA-1

Lab ID#: 1204607-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043013sim**	**Date of Collection:**	**4/26/12 10:17:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/30/12 06:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	0.071	0.18	0.39
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 10-IA-1

Lab ID#: 1204607-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043014**	**Date of Collection:**	**4/26/12 10:42:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/30/12 06:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.21	0.83	1.0
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 10-IA-1

Lab ID#: 1204607-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043014sim**	**Date of Collection:**	**4/26/12 10:42:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/30/12 06:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 10-OA-1

Lab ID#: 1204607-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043015**	**Date of Collection:**	**4/26/12 10:47:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/30/12 07:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 10-OA-1

Lab ID#: 1204607-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043015sim**	**Date of Collection:**	**4/26/12 10:47:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/30/12 07:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.042	0.045	0.11
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 11-IA-1

Lab ID#: 1204607-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043016**	**Date of Collection:**	**4/26/12 11:06:00 AM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**4/30/12 08:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: 11-IA-1

Lab ID#: 1204607-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043016sim**	**Date of Collection:**	**4/26/12 11:06:00 AM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**4/30/12 08:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 11-OA-1

Lab ID#: 1204607-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043017**	**Date of Collection:**	**4/26/12 11:17:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**4/30/12 08:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 11-OA-1

Lab ID#: 1204607-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043017sim**	**Date of Collection:**	**4/26/12 11:17:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**4/30/12 08:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 12-IA-1

Lab ID#: 1204607-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043018**	**Date of Collection:**	**4/26/12 2:26:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/30/12 09:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 12-IA-1

Lab ID#: 1204607-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043018sim**	**Date of Collection:**	**4/26/12 2:26:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/30/12 09:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 12-IA-2

Lab ID#: 1204607-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043019**	**Date of Collection:**	**4/26/12 2:31:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/30/12 09:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: 12-IA-2

Lab ID#: 1204607-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043019sim**	**Date of Collection:**	**4/26/12 2:31:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/30/12 09:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Dup-1

Lab ID#: 1204607-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043020**	**Date of Collection:**	**4/26/12**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/30/12 10:30 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: Dup-1

Lab ID#: 1204607-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043020sim**	**Date of Collection: 4/26/12**	
Dil. Factor:	**1.71**	**Date of Analysis: 4/30/12 10:30 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	0.065	0.19	0.36
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204607-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 11:55 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204607-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043006sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 11:55 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1204607-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 08:54 AM**	

Compound	**%Recovery**
Freon 113	95
Chloroform	100
1,2-Dichlorobenzene	86

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: CCV

Lab ID#: 1204607-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043002sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 08:54 AM**	

Compound	**%Recovery**
Vinyl Chloride	95
1,1-Dichloroethene	88
1,1-Dichloroethane	95
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	92
Trichloroethene	98
Tetrachloroethene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCS

Lab ID#: 1204607-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 09:41 AM**	

Compound	**%Recovery**
Freon 113	98
Chloroform	105
1,2-Dichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	77	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: LCSD

Lab ID#: 1204607-12AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 10:27 AM**	

Compound	**%Recovery**
Freon 113	99
Chloroform	108
1,2-Dichlorobenzene	87

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	75	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: LCS

Lab ID#: 1204607-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043003sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 09:41 AM**	

Compound	**%Recovery**
Vinyl Chloride	99
1,1-Dichloroethene	95
1,1-Dichloroethane	98
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	96
Trichloroethene	100
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1204607-12BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a043004sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/30/12 10:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	99
1,1-Dichloroethene	95
1,1-Dichloroethane	99
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	96
Trichloroethene	100
Tetrachloroethene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Project Manager: Mark Becker
Collected by: (Print and Sign) Mark Becker
Company: Stantec Consulting Serv. Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd; MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 650-813-3106 Fax: 650-813-5644

Project Info:
P.O. #
Project #: 185702524
Project Name: Mark Becker

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01 AB	9-OA-1	23928	4/26/12	10:23	TO15 * See notes	-30	-7		
02 AB	9-IA-1	5769	4/26/12	10:17		-30	-7		
03 AB	10-IA-1	903	4/26/12	10:42		-30	-7		
04 AB	10-OA-1	5493	4/26/12	10:47		-30	-8		
05 AB	11-IA-1	918	4/26/12	11:06		-30	-9		
06 AB	11-OA-1	5576	4/26/12	11:17		-29.5	-5		
07 AB	12-IA-1	14116	4/26/12	14:26		-30	-8.5		
08 AB	12-IA-2	35135	4/26/12	14:31		-30	-9		
09 AB	DuP-1	21031	4/26/12	—		-30	-8		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
M. Becker	4/26/12 14:40	[signature]	4/26/12 14:40
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: * Analyte List: TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	AIL Drop Off		N/A	Good	Yes No None	1204607

Form 1293 rev.11

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8/10/2012
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IAQ Testing
Project #: 185702524.200.0003
Workorder #: 1207604

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 7/27/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1207604

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IAQ Testing
DATE RECEIVED:	07/27/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	13IA-1	Modified TO-15	14.5 "Hg	5 psi
01B	13IA-1	Modified TO-15	14.5 "Hg	5 psi
02A	14IA-1	Modified TO-15	4.5 "Hg	5 psi
02B	14IA-1	Modified TO-15	4.5 "Hg	5 psi
03A	15IA-1	Modified TO-15	7.0 "Hg	5 psi
03B	15IA-1	Modified TO-15	7.0 "Hg	5 psi
04A	16IA-1	Modified TO-15	8.0 "Hg	5 psi
04B	16IA-1	Modified TO-15	8.0 "Hg	5 psi
05A	17IA-1	Modified TO-15	5.0 "Hg	5 psi
05B	17IA-1	Modified TO-15	5.0 "Hg	5 psi
06A	16OA-1	Modified TO-15	7.5 "Hg	5 psi
06B	16OA-1	Modified TO-15	7.5 "Hg	5 psi
07A	18IA-1	Modified TO-15	5.0 "Hg	5 psi
07B	18IA-1	Modified TO-15	5.0 "Hg	5 psi
08A	18IA-2	Modified TO-15	5.5 "Hg	5 psi
08B	18IA-2	Modified TO-15	5.5 "Hg	5 psi
09A	18IA-3	Modified TO-15	6.5 "Hg	5 psi
09B	18IA-3	Modified TO-15	6.5 "Hg	5 psi
10A	18GR-1	Modified TO-15	6.0 "Hg	5 psi
10B	18GR-1	Modified TO-15	6.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1207604

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IAQ Testing
DATE RECEIVED:	07/27/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 08/10/12

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1207604

Ten 6 Liter Summa Canister (100% Certified) samples were received on July 27, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. Signature and were not provided by the field sampler.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 13IA-1

Lab ID#: 1207604-01A

No Detections Were Found.

Client Sample ID: 13IA-1

Lab ID#: 1207604-01B

No Detections Were Found.

Client Sample ID: 14IA-1

Lab ID#: 1207604-02A

No Detections Were Found.

Client Sample ID: 14IA-1

Lab ID#: 1207604-02B

No Detections Were Found.

Client Sample ID: 15IA-1

Lab ID#: 1207604-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.21	0.85	1.0

Client Sample ID: 15IA-1

Lab ID#: 1207604-03B

No Detections Were Found.

Client Sample ID: 16IA-1

Lab ID#: 1207604-04A

No Detections Were Found.

Client Sample ID: 16IA-1

Lab ID#: 1207604-04B

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 17IA-1

Lab ID#: 1207604-05A
No Detections Were Found.

Client Sample ID: 17IA-1

Lab ID#: 1207604-05B
No Detections Were Found.

Client Sample ID: 16OA-1

Lab ID#: 1207604-06A
No Detections Were Found.

Client Sample ID: 16OA-1

Lab ID#: 1207604-06B
No Detections Were Found.

Client Sample ID: 18IA-1

Lab ID#: 1207604-07A
No Detections Were Found.

Client Sample ID: 18IA-1

Lab ID#: 1207604-07B
No Detections Were Found.

Client Sample ID: 18IA-2

Lab ID#: 1207604-08A
No Detections Were Found.

Client Sample ID: 18IA-2

Lab ID#: 1207604-08B
No Detections Were Found.

Client Sample ID: 18IA-3

Lab ID#: 1207604-09A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 18IA-3

Lab ID#: 1207604-09A

No Detections Were Found.

Client Sample ID: 18IA-3

Lab ID#: 1207604-09B

No Detections Were Found.

Client Sample ID: 18GR-1

Lab ID#: 1207604-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	2.5	0.82	12

Client Sample ID: 18GR-1

Lab ID#: 1207604-10B

No Detections Were Found.

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Client Sample ID: 13IA-1

Lab ID#: 1207604-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080119**	**Date of Collection:**	**7/24/12 10:06:00 AM**
Dil. Factor:	**2.59**	**Date of Analysis:**	**8/2/12 07:33 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.26	Not Detected	2.0	Not Detected
Chloroform	0.26	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.26	Not Detected	1.6	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 13IA-1

Lab ID#: 1207604-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080119sim**	**Date of Collection:**	**7/24/12 10:06:00 AM**
Dil. Factor:	**2.59**	**Date of Analysis:**	**8/2/12 07:33 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.026	Not Detected	0.066	Not Detected
1,1-Dichloroethene	0.026	Not Detected	0.10	Not Detected
1,1-Dichloroethane	0.052	Not Detected	0.21	Not Detected
cis-1,2-Dichloroethene	0.052	Not Detected	0.20	Not Detected
1,1,1-Trichloroethane	0.052	Not Detected	0.28	Not Detected
Trichloroethene	0.052	Not Detected	0.28	Not Detected
Tetrachloroethene	0.052	Not Detected	0.35	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 14IA-1

Lab ID#: 1207604-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080120**	**Date of Collection:**	**7/24/12 10:11:00 AM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**8/2/12 08:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 14IA-1

Lab ID#: 1207604-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080120sim**	**Date of Collection:**	**7/24/12 10:11:00 AM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**8/2/12 08:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 15IA-1

Lab ID#: 1207604-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080121**	**Date of Collection:**	**7/24/12 10:14:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**8/2/12 08:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	0.21	0.85	1.0
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 15IA-1

Lab ID#: 1207604-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080121sim**	**Date of Collection:**	**7/24/12 10:14:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**8/2/12 08:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 16IA-1

Lab ID#: 1207604-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080207**	**Date of Collection:**	**7/24/12 10:23:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/2/12 03:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 16IA-1

Lab ID#: 1207604-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080207sim**	**Date of Collection:**	**7/24/12 10:23:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/2/12 03:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: 17IA-1

Lab ID#: 1207604-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080208**	**Date of Collection:**	**7/24/12 10:34:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**8/2/12 04:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: 17IA-1

Lab ID#: 1207604-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080208sim**	**Date of Collection:**	**7/24/12 10:34:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**8/2/12 04:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: 16OA-1

Lab ID#: 1207604-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080209**	**Date of Collection:**	**7/24/12 10:39:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/2/12 05:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	90	70-130

eurofins | Air Toxics

Client Sample ID: 16OA-1

Lab ID#: 1207604-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080209sim**	**Date of Collection:**	**7/24/12 10:39:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/2/12 05:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	91	70-130

eurofins | Air Toxics

Client Sample ID: 18IA-1

Lab ID#: 1207604-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080210**	**Date of Collection:**	**7/24/12 1:35:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**8/2/12 05:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: 18IA-1

Lab ID#: 1207604-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080210sim**	**Date of Collection:**	**7/24/12 1:35:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**8/2/12 05:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 18IA-2

Lab ID#: 1207604-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080211**	**Date of Collection:**	**7/24/12 1:39:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**8/2/12 06:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 18IA-2

Lab ID#: 1207604-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080211sim**	**Date of Collection:**	**7/24/12 1:39:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**8/2/12 06:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: 18IA-3

Lab ID#: 1207604-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080212**	**Date of Collection:**	**7/24/12 1:41:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**8/2/12 07:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 18IA-3

Lab ID#: 1207604-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080212sim**	**Date of Collection:**	**7/24/12 1:41:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**8/2/12 07:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 18GR-1

Lab ID#: 1207604-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080213**	**Date of Collection:**	**7/24/12 1:57:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**8/2/12 08:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	2.5	0.82	12
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 18GR-1

Lab ID#: 1207604-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080213sim**	**Date of Collection:**	**7/24/12 1:57:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**8/2/12 08:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1207604-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 02:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1207604-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080108sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 02:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1207604-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 02:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1207604-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080206sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 02:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207604-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 09:41 AM**	

Compound	**%Recovery**
Freon 113	98
Chloroform	88
1,2-Dichlorobenzene	91

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207604-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 09:41 AM**	

Compound	**%Recovery**
Vinyl Chloride	76
1,1-Dichloroethene	80
1,1-Dichloroethane	82
cis-1,2-Dichloroethene	87
1,1,1-Trichloroethane	84
Trichloroethene	83
Tetrachloroethene	94

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207604-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 11:29 AM**	

Compound	**%Recovery**
Freon 113	95
Chloroform	86
1,2-Dichlorobenzene	88

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207604-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080202sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 11:29 AM**	

Compound	**%Recovery**
Vinyl Chloride	73
1,1-Dichloroethene	80
1,1-Dichloroethane	80
cis-1,2-Dichloroethene	86
1,1,1-Trichloroethane	83
Trichloroethene	84
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1207604-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 10:27 AM**	

Compound	**%Recovery**
Freon 113	95
Chloroform	86
1,2-Dichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1207604-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 11:13 AM**	

Compound	**%Recovery**
Freon 113	93
Chloroform	85
1,2-Dichlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1207604-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 10:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	75
1,1-Dichloroethene	82
1,1-Dichloroethane	78
cis-1,2-Dichloroethene	84
1,1,1-Trichloroethane	81
Trichloroethene	79
Tetrachloroethene	89

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1207604-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 11:13 AM**	

Compound	**%Recovery**
Vinyl Chloride	74
1,1-Dichloroethene	82
1,1-Dichloroethane	78
cis-1,2-Dichloroethene	84
1,1,1-Trichloroethane	81
Trichloroethene	79
Tetrachloroethene	88

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1207604-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 12:16 PM**	

Compound	**%Recovery**
Freon 113	99
Chloroform	88
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1207604-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 12:58 PM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	89
1,2-Dichlorobenzene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1207604-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080203sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 12:16 PM**	

Compound	**%Recovery**
Vinyl Chloride	74
1,1-Dichloroethene	85
1,1-Dichloroethane	80
cis-1,2-Dichloroethene	87
1,1,1-Trichloroethane	84
Trichloroethene	84
Tetrachloroethene	93

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCSD

Lab ID#: 1207604-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v080204sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 12:58 PM**	

Compound	**%Recovery**
Vinyl Chloride	73
1,1-Dichloroethene	85
1,1-Dichloroethane	79
cis-1,2-Dichloroethene	86
1,1,1-Trichloroethane	84
Trichloroethene	84
Tetrachloroethene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Wendy Chen
Company: Stantec Consulting Serv. Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd, MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 650-813-3106 Fax: 650-813-3644

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name: COE IAQ Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01 AB	13IA-1	34487	7/24/2012	10:06	TO15* See Notes for list	-29	-14		
02 AB	14IA-1	34339	7/24/2012	10:11		-29	-5		
03 AB	15IA-1	33903	7/24/2012	10:14		>-30	-8		
04 AB	16IA-1	34238	7/24/2012	10:23		>-30	-8		
05 AB	17IA-1	5664	7/24/2012	10:34		>-30	-7		
06 AB	16OA-1	34489	7/24/2012	10:39		-29.5	-7		
07 AB	18IA-1	5669	7/24/2012	13:35		>-30	-7.5		
08 AB	18IA-2	31439	7/24/2012	13:39		>-30	-7		
09 AB	18IA-3	33581	7/24/2012	13:41		-30	-7.5		
10 AB	18GR-1	~~54~~ 96114	7/24/2012	13:57		-30	-6		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	TA Rover 7.27.12 10:15 ATL
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes: * Analyte List
TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	Good	Yes No (None)	1207604

Form 1293 rev.11

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8/10/2012
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IAQ Testing
Project #: 185702524 200.0003
Workorder #: 1207605

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 7/27/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1207605

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524 200.0003
FAX:	503-297-5429	**PROJECT #**	185702524 200.0003 COE IAQ Testing
DATE RECEIVED:	07/27/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	19IA-1	Modified TO-15	7.5 "Hg	5 psi
01B	19IA-1	Modified TO-15	7.5 "Hg	5 psi
02A	19IA-2	Modified TO-15	8.0 "Hg	5 psi
02B	19IA-2	Modified TO-15	8.0 "Hg	5 psi
03A	19IA-3	Modified TO-15	8.0 "Hg	5 psi
03B	19IA-3	Modified TO-15	8.0 "Hg	5 psi
04A	20IA-1	Modified TO-15	7.5 "Hg	5 psi
04B	20IA-1	Modified TO-15	7.5 "Hg	5 psi
05A	20IA-2	Modified TO-15	10.0 "Hg	5 psi
05B	20IA-2	Modified TO-15	10.0 "Hg	5 psi
06A	20IA-3	Modified TO-15	0.5 "Hg	5 psi
06B	20IA-3	Modified TO-15	0.5 "Hg	5 psi
07A	20IA-4	Modified TO-15	8.0 "Hg	5 psi
07B	20IA-4	Modified TO-15	8.0 "Hg	5 psi
08A	20GR-1	Modified TO-15	0.0 "Hg	5 psi
08B	20GR-1	Modified TO-15	0.0 "Hg	5 psi
09A	20GR-2	Modified TO-15	0.0 "Hg	5 psi
09B	20GR-2	Modified TO-15	0.0 "Hg	5 psi
10A	20GR-3	Modified TO-15	0.0 "Hg	5 psi
10B	20GR-3	Modified TO-15	0.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1207605

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524 200.0003
FAX:	503-297-5429	**PROJECT #**	185702524 200.0003 COE IAQ Testing
DATE RECEIVED:	07/27/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 08/10/12

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1207605

Ten 6 Liter Summa Canister (100% Certified) samples were received on July 27, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. Ssignature and date were not provided by the field sampler.

Despite the use of flow controllers for sample collection, the final canister vacuums for sample 20GR-1, 20GR-2 and 20GR-3 were measured at ambient pressure in the field. These ambient pressure readings were confirmed by the laboratory upon sample receipt.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 19IA-1

Lab ID#: 1207605-01A

No Detections Were Found.

Client Sample ID: 19IA-1

Lab ID#: 1207605-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.13	0.19	0.72

Client Sample ID: 19IA-2

Lab ID#: 1207605-02A

No Detections Were Found.

Client Sample ID: 19IA-2

Lab ID#: 1207605-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.037	0.14	0.20	0.77

Client Sample ID: 19IA-3

Lab ID#: 1207605-03A

No Detections Were Found.

Client Sample ID: 19IA-3

Lab ID#: 1207605-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.037	0.12	0.20	0.65

Client Sample ID: 20IA-1

Lab ID#: 1207605-04A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20IA-1

Lab ID#: 1207605-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.036	0.081	0.20	0.44
Trichloroethene	0.036	0.038	0.19	0.20
Tetrachloroethene	0.036	0.078	0.24	0.52

Client Sample ID: 20IA-2

Lab ID#: 1207605-05A

No Detections Were Found.

Client Sample ID: 20IA-2

Lab ID#: 1207605-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.020	0.021	0.080	0.083
1,1,1-Trichloroethane	0.040	0.20	0.22	1.1
Trichloroethene	0.040	0.066	0.22	0.36

Client Sample ID: 20IA-3

Lab ID#: 1207605-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.14	0.22	0.66	1.1

Client Sample ID: 20IA-3

Lab ID#: 1207605-06B

No Detections Were Found.

Client Sample ID: 20IA-4

Lab ID#: 1207605-07A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20IA-4

Lab ID#: 1207605-07B

No Detections Were Found.

Client Sample ID: 20GR-1

Lab ID#: 1207605-08A

No Detections Were Found.

Client Sample ID: 20GR-1

Lab ID#: 1207605-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.027	0.068	0.15	0.37
Trichloroethene	0.027	0.034	0.14	0.18
Tetrachloroethene	0.027	5.8	0.18	40

Client Sample ID: 20GR-2

Lab ID#: 1207605-09A

No Detections Were Found.

Client Sample ID: 20GR-2

Lab ID#: 1207605-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.027	0.90	0.15	4.9
Trichloroethene	0.027	0.22	0.14	1.2
Tetrachloroethene	0.027	0.37	0.18	2.5

Client Sample ID: 20GR-3

Lab ID#: 1207605-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	0.95	1.0	7.3
Chloroform	0.13	5.5	0.65	27

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20GR-3

Lab ID#: 1207605-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	0.034	0.034	0.088
1,1-Dichloroethene	0.013	0.018	0.053	0.070
1,1,1-Trichloroethane	0.027	0.23	0.15	1.2
Trichloroethene	0.027	0.055	0.14	0.30
Tetrachloroethene	0.027	0.34	0.18	2.3

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Client Sample ID: 19IA-1

Lab ID#: 1207605-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080115**	**Date of Collection:**	**7/24/12 2:42:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/1/12 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 19IA-1

Lab ID#: 1207605-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080115sim**	**Date of Collection:**	**7/24/12 2:42:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/1/12 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	0.13	0.19	0.72
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 19IA-2

Lab ID#: 1207605-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080116**	**Date of Collection:**	**7/24/12 2:47:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/1/12 11:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 19IA-2

Lab ID#: 1207605-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080116sim**	**Date of Collection:**	**7/24/12 2:47:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/1/12 11:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	0.14	0.20	0.77
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 19IA-3

Lab ID#: 1207605-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080117**	**Date of Collection:**	**7/24/12 2:49:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/2/12 07:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 19IA-3

Lab ID#: 1207605-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080117sim**	**Date of Collection:**	**7/24/12 2:49:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/2/12 07:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	0.12	0.20	0.65
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 20IA-1

Lab ID#: 1207605-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080118**	**Date of Collection:**	**7/24/12 3:34:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/2/12 08:26 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 20IA-1

Lab ID#: 1207605-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080118sim**	**Date of Collection:**	**7/24/12 3:34:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/2/12 08:26 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	0.081	0.20	0.44
Trichloroethene	0.036	0.038	0.19	0.20
Tetrachloroethene	0.036	0.078	0.24	0.52

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 20IA-2

Lab ID#: 1207605-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080119**	**Date of Collection:**	**7/24/12 3:42:00 PM**
Dil. Factor:	**2.01**	**Date of Analysis:**	**8/2/12 09:10 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.98	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 20IA-2

Lab ID#: 1207605-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080119sim**	**Date of Collection:**	**7/24/12 3:42:00 PM**
Dil. Factor:	**2.01**	**Date of Analysis:**	**8/2/12 09:10 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.051	Not Detected
1,1-Dichloroethene	0.020	0.021	0.080	0.083
1,1-Dichloroethane	0.040	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.040	0.20	0.22	1.1
Trichloroethene	0.040	0.066	0.22	0.36
Tetrachloroethene	0.040	Not Detected	0.27	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 20IA-3

Lab ID#: 1207605-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080120**	**Date of Collection:**	**7/24/12 3:59:00 PM**
Dil. Factor:	**1.36**	**Date of Analysis:**	**8/2/12 09:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.14	Not Detected	1.0	Not Detected
Chloroform	0.14	0.22	0.66	1.1
1,2-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: 20IA-3

Lab ID#: 1207605-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080120sim**	**Date of Collection:**	**7/24/12 3:59:00 PM**
Dil. Factor:	**1.36**	**Date of Analysis:**	**8/2/12 09:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.054	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 20IA-4

Lab ID#: 1207605-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080121**	**Date of Collection:**	**7/25/12 4:25:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/2/12 10:50 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: 20IA-4

Lab ID#: 1207605-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080121sim**	**Date of Collection:**	**7/25/12 4:25:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/2/12 10:50 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	116	70-130

eurofins | Air Toxics

Client Sample ID: 20GR-1

Lab ID#: 1207605-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080122**	**Date of Collection:**	**7/24/12 3:22:00 PM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**8/2/12 11:31 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	Not Detected	1.0	Not Detected
Chloroform	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 20GR-1

Lab ID#: 1207605-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080122sim**	**Date of Collection:**	**7/24/12 3:22:00 PM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**8/2/12 11:31 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	0.068	0.15	0.37
Trichloroethene	0.027	0.034	0.14	0.18
Tetrachloroethene	0.027	5.8	0.18	40

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 20GR-2

Lab ID#: 1207605-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080209**	**Date of Collection:**	**7/24/12 3:23:00 PM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**8/2/12 07:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	Not Detected	1.0	Not Detected
Chloroform	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 20GR-2

Lab ID#: 1207605-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080209sim**	**Date of Collection:**	**7/24/12 3:23:00 PM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**8/2/12 07:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	0.90	0.15	4.9
Trichloroethene	0.027	0.22	0.14	1.2
Tetrachloroethene	0.027	0.37	0.18	2.5

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 20GR-3

Lab ID#: 1207605-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080210**	**Date of Collection:**	**7/24/12 3:37:00 PM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**8/2/12 08:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	0.95	1.0	7.3
Chloroform	0.13	5.5	0.65	27
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 20GR-3

Lab ID#: 1207605-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080210sim**	**Date of Collection:**	**7/24/12 3:37:00 PM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**8/2/12 08:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	0.034	0.034	0.088
1,1-Dichloroethene	0.013	0.018	0.053	0.070
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	0.23	0.15	1.2
Trichloroethene	0.027	0.055	0.14	0.30
Tetrachloroethene	0.027	0.34	0.18	2.3

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1207605-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080109**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 05:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1207605-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080109sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 05:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1207605-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080208**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 06:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1207605-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080208sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 06:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207605-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 12:48 PM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	105
1,2-Dichlorobenzene	112

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	110	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207605-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 12:48 PM**	

Compound	**%Recovery**
Vinyl Chloride	102
1,1-Dichloroethene	98
1,1-Dichloroethane	102
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	103
Trichloroethene	99
Tetrachloroethene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207605-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 01:19 PM**	

Compound	**%Recovery**
Freon 113	108
Chloroform	101
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1207605-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080202sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 01:19 PM**	

Compound	**%Recovery**
Vinyl Chloride	104
1,1-Dichloroethene	100
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	101
Trichloroethene	98
Tetrachloroethene	90

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1207605-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 01:30 PM**	

Compound	**%Recovery**
Freon 113	102
Chloroform	100
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1207605-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 02:09 PM**	

Compound	**%Recovery**
Freon 113	102
Chloroform	98
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1207605-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 01:30 PM**	

Compound	**%Recovery**
Vinyl Chloride	103
1,1-Dichloroethene	104
1,1-Dichloroethane	98
cis-1,2-Dichloroethene	103
1,1,1-Trichloroethane	102
Trichloroethene	97
Tetrachloroethene	87

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1207605-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/12 02:09 PM**	

Compound	**%Recovery**
Vinyl Chloride	101
1,1-Dichloroethene	104
1,1-Dichloroethane	97
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	101
Trichloroethene	95
Tetrachloroethene	87

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1207605-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 02:10 PM**	

Compound	**%Recovery**
Freon 113	103
Chloroform	97
1,2-Dichlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1207605-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 02:49 PM**	

Compound	**%Recovery**
Freon 113	101
Chloroform	97
1,2-Dichlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1207605-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080203sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 02:10 PM**	

Compound	**%Recovery**
Vinyl Chloride	101
1,1-Dichloroethene	105
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	101
1,1,1-Trichloroethane	100
Trichloroethene	95
Tetrachloroethene	87

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCSD

Lab ID#: 1207605-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e080204sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/12 02:49 PM**	

Compound	**%Recovery**
Vinyl Chloride	99
1,1-Dichloroethene	104
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	99
Trichloroethene	94
Tetrachloroethene	85

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	105	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Wendy Chen Wendy Chen
Company Stantec Consulting Serv. Email mark.becker@stantec.com
Address 1501 Page Mill Rd, MS 1254 City Palo Alto State CA Zip 94304
Phone 650-813-3106 Fax 650-813-3644

Project Info:
P.O. #
Project # 185702524 200.0003
Project Name COE IAQ Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
7u 7281 01AB	19IA-1	34359	7/24/2012	14:42	TO15* See Notes for list	-29.5	-7		
02AB	19IA-2	4378	7/24/2012	14:47		-30	-8		
03AB	19IA-3	1697	7/24/2012	14:49		>-30	-9		
04AB	20IA-1	25305	7/24/2012	15:34		>-30	-9		
05AB	20IA-2	34480	7/24/2012	15:42		-30	-10		
06AB	20IA-3	33793	7/24/2012	15:59		-30	0		
07AB	20IA-4	34404	7/25/2012	16:25		>30	-10		
08AB	20GR-1	10768	7/24/2012	15:22		-30	0		
09AB	20GR-2	23882	7/24/2012	15:23		-29	0		
10AB	20GR-3	929	7/24/2012	15:37		-30	0		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	TA Rebecca ATL 7.27.2012 10:15
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes: *Analyte List
TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	Good	Yes No (None)	1207605^

Form 1293 rev.11

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8/12/2012
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IAQ Testing
Project #: 185702524 200.0003
Workorder #: 1207606

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 7/27/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1207606

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524 200.0003
FAX:	503-297-5429	**PROJECT #**	185702524 200.0003 COE IAQ Testing
DATE RECEIVED:	07/27/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/12/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	20GR-4	Modified TO-15	5.5 "Hg	5 psi
01B	20GR-4	Modified TO-15	5.5 "Hg	5 psi
02A	21IA-1	Modified TO-15	6.5 "Hg	5 psi
02B	21IA-1	Modified TO-15	6.5 "Hg	5 psi
03A	21IA-2	Modified TO-15	9.5 "Hg	5 psi
03B	21IA-2	Modified TO-15	9.5 "Hg	5 psi
04A	21IA-3	Modified TO-15	8.0 "Hg	5 psi
04B	21IA-3	Modified TO-15	8.0 "Hg	5 psi
05A	21IA-4	Modified TO-15	8.0 "Hg	5 psi
05B	21IA-4	Modified TO-15	8.0 "Hg	5 psi
06A	21IA-5	Modified TO-15	8.0 "Hg	5 psi
06B	21IA-5	Modified TO-15	8.0 "Hg	5 psi
07A	21GR-1	Modified TO-15	5.0 "Hg	5 psi
07B	21GR-1	Modified TO-15	5.0 "Hg	5 psi
08A	21OA-1	Modified TO-15	8.5 "Hg	5 psi
08B	21OA-1	Modified TO-15	8.5 "Hg	5 psi
09A	DUP-1	Modified TO-15	5.5 "Hg	5 psi
09B	DUP-1	Modified TO-15	5.5 "Hg	5 psi
10A	DUP-2	Modified TO-15	7.5 "Hg	5 psi
10B	DUP-2	Modified TO-15	7.5 "Hg	5 psi
11A	DUP-3	Modified TO-15	7.5 "Hg	5 psi
11B	DUP-3	Modified TO-15	7.5 "Hg	5 psi
12A	19-IA4	Modified TO-15	8.5 "Hg	5 psi

Continued on next page

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WORK ORDER #: 1207606

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524 200.0003
FAX:	503-297-5429	**PROJECT #**	185702524 200.0003 COE IAQ Testing
DATE RECEIVED:	07/27/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/12/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	19-IA4	Modified TO-15	8.5 "Hg	5 psi
13A	Lab Blank	Modified TO-15	NA	NA
13B	Lab Blank	Modified TO-15	NA	NA
14A	CCV	Modified TO-15	NA	NA
14B	CCV	Modified TO-15	NA	NA
15A	LCS	Modified TO-15	NA	NA
15AA	LCSD	Modified TO-15	NA	NA
15B	LCS	Modified TO-15	NA	NA
15BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 08/12/12

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1207606

Twelve 6 Liter Summa Canister (100% Certified) samples were received on July 27, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. Signature and date were not provided by the field sampler.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20GR-4

Lab ID#: 1207606-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	1.8	1.2	14

Client Sample ID: 20GR-4

Lab ID#: 1207606-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.016	0.75	0.065	3.0
1,1-Dichloroethane	0.033	0.14	0.13	0.56
cis-1,2-Dichloroethene	0.033	0.34	0.13	1.3
1,1,1-Trichloroethane	0.033	2.9	0.18	16
Trichloroethene	0.033	1.9	0.18	10
Tetrachloroethene	0.033	0.039	0.22	0.26

Client Sample ID: 21IA-1

Lab ID#: 1207606-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.84	0.83	4.1

Client Sample ID: 21IA-1

Lab ID#: 1207606-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.034	0.040	0.19	0.22

Client Sample ID: 21IA-2

Lab ID#: 1207606-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.20	0.44	0.96	2.2

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 21IA-2

Lab ID#: 1207606-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.039	0.044	0.21	0.24

Client Sample ID: 21IA-3

Lab ID#: 1207606-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.42	0.89	2.1

Client Sample ID: 21IA-3

Lab ID#: 1207606-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.037	0.041	0.20	0.22

Client Sample ID: 21IA-4

Lab ID#: 1207606-05A

No Detections Were Found.

Client Sample ID: 21IA-4

Lab ID#: 1207606-05B

No Detections Were Found.

Client Sample ID: 21IA-5

Lab ID#: 1207606-06A

No Detections Were Found.

Client Sample ID: 21IA-5

Lab ID#: 1207606-06B

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 21GR-1

Lab ID#: 1207606-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.16	0.37	0.79	1.8

Client Sample ID: 21GR-1

Lab ID#: 1207606-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.032	0.035	0.18	0.19

Client Sample ID: 21OA-1

Lab ID#: 1207606-08A

No Detections Were Found.

Client Sample ID: 21OA-1

Lab ID#: 1207606-08B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1207606-09A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1207606-09B

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1207606-10A

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1207606-10B

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-2

Lab ID#: 1207606-10B
No Detections Were Found.

Client Sample ID: DUP-3

Lab ID#: 1207606-11A
No Detections Were Found.

Client Sample ID: DUP-3

Lab ID#: 1207606-11B
No Detections Were Found.

Client Sample ID: 19-IA4

Lab ID#: 1207606-12A
No Detections Were Found.

Client Sample ID: 19-IA4

Lab ID#: 1207606-12B
No Detections Were Found.

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Client Sample ID: 20GR-4

Lab ID#: 1207606-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073110**	**Date of Collection:**	**7/24/12 3:52:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**7/31/12 07:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	1.8	1.2	14
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 20GR-4

Lab ID#: 1207606-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073110sim**	**Date of Collection:**	**7/24/12 3:52:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**7/31/12 07:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	0.75	0.065	3.0
1,1-Dichloroethane	0.033	0.14	0.13	0.56
cis-1,2-Dichloroethene	0.033	0.34	0.13	1.3
1,1,1-Trichloroethane	0.033	2.9	0.18	16
Trichloroethene	0.033	1.9	0.18	10
Tetrachloroethene	0.033	0.039	0.22	0.26

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 21IA-1

Lab ID#: 1207606-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073111**	**Date of Collection:**	**7/24/12 4:31:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/31/12 08:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.84	0.83	4.1
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 21IA-1

Lab ID#: 1207606-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073111sim**	**Date of Collection:**	**7/24/12 4:31:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/31/12 08:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	0.040	0.19	0.22
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 21IA-2

Lab ID#: 1207606-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073112**	**Date of Collection:**	**7/24/12 4:36:00 PM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**7/31/12 09:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	0.44	0.96	2.2
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 21IA-2

Lab ID#: 1207606-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073112sim**	**Date of Collection:**	**7/24/12 4:36:00 PM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**7/31/12 09:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.078	Not Detected
1,1-Dichloroethane	0.039	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.039	0.044	0.21	0.24
Trichloroethene	0.039	Not Detected	0.21	Not Detected
Tetrachloroethene	0.039	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 21IA-3

Lab ID#: 1207606-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073113**	**Date of Collection:**	**7/24/12 4:39:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**7/31/12 10:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.42	0.89	2.1
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 21IA-3

Lab ID#: 1207606-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073113sim**	**Date of Collection:**	**7/24/12 4:39:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**7/31/12 10:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	0.041	0.20	0.22
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 21IA-4

Lab ID#: 1207606-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073114**	**Date of Collection:**	**7/24/12 4:44:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**7/31/12 11:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: 21IA-4

Lab ID#: 1207606-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073114sim**	**Date of Collection:**	**7/24/12 4:44:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**7/31/12 11:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 21IA-5

Lab ID#: 1207606-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073115**	**Date of Collection:**	**7/24/12 5:00:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**7/31/12 11:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 21IA-5

Lab ID#: 1207606-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073115sim**	**Date of Collection:**	**7/24/12 5:00:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**7/31/12 11:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 21GR-1

Lab ID#: 1207606-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073116**	**Date of Collection:**	**7/24/12 4:43:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**8/1/12 07:26 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	0.37	0.79	1.8
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 21GR-1

Lab ID#: 1207606-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073116sim**	**Date of Collection:**	**7/24/12 4:43:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**8/1/12 07:26 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	0.035	0.18	0.19
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 21OA-1

Lab ID#: 1207606-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073117**	**Date of Collection:**	**7/24/12 5:03:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**8/1/12 08:10 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 21OA-1

Lab ID#: 1207606-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073117sim**	**Date of Collection:**	**7/24/12 5:03:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**8/1/12 08:10 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: DUP-1

Lab ID#: 1207606-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073118**	**Date of Collection:**	**7/24/12 10:25:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**8/1/12 08:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: DUP-1

Lab ID#: 1207606-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073118sim**	**Date of Collection:**	**7/24/12 10:25:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**8/1/12 08:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: DUP-2

Lab ID#: 1207606-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073119**	**Date of Collection:**	**7/24/12 1:45:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/1/12 09:33 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: DUP-2

Lab ID#: 1207606-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073119sim**	**Date of Collection:**	**7/24/12 1:45:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/1/12 09:33 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: DUP-3

Lab ID#: 1207606-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073120**	**Date of Collection:**	**7/24/12 4:49:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/1/12 10:15 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: DUP-3

Lab ID#: 1207606-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073120sim**	**Date of Collection:**	**7/24/12 4:49:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**8/1/12 10:15 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 19-IA4

Lab ID#: 1207606-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073121**	**Date of Collection:**	**7/25/12 2:07:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**8/1/12 10:57 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 19-IA4

Lab ID#: 1207606-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073121sim**	**Date of Collection:**	**7/25/12 2:07:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**8/1/12 10:57 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1207606-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 04:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1207606-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073106sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 04:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1207606-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 02:05 PM**	

Compound	**%Recovery**
Freon 113	102
Chloroform	100
1,2-Dichlorobenzene	110

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: CCV

Lab ID#: 1207606-14B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 02:05 PM**	

Compound	**%Recovery**
Vinyl Chloride	104
1,1-Dichloroethene	96
1,1-Dichloroethane	102
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	105
Trichloroethene	101
Tetrachloroethene	91

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1207606-15A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 02:48 PM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	103
1,2-Dichlorobenzene	107

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1207606-15AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 03:27 PM**	

Compound	**%Recovery**
Freon 113	105
Chloroform	101
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1207606-15B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 02:48 PM**	

Compound	**%Recovery**
Vinyl Chloride	104
1,1-Dichloroethene	104
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	103
1,1,1-Trichloroethane	104
Trichloroethene	99
Tetrachloroethene	88

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1207606-15BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e073104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/12 03:27 PM**	

Compound	**%Recovery**
Vinyl Chloride	102
1,1-Dichloroethene	102
1,1-Dichloroethane	97
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	101
Trichloroethene	96
Tetrachloroethene	86

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	106	70-130

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CHAIN-OF-CUSTODY RECORD

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(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Wendy Chen Wendy Chen
Company Stantec Consulting Serv. Email mark.becker@stantec.com
Address 501 Page Mill Rd, MS 2254 City Palo Alto State CA Zip 94304
Phone 650-813-3106 Fax 650-813-3644

Project Info:
P.O. #
Project # 185702524 200.0003
Project Name COE IAQ Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01 AB	20GR-4	949	7/24/2012	15:52	TO15 *See Notes for list	-30	-5		
02 AB	21IA-1	33531	7/24/2012	16:31		>30	-6.5		
03 AB	21IA-2	3729	7/24/2012	16:36		>30	-12		
04 AB	21IA-3	5715	7/24/2012	16:39		-29.5	-7.5		
05 AB	21IA-4	5762	7/24/2012	16:44		-30	-7.5		
06 AB	21IA-5	5704	7/24/2012	17:00		>30	-8.5		
07 AB	21GR-1	33996	7/24/2012	16:43		-30	-5		
08 AB	21OA-1	25261	7/24/2012	1703		-30	-8		
09 AB	DUP-1	4369	7/24/2012	10:25		-29	-6		
10 AB	DUP-2	3750	7/24/2012	13:45		>30	-7		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	TA Robert ATL 7.27.2012 10:15
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes: *Analyte List
TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, ~~1,2~~ 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		N/A	Good	Yes No (None)	1207606

Form 1293 rev.11

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
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(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Wendy Chen
Company: Stantec Consulting Serv. Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd, MS1254 City: Palo Alto State: CA Zip: 94304
Phone: 650-813-3106 Fax: 650-813-3644

Project Info:
P.O. #
Project # 185702524 200.0003
Project Name: CDE IAQ Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
11AB	DUP-3	917	7/24/2012	1649	TO 15 *See Notes for list	-30	-7		
12AB	19IA-4	94950	7/25/2012	1407	↓	-30	-9.5		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	TA Rhett ATL 7.27.2012 10:15
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes: *Analyte List
TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	Good	Yes No None	1207606

Form 1293 rev.11

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10/17/2012
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IAQ
Project #: 185702524.200.0003
Workorder #: 1209617

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 9/28/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1209617

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IAQ
DATE RECEIVED:	09/28/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/14/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	20-IA-5	Modified TO-15	7.0 "Hg	5 psi
01B	20-IA-5	Modified TO-15	7.0 "Hg	5 psi
02A	20-IA-6	Modified TO-15	8.0 "Hg	5 psi
02B	20-IA-6	Modified TO-15	8.0 "Hg	5 psi
03A	20-IA-7	Modified TO-15	9.0 "Hg	5 psi
03B	20-IA-7	Modified TO-15	9.0 "Hg	5 psi
04A	20-IA-8	Modified TO-15	8.0 "Hg	5 psi
04B	20-IA-8	Modified TO-15	8.0 "Hg	5 psi
05A	20-OA-1	Modified TO-15	8.5 "Hg	5 psi
05B	20-OA-1	Modified TO-15	8.5 "Hg	5 psi
06A	20-GR-5	Modified TO-15	5.0 "Hg	5 psi
06B	20-GR-5	Modified TO-15	5.0 "Hg	5 psi
07A	Dup1	Modified TO-15	9.0 "Hg	5 psi
07B	Dup1	Modified TO-15	9.0 "Hg	5 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 10/14/12

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1209617

Seven 6 Liter Summa Canister (100% Certified) samples were received on September 28, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-IA-5

Lab ID#: 1209617-01A
No Detections Were Found.

Client Sample ID: 20-IA-5

Lab ID#: 1209617-01B
No Detections Were Found.

Client Sample ID: 20-IA-6

Lab ID#: 1209617-02A
No Detections Were Found.

Client Sample ID: 20-IA-6

Lab ID#: 1209617-02B
No Detections Were Found.

Client Sample ID: 20-IA-7

Lab ID#: 1209617-03A
No Detections Were Found.

Client Sample ID: 20-IA-7

Lab ID#: 1209617-03B
No Detections Were Found.

Client Sample ID: 20-IA-8

Lab ID#: 1209617-04A
No Detections Were Found.

Client Sample ID: 20-IA-8

Lab ID#: 1209617-04B
No Detections Were Found.

Client Sample ID: 20-OA-1

Lab ID#: 1209617-05A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-OA-1

Lab ID#: 1209617-05A

No Detections Were Found.

Client Sample ID: 20-OA-1

Lab ID#: 1209617-05B

No Detections Were Found.

Client Sample ID: 20-GR-5

Lab ID#: 1209617-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	1.0	1.2	7.9

Client Sample ID: 20-GR-5

Lab ID#: 1209617-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.036	0.041	0.092
1,1-Dichloroethene	0.016	0.36	0.064	1.4
1,1-Dichloroethane	0.032	0.075	0.13	0.30
cis-1,2-Dichloroethene	0.032	0.24	0.13	0.94
1,1,1-Trichloroethane	0.032	1.6	0.18	8.7
Trichloroethene	0.032	1.3	0.17	6.8
Tetrachloroethene	0.032	0.033	0.22	0.22

Client Sample ID: Dup1

Lab ID#: 1209617-07A

No Detections Were Found.

Client Sample ID: Dup1

Lab ID#: 1209617-07B

No Detections Were Found.

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Client Sample ID: 20-IA-5

Lab ID#: 1209617-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100411**	**Date of Collection:**	**9/27/12 11:18:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**10/4/12 03:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 20-IA-5

Lab ID#: 1209617-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100411sim**	**Date of Collection:**	**9/27/12 11:18:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**10/4/12 03:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 20-IA-6

Lab ID#: 1209617-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100412**	**Date of Collection:**	**9/27/12 12:00:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**10/4/12 03:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 20-IA-6

Lab ID#: 1209617-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100412sim**	**Date of Collection:**	**9/27/12 12:00:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**10/4/12 03:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 20-IA-7

Lab ID#: 1209617-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100413**	**Date of Collection:**	**9/27/12 12:05:00 PM**
Dil. Factor:	**1.91**	**Date of Analysis:**	**10/4/12 04:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.5	Not Detected
Chloroform	0.19	Not Detected	0.93	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 20-IA-7

Lab ID#: 1209617-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100413sim**	**Date of Collection:**	**9/27/12 12:05:00 PM**
Dil. Factor:	**1.91**	**Date of Analysis:**	**10/4/12 04:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.076	Not Detected
1,1-Dichloroethane	0.038	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.038	Not Detected	0.21	Not Detected
Trichloroethene	0.038	Not Detected	0.20	Not Detected
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 20-IA-8

Lab ID#: 1209617-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100414**	**Date of Collection:**	**9/27/12 12:08:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**10/4/12 06:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 20-IA-8

Lab ID#: 1209617-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100414sim**	**Date of Collection:**	**9/27/12 12:08:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**10/4/12 06:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 20-OA-1

Lab ID#: 1209617-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100415**	**Date of Collection:**	**9/27/12 11:45:00 AM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**10/4/12 06:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 20-OA-1

Lab ID#: 1209617-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100415sim**	**Date of Collection:**	**9/27/12 11:45:00 AM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**10/4/12 06:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 20-GR-5

Lab ID#: 1209617-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100416**	**Date of Collection:**	**9/27/12 12:15:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**10/4/12 07:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	1.0	1.2	7.9
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 20-GR-5

Lab ID#: 1209617-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100416sim**	**Date of Collection:**	**9/27/12 12:15:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**10/4/12 07:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.036	0.041	0.092
1,1-Dichloroethene	0.016	0.36	0.064	1.4
1,1-Dichloroethane	0.032	0.075	0.13	0.30
cis-1,2-Dichloroethene	0.032	0.24	0.13	0.94
1,1,1-Trichloroethane	0.032	1.6	0.18	8.7
Trichloroethene	0.032	1.3	0.17	6.8
Tetrachloroethene	0.032	0.033	0.22	0.22

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Dup1

Lab ID#: 1209617-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100417**	**Date of Collection:**	**9/27/12 12:07:00 PM**
Dil. Factor:	**1.91**	**Date of Analysis:**	**10/4/12 08:09 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.5	Not Detected
Chloroform	0.19	Not Detected	0.93	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Dup1

Lab ID#: 1209617-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100417sim**	**Date of Collection:**	**9/27/12 12:07:00 PM**
Dil. Factor:	**1.91**	**Date of Analysis:**	**10/4/12 08:09 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.076	Not Detected
1,1-Dichloroethane	0.038	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.038	Not Detected	0.21	Not Detected
Trichloroethene	0.038	Not Detected	0.20	Not Detected
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1209617-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 11:28 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1209617-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 11:28 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1209617-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100402**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 08:14 AM**

Compound	%Recovery
Freon 113	92
Chloroform	84
1,2-Dichlorobenzene	77

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1209617-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 08:14 AM**	

Compound	**%Recovery**
Vinyl Chloride	78
1,1-Dichloroethene	92
1,1-Dichloroethane	88
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	78
Trichloroethene	87
Tetrachloroethene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1209617-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 08:57 AM**	

Compound	**%Recovery**
Freon 113	81
Chloroform	75
1,2-Dichlorobenzene	70

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1209617-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 09:42 AM**	

Compound	**%Recovery**
Freon 113	85
Chloroform	79
1,2-Dichlorobenzene	71

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1209617-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 08:57 AM**	

Compound	**%Recovery**
Vinyl Chloride	70
1,1-Dichloroethene	88
1,1-Dichloroethane	80
cis-1,2-Dichloroethene	85
1,1,1-Trichloroethane	72
Trichloroethene	80
Tetrachloroethene	79

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCSD

Lab ID#: 1209617-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a100404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/12 09:42 AM**	

Compound	**%Recovery**
Vinyl Chloride	72
1,1-Dichloroethene	89
1,1-Dichloroethane	82
cis-1,2-Dichloroethene	84
1,1,1-Trichloroethane	73
Trichloroethene	80
Tetrachloroethene	80

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Wendy Chen Wendy Chen
Company Stantec Consulting Serv. Email mark.becker@stantec.com
Address 15575 Los Gatos Blvd, Bldg C City Los Gatos State CA Zip 95052
Phone 650-813-3106 Fax 650-813-3644

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name COE IAQ

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	20-IA-5	5795	9/27/12	11:18	TO15 *See Notes for list	>-30	-8		
02A	20-IA-6	9554	9/27/12	1200		-30	-9		
03A	20-IA-7	5581	9/27/12	1205		>-30	-10.5		
04A	20-IA-8	33578	9/27/12	1208		-30	-9		
05A	20-OA-1	5595	9/27/12	1145		>-30	-9.5		
06A	20-GR-5	34260	9/27/2012	1215		>-30	-6		
07A	Dup1	12043	9/27/12	1207		>-30	-10		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Wendy Chen	9/28/12 12:25	[illegible]	9/28/12 12:25
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
*Analyte List
TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Dropoff		N/A	Good	Yes No None	1209617

Form 1293 rev.11

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4/14/2013
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0005
Workorder #: 1304102

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 4/1/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1304102

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0005
FAX:	503-297-5429	**PROJECT #**	185702524.200.0005 COE IA Testing
DATE RECEIVED:	04/01/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/14/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	22-GR-1	Modified TO-15	1.0 "Hg	5.1 psi
01B	22-GR-1	Modified TO-15	1.0 "Hg	5.1 psi
02A	22-GR-2	Modified TO-15	1.4 "Hg	5.3 psi
02B	22-GR-2	Modified TO-15	1.4 "Hg	5.3 psi
03A	22-OA-1	Modified TO-15	6.9 "Hg	5.1 psi
03B	22-OA-1	Modified TO-15	6.9 "Hg	5.1 psi
04A	22-IA-1	Modified TO-15	6.7 "Hg	5.1 psi
04B	22-IA-1	Modified TO-15	6.7 "Hg	5.1 psi
05A	22-IA-2	Modified TO-15	6.5 "Hg	5 psi
05B	22-IA-2	Modified TO-15	6.5 "Hg	5 psi
06A	22-IA-3	Modified TO-15	6.7 "Hg	4.8 psi
06B	22-IA-3	Modified TO-15	6.7 "Hg	4.8 psi
07A	22-IA-4	Modified TO-15	6.3 "Hg	5.1 psi
07B	22-IA-4	Modified TO-15	6.3 "Hg	5.1 psi
08A	22-IA-5	Modified TO-15	6.1 "Hg	5.1 psi
08B	22-IA-5	Modified TO-15	6.1 "Hg	5.1 psi
09A	22-IA-6	Modified TO-15	6.9 "Hg	5.2 psi
09B	22-IA-6	Modified TO-15	6.9 "Hg	5.2 psi
10A	DUP-1	Modified TO-15	6.5 "Hg	5.1 psi
10B	DUP-1	Modified TO-15	6.5 "Hg	5.1 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1304102

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0005
FAX:	503-297-5429	**PROJECT #**	185702524.200.0005 COE IA Testing
DATE RECEIVED:	04/01/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/14/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
11E	Lab Blank	Modified TO-15	NA	NA
11F	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
12E	CCV	Modified TO-15	NA	NA
12F	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA
13E	LCS	Modified TO-15	NA	NA
13EE	LCSD	Modified TO-15	NA	NA
13F	LCS	Modified TO-15	NA	NA
13FF	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 04/14/13

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1304102

Ten 6 Liter Summa Canister (SIM Certified) samples were received on April 01, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 22-GR-1

Lab ID#: 1304102-01A
No Detections Were Found.

Client Sample ID: 22-GR-1

Lab ID#: 1304102-01B
No Detections Were Found.

Client Sample ID: 22-GR-2

Lab ID#: 1304102-02A
No Detections Were Found.

Client Sample ID: 22-GR-2

Lab ID#: 1304102-02B
No Detections Were Found.

Client Sample ID: 22-OA-1

Lab ID#: 1304102-03A
No Detections Were Found.

Client Sample ID: 22-OA-1

Lab ID#: 1304102-03B
No Detections Were Found.

Client Sample ID: 22-IA-1

Lab ID#: 1304102-04A
No Detections Were Found.

Client Sample ID: 22-IA-1

Lab ID#: 1304102-04B
No Detections Were Found.

Client Sample ID: 22-IA-2

Lab ID#: 1304102-05A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 22-IA-2

Lab ID#: 1304102-05A

No Detections Were Found.

Client Sample ID: 22-IA-2

Lab ID#: 1304102-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.034	0.057	0.23	0.39

Client Sample ID: 22-IA-3

Lab ID#: 1304102-06A

No Detections Were Found.

Client Sample ID: 22-IA-3

Lab ID#: 1304102-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.034	0.057	0.23	0.39

Client Sample ID: 22-IA-4

Lab ID#: 1304102-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.27	0.83	1.3

Client Sample ID: 22-IA-4

Lab ID#: 1304102-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.034	0.056	0.23	0.38

Client Sample ID: 22-IA-5

Lab ID#: 1304102-08A

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 22-IA-5

Lab ID#: 1304102-08B
No Detections Were Found.

Client Sample ID: 22-IA-6

Lab ID#: 1304102-09A
No Detections Were Found.

Client Sample ID: 22-IA-6

Lab ID#: 1304102-09B
No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1304102-10A
No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1304102-10B
No Detections Were Found.

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Client Sample ID: 22-GR-1

Lab ID#: 1304102-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040520**	**Date of Collection:**	**3/31/13 8:52:00 AM**
Dil. Factor:	**1.39**	**Date of Analysis:**	**4/6/13 01:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.14	Not Detected	1.1	Not Detected
Chloroform	0.14	Not Detected	0.68	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.84	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 22-GR-1

Lab ID#: 1304102-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040520sim**	**Date of Collection:**	**3/31/13 8:52:00 AM**
Dil. Factor:	**1.39**	**Date of Analysis:**	**4/6/13 01:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.055	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.028	Not Detected	0.15	Not Detected
Trichloroethene	0.028	Not Detected	0.15	Not Detected
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	0-130
Toluene-d8	99	0-130
4-Bromofluorobenzene	107	0-130

eurofins | Air Toxics

Client Sample ID: 22-GR-2

Lab ID#: 1304102-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040913**	**Date of Collection:**	**3/31/13 9:06:00 AM**
Dil. Factor:	**1.43**	**Date of Analysis:**	**4/9/13 09:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.14	Not Detected	1.1	Not Detected
Chloroform	0.14	Not Detected	0.70	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 22-GR-2

Lab ID#: 1304102-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040913sim**	**Date of Collection:**	**3/31/13 9:06:00 AM**
Dil. Factor:	**1.43**	**Date of Analysis:**	**4/9/13 09:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.057	Not Detected
1,1-Dichloroethane	0.029	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.029	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.029	Not Detected	0.16	Not Detected
Trichloroethene	0.029	Not Detected	0.15	Not Detected
Tetrachloroethene	0.029	Not Detected	0.19	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: 22-OA-1

Lab ID#: 1304102-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040914**	**Date of Collection:**	**3/31/13 7:54:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/9/13 10:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: 22-OA-1

Lab ID#: 1304102-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040914sim**	**Date of Collection:**	**3/31/13 7:54:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/9/13 10:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-1

Lab ID#: 1304102-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040915**	**Date of Collection:**	**3/31/13 8:03:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**4/10/13 08:52 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-1

Lab ID#: 1304102-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040915sim**	**Date of Collection:**	**3/31/13 8:03:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**4/10/13 08:52 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-2

Lab ID#: 1304102-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040916**	**Date of Collection:**	**3/31/13 8:07:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/10/13 09:34 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-2

Lab ID#: 1304102-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040916sim**	**Date of Collection:**	**3/31/13 8:07:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/10/13 09:34 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	0.057	0.23	0.39

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-3

Lab ID#: 1304102-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040917**	**Date of Collection:**	**3/31/13 8:16:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/10/13 10:17 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-3

Lab ID#: 1304102-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040917sim**	**Date of Collection:**	**3/31/13 8:16:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/10/13 10:17 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	0.057	0.23	0.39

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-4

Lab ID#: 1304102-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040918**	**Date of Collection:**	**3/31/13 8:14:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/10/13 10:53 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.27	0.83	1.3
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-4

Lab ID#: 1304102-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040918sim**	**Date of Collection:**	**3/31/13 8:14:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/10/13 10:53 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	0.056	0.23	0.38

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-5

Lab ID#: 1304102-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041011**	**Date of Collection:**	**3/31/13 8:21:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**4/10/13 07:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-5

Lab ID#: 1304102-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041011sim**	**Date of Collection:**	**3/31/13 8:21:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**4/10/13 07:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-6

Lab ID#: 1304102-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041012**	**Date of Collection:**	**3/31/13 8:24:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**4/10/13 08:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-6

Lab ID#: 1304102-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041012sim**	**Date of Collection:**	**3/31/13 8:24:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**4/10/13 08:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: DUP-1

Lab ID#: 1304102-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041013**	**Date of Collection:**	**3/31/13 8:46:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/10/13 09:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: DUP-1

Lab ID#: 1304102-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041013sim**	**Date of Collection:**	**3/31/13 8:46:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/10/13 09:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	111	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1304102-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040510**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 09:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1304102-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040510sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 09:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1304102-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040908**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 06:02 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1304102-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040908sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 06:02 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1304102-11E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041010**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 06:21 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1304102-11F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041010sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 06:21 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1304102-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040507**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 05:13 PM**	

Compound	**%Recovery**
Freon 113	97
Chloroform	94
1,2-Dichlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1304102-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040507sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 05:13 PM**	

Compound	**%Recovery**
Vinyl Chloride	92
1,1-Dichloroethene	93
1,1-Dichloroethane	99
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	99
Trichloroethene	92
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1304102-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 01:35 PM**	

Compound	**%Recovery**
Freon 113	99
Chloroform	96
1,2-Dichlorobenzene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	116	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: CCV

Lab ID#: 1304102-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 01:35 PM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	91
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	86
1,1,1-Trichloroethane	100
Trichloroethene	91
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	114	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: CCV

Lab ID#: 1304102-12E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 02:58 PM**	

Compound	**%Recovery**
Freon 113	98
Chloroform	95
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: CCV

Lab ID#: 1304102-12F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041006sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 02:58 PM**	

Compound	**%Recovery**
Vinyl Chloride	92
1,1-Dichloroethene	94
1,1-Dichloroethane	99
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	100
Trichloroethene	88
Tetrachloroethene	93

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1304102-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040508**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 06:11 PM**	

Compound	**%Recovery**
Freon 113	106
Chloroform	102
1,2-Dichlorobenzene	116

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: LCSD

Lab ID#: 1304102-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040509**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 07:05 PM**	

Compound	**%Recovery**
Freon 113	97
Chloroform	100
1,2-Dichlorobenzene	116

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCS

Lab ID#: 1304102-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040508sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 06:11 PM**	

Compound	**%Recovery**
Vinyl Chloride	97
1,1-Dichloroethene	104
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	107
Trichloroethene	98
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	112	70-130
4-Bromofluorobenzene	119	70-130

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Client Sample ID: LCSD

Lab ID#: 1304102-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040509sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/5/13 07:05 PM**	

Compound	**%Recovery**
Vinyl Chloride	93
1,1-Dichloroethene	101
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	102
Trichloroethene	96
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: LCS

Lab ID#: 1304102-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 03:10 PM**	

Compound	**%Recovery**
Freon 113	98
Chloroform	97
1,2-Dichlorobenzene	110

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	112	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1304102-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040906**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 04:12 PM**	

Compound	**%Recovery**
Freon 113	103
Chloroform	102
1,2-Dichlorobenzene	110

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: LCS

Lab ID#: 1304102-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 03:10 PM**	

Compound	**%Recovery**
Vinyl Chloride	93
1,1-Dichloroethene	102
1,1-Dichloroethane	101
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	104
Trichloroethene	96
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	112	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: LCSD

Lab ID#: 1304102-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c040906sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 04:12 PM**	

Compound	**%Recovery**
Vinyl Chloride	95
1,1-Dichloroethene	104
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	91
1,1,1-Trichloroethane	106
Trichloroethene	97
Tetrachloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	112	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: LCS

Lab ID#: 1304102-13E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 03:47 PM**	

Compound	**%Recovery**
Freon 113	106
Chloroform	100
1,2-Dichlorobenzene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCSD

Lab ID#: 1304102-13EE

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041008**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 04:30 PM**	

Compound	**%Recovery**
Freon 113	102
Chloroform	98
1,2-Dichlorobenzene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1304102-13F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041007sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 03:47 PM**	

Compound	**%Recovery**
Vinyl Chloride	96
1,1-Dichloroethene	104
1,1-Dichloroethane	101
cis-1,2-Dichloroethene	91
1,1,1-Trichloroethane	105
Trichloroethene	93
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: LCSD

Lab ID#: 1304102-13FF

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c041008sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/10/13 04:30 PM**	

Compound	**%Recovery**
Vinyl Chloride	94
1,1-Dichloroethene	104
1,1-Dichloroethane	101
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	104
Trichloroethene	92
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	112	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Mark Becker M. Becker
Company: Stantec Email: mark.becker@stantec.com
Address: 15575 Los Gatos Blvd. City: Los Gatos State: CA Zip: 95032
Phone: 650-813-3106 Fax:

Project Info:
P.O. #:
Project #: 185702524.200.0005
Project Name: COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	22-GR-1	12682	3/31/13	0852	TO15* see notes for list	>30	-2		
02A	22-GR-2	11301	3/31/13	0906		>-30	-2		
03A	22-OA-1	34498	3/31/13	0754		>-30	-10		
04A	22-IA-1	34717	3/31/13	0803		>-30	-7		
05A	22-IA-2	14013	3/31/13	0807		>-30	-7		
06A	22-IA-3	25247	3/31/13	0816		>-30	-7.5		
07A	22-IA-4	22677	3/31/13	0814		>-30	-7		
08A	22-IA-5	MB ~~395~~ 35977	3/31/13	0821		>-30	-7.5		
09A	22-IA-6	1600	3/31/13	0824		>-30	-8		
10A	DUP-1	34493	3/31/13	0846		>-30	-7		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
M. Becker	3/31/13	[illegible]	4/1/13 3:40
[illegible]	4/1/13 3:40 Pm	[illegible]	4-1-13 15:40

Notes: 395 PMR –
*Analyte List: TCE, cis-1,2-DCE, Vinylchloride, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Air Freight		NA	Good	Yes No None	1304102

Form 1293 rev.11

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4/14/2013
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0005
Workorder #: 1304114

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 4/1/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1304114

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0005
FAX:	503-297-5429	**PROJECT #**	185702524.200.0005 COE IA Testing
DATE RECEIVED:	04/01/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/14/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	22-IA-7	Modified TO-15	6.1 "Hg	5.1 psi
01B	22-IA-7	Modified TO-15	6.1 "Hg	5.1 psi
02A	22-IA-8	Modified TO-15	6.3 "Hg	5 psi
02B	22-IA-8	Modified TO-15	6.3 "Hg	5 psi
03A	22-IA-9	Modified TO-15	6.3 "Hg	5.3 psi
03B	22-IA-9	Modified TO-15	6.3 "Hg	5.3 psi
04A	22-IA-10	Modified TO-15	6.3 "Hg	5.1 psi
04B	22-IA-10	Modified TO-15	6.3 "Hg	5.1 psi
05A	Lab Blank	Modified TO-15	NA	NA
05B	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
06B	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA
07B	LCS	Modified TO-15	NA	NA
07BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 04/14/13

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1304114

Four 6 Liter Summa Canister (SIM Certified) samples were received on April 01, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 22-IA-7

Lab ID#: 1304114-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.17	0.82	0.83

Client Sample ID: 22-IA-7

Lab ID#: 1304114-01B

No Detections Were Found.

Client Sample ID: 22-IA-8

Lab ID#: 1304114-02A

No Detections Were Found.

Client Sample ID: 22-IA-8

Lab ID#: 1304114-02B

No Detections Were Found.

Client Sample ID: 22-IA-9

Lab ID#: 1304114-03A

No Detections Were Found.

Client Sample ID: 22-IA-9

Lab ID#: 1304114-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.045	0.18	0.24
Tetrachloroethene	0.034	0.16	0.23	1.1

Client Sample ID: 22-IA-10

Lab ID#: 1304114-04A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 22-IA-10

Lab ID#: 1304114-04B

No Detections Were Found.

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Client Sample ID: 22-IA-7

Lab ID#: 1304114-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040913**	**Date of Collection:**	**3/31/13 8:28:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**4/9/13 07:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.17	0.82	0.83
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 22-IA-7

Lab ID#: 1304114-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040913sim**	**Date of Collection:**	**3/31/13 8:28:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**4/9/13 07:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 22-IA-8

Lab ID#: 1304114-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040914**	**Date of Collection:**	**3/31/13 8:32:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**4/9/13 08:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 22-IA-8

Lab ID#: 1304114-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040914sim**	**Date of Collection:**	**3/31/13 8:32:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**4/9/13 08:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 22-IA-9

Lab ID#: 1304114-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040915**	**Date of Collection:**	**3/31/13 8:36:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/9/13 09:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 22-IA-9

Lab ID#: 1304114-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040915sim**	**Date of Collection:**	**3/31/13 8:36:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/9/13 09:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.045	0.18	0.24
Tetrachloroethene	0.034	0.16	0.23	1.1

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 22-IA-10

Lab ID#: 1304114-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040916**	**Date of Collection:**	**3/31/13 8:42:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/9/13 10:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 22-IA-10

Lab ID#: 1304114-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040916sim**	**Date of Collection:**	**3/31/13 8:42:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/9/13 10:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1304114-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040906**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 01:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1304114-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040906sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 01:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1304114-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 09:32 AM**	

Compound	**%Recovery**
Freon 113	99
Chloroform	89
1,2-Dichlorobenzene	90

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	78	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1304114-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040902sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 09:32 AM**	

Compound	**%Recovery**
Vinyl Chloride	77
1,1-Dichloroethene	97
1,1-Dichloroethane	98
cis-1,2-Dichloroethene	98
1,1,1-Trichloroethane	84
Trichloroethene	99
Tetrachloroethene	103

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	78	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1304114-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 10:12 AM**	

Compound	**%Recovery**
Freon 113	97
Chloroform	91
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCSD

Lab ID#: 1304114-07AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 11:00 AM**	

Compound	**%Recovery**
Freon 113	90
Chloroform	84
1,2-Dichlorobenzene	90

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCS

Lab ID#: 1304114-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 10:12 AM**	

Compound	**%Recovery**
Vinyl Chloride	91
1,1-Dichloroethene	97
1,1-Dichloroethane	92
cis-1,2-Dichloroethene	91
1,1,1-Trichloroethane	88
Trichloroethene	93
Tetrachloroethene	93

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1304114-07BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a040904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/9/13 11:00 AM**	

Compound	**%Recovery**
Vinyl Chloride	87
1,1-Dichloroethene	90
1,1-Dichloroethane	87
cis-1,2-Dichloroethene	85
1,1,1-Trichloroethane	86
Trichloroethene	87
Tetrachloroethene	87

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Mark Becker M. Becker
Company: Stantec Email: mark.becker@stantec.com
Address: 15575 Los Gatos Blvd. City: Los Gatos State: CA Zip: 95052
Phone: 650-813-3106 Fax:

Project Info:
P.O. #:
Project #: 185702524.200.0005
Project Name: COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A ~~1A~~	22-IA-7	34024	3/31/13	0828	TO15* See list below	>-30	-8		
02A ~~2A~~	22-IA-8	35259	3/31/13	0832	↓	>-30	-8		
03A ~~3A~~	22-IA-9	35241	3/31/13	0836	↓	>-30	-7		
04A ~~4A~~	22-IA-10	5672	3/31/13	0842	↓	>-30	-7.5		
JW 4.4.13									

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
M. Becker	3/31/13	Jay Lint	4/01/13 1540
Jay Lint	4/01/13 1540	Ken Newton	4-1-13 1540

Notes: 395 PMR
*Analyte List: TCE, cis-1,2-DCE, VC, PCE, 1,1,DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Drop off		NA	good	Yes No None	~~1304102~~ JW 4.4.13

Form 1293 rev.11

1304114

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4/9/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402165R1

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/12/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402165R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/12/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/22/2014		
DATE REISSUED:	04/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	2-IA-2	Modified TO-15	7.6 "Hg	5.1 psi
01B	2-IA-2	Modified TO-15	7.6 "Hg	5.1 psi
02A	2-OA-1	Modified TO-15	7.8 "Hg	5 psi
02B	2-OA-1	Modified TO-15	7.8 "Hg	5 psi
03A	2-CS-1	Modified TO-15	5.9 "Hg	5 psi
03B	2-CS-1	Modified TO-15	5.9 "Hg	5 psi
04A	Lab Blank	Modified TO-15	NA	NA
04B	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
05B	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA
06B	LCS	Modified TO-15	NA	NA
06BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 04/09/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402165R1

Three 6 Liter Summa Canister (SIM Certified) samples were received on February 12, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

THE WORKORDER WAS REISSUED ON 4/9/14 TO REMOVE VINYL CHLORIDE FROM SAMPLE 2-CS-1, WHICH WAS REPORTED IN ERROR.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 2-IA-2

Lab ID#: 1402165R1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.34	0.88	1.7

Client Sample ID: 2-IA-2

Lab ID#: 1402165R1-01B

No Detections Were Found.

Client Sample ID: 2-OA-1

Lab ID#: 1402165R1-02A

No Detections Were Found.

Client Sample ID: 2-OA-1

Lab ID#: 1402165R1-02B

No Detections Were Found.

Client Sample ID: 2-CS-1

Lab ID#: 1402165R1-03A

No Detections Were Found.

Client Sample ID: 2-CS-1

Lab ID#: 1402165R1-03B

No Detections Were Found.

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Client Sample ID: 2-IA-2

Lab ID#: 1402165R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021808**	**Date of Collection:**	**2/11/14 10:20:00 AM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**2/18/14 03:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.34	0.88	1.7
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 2-IA-2

Lab ID#: 1402165R1-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021808sim**	**Date of Collection:**	**2/11/14 10:20:00 AM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**2/18/14 03:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: 2-OA-1

Lab ID#: 1402165R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021809**	**Date of Collection:**	**2/11/14 10:33:00 AM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**2/18/14 03:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 2-OA-1

Lab ID#: 1402165R1-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021809sim**	**Date of Collection:**	**2/11/14 10:33:00 AM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**2/18/14 03:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 2-CS-1

Lab ID#: 1402165R1-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021810**	**Date of Collection:**	**2/11/14 10:40:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/18/14 04:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 2-CS-1

Lab ID#: 1402165R1-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021810simr1**	**Date of Collection:**	**2/11/14 10:40:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/18/14 04:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402165R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021806**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 01:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402165R1-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021806sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 01:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1402165R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021802**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 09:30 AM**	

Compound	**%Recovery**
Freon 113	85
Chloroform	86
1,2-Dichlorobenzene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1402165R1-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021802sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 09:30 AM**	

Compound	**%Recovery**
Vinyl Chloride	92
1,1-Dichloroethene	77
1,1-Dichloroethane	87
cis-1,2-Dichloroethene	84
1,1,1-Trichloroethane	82
Trichloroethene	91
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1402165R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021803**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 10:10 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	98	70-130
1,2-Dichlorobenzene	103	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1402165R1-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 11:31 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	112	70-130
Chloroform	105	70-130
1,2-Dichlorobenzene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1402165R1-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021803sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 10:10 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	103	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	102	70-130
cis-1,2-Dichloroethene	108	70-130
1,1,1-Trichloroethane	94	70-130
Trichloroethene	107	70-130
Tetrachloroethene	110	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCSD

Lab ID#: 1402165R1-06BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021804sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/14 11:31 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	103	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	102	70-130
cis-1,2-Dichloroethene	108	70-130
1,1,1-Trichloroethane	93	70-130
Trichloroethene	106	70-130
Tetrachloroethene	109	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	107	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tichaun Rhodes
Company: Stantec Email: [illegible]
Address: 180 Blue Ravine Rd Suite B City: Folsom State: Zip:
Phone: 331-244-0741 Fax:

Project Info:
P.O. #:
Project #: 185702524.200.003
Project Name: COE 54 Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

For Use Only
Pressurized by:
Date:
Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	2-IA-2	900	2/11/14	1020	TO-15 + [illegible]	-30	-8.5		
02A	2-OA-1	5764	↓	1033	↓	-29.5	-8.5		
03A	2-CS-1	30853	↓	1040	↓	-30	-6.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/12/14 1041	[signature]	2-12-14 1041
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
+ TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (C)	Condition	Custody Seals Intact?	Work Order #
	AL Dahl		NA	Good	Yes No None	14U2165

Form 1293 (Rev. 1)

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3/3/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402169

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/12/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402169

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/12/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/22/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	10-IA-2	Modified TO-15	8 "Hg	4.9 psi
01B	10-IA-2	Modified TO-15	8 "Hg	4.9 psi
02A	10-OA-2	Modified TO-15	5.1 "Hg	5.4 psi
02B	10-OA-2	Modified TO-15	5.1 "Hg	5.4 psi
03A	10-CS-1	Modified TO-15	6.5 "Hg	5.1 psi
03B	10-CS-1	Modified TO-15	6.5 "Hg	5.1 psi
04A	16-IA-2	Modified TO-15	7.8 "Hg	5.1 psi
04B	16-IA-2	Modified TO-15	7.8 "Hg	5.1 psi
05A	16-OA-2	Modified TO-15	5.9 "Hg	5 psi
05B	16-OA-2	Modified TO-15	5.9 "Hg	5 psi
06A	15-IA-2	Modified TO-15	8 "Hg	5.2 psi
06B	15-IA-2	Modified TO-15	8 "Hg	5.2 psi
07A	17-IA-2	Modified TO-15	6.3 "Hg	5.1 psi
07B	17-IA-2	Modified TO-15	6.3 "Hg	5.1 psi
08A	13-IA-2	Modified TO-15	7.1 "Hg	5.3 psi
08B	13-IA-2	Modified TO-15	7.1 "Hg	5.3 psi
09A	14-IA-2	Modified TO-15	10.4 "Hg	4.7 psi
09B	14-IA-2	Modified TO-15	10.4 "Hg	4.7 psi
10A	DUP-1	Modified TO-15	8.2 "Hg	5.2 psi
10B	DUP-1	Modified TO-15	8.2 "Hg	5.2 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402169

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/12/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/22/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 02/22/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402169

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 12, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Dilution was performed on sample 10-CS-1 due to the presence of high level non-target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 10-IA-2

Lab ID#: 1402169-01A

No Detections Were Found.

Client Sample ID: 10-IA-2

Lab ID#: 1402169-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.036	0.049	0.24	0.33

Client Sample ID: 10-OA-2

Lab ID#: 1402169-02A

No Detections Were Found.

Client Sample ID: 10-OA-2

Lab ID#: 1402169-02B

No Detections Were Found.

Client Sample ID: 10-CS-1

Lab ID#: 1402169-03A

No Detections Were Found.

Client Sample ID: 10-CS-1

Lab ID#: 1402169-03B

No Detections Were Found.

Client Sample ID: 16-IA-2

Lab ID#: 1402169-04A

No Detections Were Found.

Client Sample ID: 16-IA-2

Lab ID#: 1402169-04B

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 16-OA-2

Lab ID#: 1402169-05A

No Detections Were Found.

Client Sample ID: 16-OA-2

Lab ID#: 1402169-05B

No Detections Were Found.

Client Sample ID: 15-IA-2

Lab ID#: 1402169-06A

No Detections Were Found.

Client Sample ID: 15-IA-2

Lab ID#: 1402169-06B

No Detections Were Found.

Client Sample ID: 17-IA-2

Lab ID#: 1402169-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.21	1.3	1.6
Chloroform	0.17	0.58	0.83	2.8

Client Sample ID: 17-IA-2

Lab ID#: 1402169-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.034	0.056	0.19	0.30
Trichloroethene	0.034	0.050	0.18	0.27

Client Sample ID: 13-IA-2

Lab ID#: 1402169-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.39	0.87	1.9

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 13-IA-2

Lab ID#: 1402169-08B

No Detections Were Found.

Client Sample ID: 14-IA-2

Lab ID#: 1402169-09A

No Detections Were Found.

Client Sample ID: 14-IA-2

Lab ID#: 1402169-09B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1402169-10A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1402169-10B

No Detections Were Found.

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Client Sample ID: 10-IA-2

Lab ID#: 1402169-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021406**	**Date of Collection:**	**2/11/14 8:07:00 AM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**2/14/14 12:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 10-IA-2

Lab ID#: 1402169-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021406sim**	**Date of Collection:**	**2/11/14 8:07:00 AM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**2/14/14 12:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	0.049	0.24	0.33

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 10-OA-2

Lab ID#: 1402169-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021407**	**Date of Collection:**	**2/11/14 8:18:00 AM**
Dil. Factor:	**1.65**	**Date of Analysis:**	**2/14/14 01:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.3	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: 10-OA-2

Lab ID#: 1402169-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021407sim**	**Date of Collection:**	**2/11/14 8:18:00 AM**
Dil. Factor:	**1.65**	**Date of Analysis:**	**2/14/14 01:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 10-CS-1

Lab ID#: 1402169-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021409**	**Date of Collection:**	**2/11/14 8:33:00 AM**
Dil. Factor:	**3.44**	**Date of Analysis:**	**2/14/14 03:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.34	Not Detected	2.6	Not Detected
Chloroform	0.34	Not Detected	1.7	Not Detected
1,2-Dichlorobenzene	0.34	Not Detected	2.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: 10-CS-1

Lab ID#: 1402169-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021409sim**	**Date of Collection:**	**2/11/14 8:33:00 AM**
Dil. Factor:	**3.44**	**Date of Analysis:**	**2/14/14 03:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.034	Not Detected	0.088	Not Detected
1,1-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1-Dichloroethane	0.069	Not Detected	0.28	Not Detected
cis-1,2-Dichloroethene	0.069	Not Detected	0.27	Not Detected
1,1,1-Trichloroethane	0.069	Not Detected	0.38	Not Detected
Trichloroethene	0.069	Not Detected	0.37	Not Detected
Tetrachloroethene	0.069	Not Detected	0.47	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 16-IA-2

Lab ID#: 1402169-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021410**	**Date of Collection:**	**2/11/14 9:05:00 AM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/14/14 04:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 16-IA-2

Lab ID#: 1402169-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021410sim**	**Date of Collection:**	**2/11/14 9:05:00 AM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/14/14 04:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.20	Not Detected
Tetrachloroethene	0.036	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 16-OA-2

Lab ID#: 1402169-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021411**	**Date of Collection:**	**2/11/14 9:08:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/14/14 04:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 16-OA-2

Lab ID#: 1402169-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021411sim**	**Date of Collection:**	**2/11/14 9:08:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/14/14 04:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 15-IA-2

Lab ID#: 1402169-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021412**	**Date of Collection:**	**2/11/14 9:22:00 AM**
Dil. Factor:	**1.84**	**Date of Analysis:**	**2/14/14 05:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 15-IA-2

Lab ID#: 1402169-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021412sim**	**Date of Collection:**	**2/11/14 9:22:00 AM**
Dil. Factor:	**1.84**	**Date of Analysis:**	**2/14/14 05:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.073	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 17-IA-2

Lab ID#: 1402169-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021417**	**Date of Collection:**	**2/11/14 9:32:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**2/14/14 10:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.21	1.3	1.6
Chloroform	0.17	0.58	0.83	2.8
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 17-IA-2

Lab ID#: 1402169-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021417sim**	**Date of Collection:**	**2/11/14 9:32:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**2/14/14 10:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	0.056	0.19	0.30
Trichloroethene	0.034	0.050	0.18	0.27
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	110	70-130

eurofins | Air Toxics

Client Sample ID: 13-IA-2

Lab ID#: 1402169-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021414**	**Date of Collection:**	**2/11/14 9:44:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/14/14 07:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.39	0.87	1.9
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: 13-IA-2

Lab ID#: 1402169-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021414sim**	**Date of Collection:**	**2/11/14 9:44:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/14/14 07:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.19	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 14-IA-2

Lab ID#: 1402169-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021416**	**Date of Collection:**	**2/11/14 9:54:00 AM**
Dil. Factor:	**2.02**	**Date of Analysis:**	**2/14/14 09:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.99	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 14-IA-2

Lab ID#: 1402169-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021416sim**	**Date of Collection:**	**2/11/14 9:54:00 AM**
Dil. Factor:	**2.02**	**Date of Analysis:**	**2/14/14 09:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.052	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.080	Not Detected
1,1-Dichloroethane	0.040	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.040	Not Detected	0.22	Not Detected
Trichloroethene	0.040	Not Detected	0.22	Not Detected
Tetrachloroethene	0.040	Not Detected	0.27	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: DUP-1

Lab ID#: 1402169-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021413**	**Date of Collection: 2/11/14**	
Dil. Factor:	**1.86**	**Date of Analysis: 2/14/14 06:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: DUP-1

Lab ID#: 1402169-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021413sim**	**Date of Collection:**	**2/11/14**
Dil. Factor:	**1.86**	**Date of Analysis:**	**2/14/14 06:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402169-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 11:39 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402169-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021405sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 11:39 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1402169-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 09:15 AM**	

Compound	**%Recovery**
Freon 113	91
Chloroform	90
1,2-Dichlorobenzene	93

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402169-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 09:15 AM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	79
1,1-Dichloroethane	89
cis-1,2-Dichloroethene	86
1,1,1-Trichloroethane	84
Trichloroethene	94
Tetrachloroethene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1402169-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 10:03 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	111	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	109	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1402169-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 10:43 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	108	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	106	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1402169-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 10:03 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	102	70-130
1,1-Dichloroethene	100	70-130
1,1-Dichloroethane	104	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	95	70-130
Trichloroethene	110	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1402169-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/14/14 10:43 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	101	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	95	70-130
Trichloroethene	110	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	108	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Stephen Rhodes
Company: Stantec Email: [illegible]
Address: [illegible] City: [illegible] State: CA Zip: [illegible]
Phone: 831-246-0711 Fax: 650-812-3644

Project Info:
P.O. #
Project # [illegible]
Project Name: DOE EA Testing

Turn Around Time: ☑ Normal ☐ Rush (specify)

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	10-IA-2	33795	2/12/14	0804	TO-15 * see notes	-30	-10		
02A	10-OA-2	34438		0818		-30	-6.5		
03A	10-CS-1	34258		0833		-30	-9		
04A	16-IA-2	5793		0905		-30	-9		
05A	16-OA-2	24224		0908		-30	-7		
06A	15-IA-2	5768		0922		-30	-9		
07A	17-IA-2	34313		0932		-30	-8		
08A	13-IA-2	12006		0944		-30	-9.5		
09A	14-IA-2	5752		0954		-30	-11.5		
10A	DUP-1	13654				-30	-9.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/13/14 1040	[signature]	2-13-14 1040
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	AC Dep 4th		NA	Good	Yes No (None)	1402169

Form 1950 rev 11

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4/9/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402213R1

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/14/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402213R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/03/2014		
DATE REISSUED:	04/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	20-IA-14	Modified TO-15	7.6 "Hg	4.9 psi
01B	20-IA-14	Modified TO-15	7.6 "Hg	4.9 psi
02A	20-IA-15	Modified TO-15	9.4 "Hg	5.1 psi
02B	20-IA-15	Modified TO-15	9.4 "Hg	5.1 psi
03A	20-OA-2	Modified TO-15	7.1 "Hg	5 psi
03B	20-OA-2	Modified TO-15	7.1 "Hg	5 psi
04A	6-IA-2	Modified TO-15	8.4 "Hg	5.1 psi
04B	6-IA-2	Modified TO-15	8.4 "Hg	5.1 psi
05A	6-OA-2	Modified TO-15	6.3 "Hg	5.1 psi
05B	6-OA-2	Modified TO-15	6.3 "Hg	5.1 psi
06A	6-CS-1	Modified TO-15	6.5 "Hg	5.1 psi
06B	6-CS-1	Modified TO-15	6.5 "Hg	5.1 psi
07A	6-BA-1	Modified TO-15	6.9 "Hg	5 psi
07B	6-BA-1	Modified TO-15	6.9 "Hg	5 psi
08A	19-IA-5	Modified TO-15	10 "Hg	5.1 psi
08B	19-IA-5	Modified TO-15	10 "Hg	5.1 psi
09A	19-IA-6	Modified TO-15	6.7 "Hg	5.1 psi
09B	19-IA-6	Modified TO-15	6.7 "Hg	5.1 psi
10A	19-IA-7	Modified TO-15	9.2 "Hg	5 psi
10B	19-IA-7	Modified TO-15	9.2 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402213R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/03/2014		
DATE REISSUED:	04/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
11E	Lab Blank	Modified TO-15	NA	NA
11F	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
12E	CCV	Modified TO-15	NA	NA
12F	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA
13E	LCS	Modified TO-15	NA	NA
13EE	LCSD	Modified TO-15	NA	NA
13F	LCS	Modified TO-15	NA	NA
13FF	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 04/09/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402213R1

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 14, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

THE WORKORDER WAS REISSUED ON 4/9/14 TO REMOVE VINYL CHLORIDE FROM SAMPLES 20-OA-2 AND 6-OA-2, WHICH WERE REPORTED IN ERROR.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-IA-14

Lab ID#: 1402213R1-01A

No Detections Were Found.

Client Sample ID: 20-IA-14

Lab ID#: 1402213R1-01B

No Detections Were Found.

Client Sample ID: 20-IA-15

Lab ID#: 1402213R1-02A

No Detections Were Found.

Client Sample ID: 20-IA-15

Lab ID#: 1402213R1-02B

No Detections Were Found.

Client Sample ID: 20-OA-2

Lab ID#: 1402213R1-03A

No Detections Were Found.

Client Sample ID: 20-OA-2

Lab ID#: 1402213R1-03B

No Detections Were Found.

Client Sample ID: 6-IA-2

Lab ID#: 1402213R1-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.19	0.24	0.91	1.2

Client Sample ID: 6-IA-2

Lab ID#: 1402213R1-04B

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 6-OA-2

Lab ID#: 1402213R1-05A

No Detections Were Found.

Client Sample ID: 6-OA-2

Lab ID#: 1402213R1-05B

No Detections Were Found.

Client Sample ID: 6-CS-1

Lab ID#: 1402213R1-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.23	1.3	1.8

Client Sample ID: 6-CS-1

Lab ID#: 1402213R1-06B

No Detections Were Found.

Client Sample ID: 6-BA-1

Lab ID#: 1402213R1-07A

No Detections Were Found.

Client Sample ID: 6-BA-1

Lab ID#: 1402213R1-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.035	0.036	0.19	0.20

Client Sample ID: 19-IA-5

Lab ID#: 1402213R1-08A

No Detections Were Found.

Client Sample ID: 19-IA-5

Lab ID#: 1402213R1-08B

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 19-IA-5

Lab ID#: 1402213R1-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.040	0.060	0.22	0.32

Client Sample ID: 19-IA-6

Lab ID#: 1402213R1-09A

No Detections Were Found.

Client Sample ID: 19-IA-6

Lab ID#: 1402213R1-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.043	0.19	0.23

Client Sample ID: 19-IA-7

Lab ID#: 1402213R1-10A

No Detections Were Found.

Client Sample ID: 19-IA-7

Lab ID#: 1402213R1-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.039	0.043	0.21	0.23

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Client Sample ID: 20-IA-14

Lab ID#: 1402213R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022010**	**Date of Collection:**	**2/13/14 11:52:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/20/14 02:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 20-IA-14

Lab ID#: 1402213R1-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022010sim**	**Date of Collection:**	**2/13/14 11:52:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/20/14 02:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.19	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 20-IA-15

Lab ID#: 1402213R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022111**	**Date of Collection:**	**2/13/14 11:54:00 AM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**2/21/14 06:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.96	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: 20-IA-15

Lab ID#: 1402213R1-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022111sim**	**Date of Collection:**	**2/13/14 11:54:00 AM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**2/21/14 06:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.078	Not Detected
1,1-Dichloroethane	0.039	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.039	Not Detected	0.21	Not Detected
Trichloroethene	0.039	Not Detected	0.21	Not Detected
Tetrachloroethene	0.039	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: 20-OA-2

Lab ID#: 1402213R1-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022012**	**Date of Collection:**	**2/13/14 11:28:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**2/20/14 04:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 20-OA-2

Lab ID#: 1402213R1-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022012simr1**	**Date of Collection:**	**2/13/14 11:28:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**2/20/14 04:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 6-IA-2

Lab ID#: 1402213R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022014**	**Date of Collection:**	**2/13/14 1:07:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**2/20/14 05:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	0.24	0.91	1.2
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 6-IA-2

Lab ID#: 1402213R1-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022014sim**	**Date of Collection:**	**2/13/14 1:07:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**2/20/14 05:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	111	70-130

eurofins | Air Toxics

Client Sample ID: 6-OA-2

Lab ID#: 1402213R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022112**	**Date of Collection:**	**2/13/14 1:17:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**2/21/14 07:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: 6-OA-2

Lab ID#: 1402213R1-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022112simr1**	**Date of Collection:**	**2/13/14 1:17:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**2/21/14 07:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	116	70-130

eurofins | Air Toxics

Client Sample ID: 6-CS-1

Lab ID#: 1402213R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022113**	**Date of Collection:**	**2/13/14 1:22:00 PM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**2/21/14 08:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.23	1.3	1.8
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	120	70-130

eurofins | Air Toxics

Client Sample ID: 6-CS-1

Lab ID#: 1402213R1-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022113sim**	**Date of Collection:**	**2/13/14 1:22:00 PM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**2/21/14 08:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	118	70-130

eurofins | Air Toxics

Client Sample ID: 6-BA-1

Lab ID#: 1402213R1-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022114**	**Date of Collection:**	**2/13/14 1:25:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**2/21/14 08:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	113	70-130

eurofins | Air Toxics

Client Sample ID: 6-BA-1

Lab ID#: 1402213R1-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022114sim**	**Date of Collection:**	**2/13/14 1:25:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**2/21/14 08:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	0.036	0.19	0.20
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	117	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-5

Lab ID#: 1402213R1-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022115**	**Date of Collection:**	**2/13/14 2:02:00 PM**
Dil. Factor:	**2.02**	**Date of Analysis:**	**2/21/14 09:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.99	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	116	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-5

Lab ID#: 1402213R1-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022115sim**	**Date of Collection:**	**2/13/14 2:02:00 PM**
Dil. Factor:	**2.02**	**Date of Analysis:**	**2/21/14 09:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.052	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.080	Not Detected
1,1-Dichloroethane	0.040	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.040	Not Detected	0.22	Not Detected
Trichloroethene	0.040	0.060	0.22	0.32
Tetrachloroethene	0.040	Not Detected	0.27	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: 19-IA-6

Lab ID#: 1402213R1-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022116**	**Date of Collection:**	**2/13/14 2:07:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**2/21/14 10:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: 19-IA-6

Lab ID#: 1402213R1-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022116sim**	**Date of Collection:**	**2/13/14 2:07:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**2/21/14 10:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.043	0.19	0.23
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: 19-IA-7

Lab ID#: 1402213R1-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022117**	**Date of Collection:**	**2/13/14 2:09:00 PM**
Dil. Factor:	**1.93**	**Date of Analysis:**	**2/21/14 09:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.5	Not Detected
Chloroform	0.19	Not Detected	0.94	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 19-IA-7

Lab ID#: 1402213R1-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022117sim**	**Date of Collection:**	**2/13/14 2:09:00 PM**
Dil. Factor:	**1.93**	**Date of Analysis:**	**2/21/14 09:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.076	Not Detected
1,1-Dichloroethane	0.039	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.039	Not Detected	0.21	Not Detected
Trichloroethene	0.039	0.043	0.21	0.23
Tetrachloroethene	0.039	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402213R1-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 11:25 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402213R1-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022006sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 11:25 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402213R1-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022110**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 05:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402213R1-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022110sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 05:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	115	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402213R1-11E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022116**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 08:08 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402213R1-11F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022116sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 08:08 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402213R1-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:03 AM**	

Compound	**%Recovery**
Freon 113	87
Chloroform	85
1,2-Dichlorobenzene	85

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402213R1-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022002sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:03 AM**	

Compound	**%Recovery**
Vinyl Chloride	88
1,1-Dichloroethene	85
1,1-Dichloroethane	85
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	86
Trichloroethene	85
Tetrachloroethene	84

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402213R1-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 02:06 PM**	

Compound	**%Recovery**
Freon 113	101
Chloroform	85
1,2-Dichlorobenzene	101

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	124	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402213R1-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022106sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 02:06 PM**	

Compound	**%Recovery**
Vinyl Chloride	75
1,1-Dichloroethene	86
1,1-Dichloroethane	76
cis-1,2-Dichloroethene	93
1,1,1-Trichloroethane	82
Trichloroethene	100
Tetrachloroethene	104

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	124	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402213R1-12E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022112**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 04:37 PM**	

Compound	**%Recovery**
Freon 113	84
Chloroform	87
1,2-Dichlorobenzene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402213R1-12F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022112sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 04:37 PM**	

Compound	**%Recovery**
Vinyl Chloride	101
1,1-Dichloroethene	82
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane	81
Trichloroethene	93
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1402213R1-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:47 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	109	70-130
Chloroform	98	70-130
1,2-Dichlorobenzene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1402213R1-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	108	70-130
Chloroform	98	70-130
1,2-Dichlorobenzene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1402213R1-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022003sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:47 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	96	70-130
1,1-Dichloroethene	105	70-130
1,1-Dichloroethane	96	70-130
cis-1,2-Dichloroethene	111	70-130
1,1,1-Trichloroethane	95	70-130
Trichloroethene	93	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1402213R1-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022004sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	94	70-130
1,1-Dichloroethene	104	70-130
1,1-Dichloroethane	95	70-130
cis-1,2-Dichloroethene	110	70-130
1,1,1-Trichloroethane	94	70-130
Trichloroethene	92	70-130
Tetrachloroethene	91	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1402213R1-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022107**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 03:11 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	121	70-130
Chloroform	94	70-130
1,2-Dichlorobenzene	90	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: LCSD

Lab ID#: 1402213R1-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 03:56 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	86	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	77	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: LCS

Lab ID#: 1402213R1-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022107sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 03:11 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	80	70-130
1,1-Dichloroethene	103	70-130
1,1-Dichloroethane	82	70-130
cis-1,2-Dichloroethene	111	70-130
1,1,1-Trichloroethane	86	70-130
Trichloroethene	106	70-130
Tetrachloroethene	109	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	121	70-130

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Client Sample ID: LCSD

Lab ID#: 1402213R1-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022108sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 03:56 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	79	70-130
1,1-Dichloroethene	101	70-130
1,1-Dichloroethane	81	70-130
cis-1,2-Dichloroethene	110	70-130
1,1,1-Trichloroethane	86	70-130
Trichloroethene	104	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	125	70-130

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Client Sample ID: LCS

Lab ID#: 1402213R1-13E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022113**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 05:25 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	108	70-130
Chloroform	103	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1402213R1-13EE

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022114**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 06:09 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	108	70-130
Chloroform	103	70-130
1,2-Dichlorobenzene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 1402213R1-13F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022113sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 05:25 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	112	70-130
1,1-Dichloroethene	103	70-130
1,1-Dichloroethane	106	70-130
cis-1,2-Dichloroethene	116	70-130
1,1,1-Trichloroethane	92	70-130
Trichloroethene	105	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1402213R1-13FF

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022114sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 06:09 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	109	70-130
1,1-Dichloroethene	103	70-130
1,1-Dichloroethane	106	70-130
cis-1,2-Dichloroethene	116	70-130
1,1,1-Trichloroethane	92	70-130
Trichloroethene	106	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	104	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email:
Address: 1501 Page Mill Rd MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-356-6138

Project Info:
P.O. #:
Project #: 185702524.200.0003
Project Name: CoE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	20-IA-14	35132	2/13/14	1152	TO-15* See notes for list	-30	-7.5		
02A	20-IA-15	TO-4167	↓	1154	↓	-30	-10		
03A	20-OA-2	23930	↓	1128	↓	-30	-9		
04A	6-IA-2	6L0053	↓	1307	↓	-30	-8.5		
05A	6-OA-2	5692	↓	1317	↓	-30	-7		
06A	6-CS-1	34723	↓	1322	↓	-30	-7		
07A	6-BA-1	25259	↓	1325	↓	-30	-8.5		
08A	19-IA-5	34430	↓	1402	↓	-30	-11		
09A	19-IA-6	4358	↓	1407	↓	-30	-9		
10A	19-IA-7	1728	↓	1409	↓	-30	-9.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/14/14 1429	[signature]	2-14-14 1429

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL D/O		NA	Good	Yes No None	1402213

Form 1293 rev.11

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3/3/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402214

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/14/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402214

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/27/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	21-IA-6	Modified TO-15	8 "Hg	4.8 psi
01B	21-IA-6	Modified TO-15	8 "Hg	4.8 psi
02A	21-OA-2	Modified TO-15	7.1 "Hg	5.2 psi
02B	21-OA-2	Modified TO-15	7.1 "Hg	5.2 psi
03A	21-IA-7	Modified TO-15	8.2 "Hg	5.4 psi
03B	21-IA-7	Modified TO-15	8.2 "Hg	5.4 psi
04A	21-GR-2	Modified TO-15	0.6 "Hg	5.1 psi
04B	21-GR-2	Modified TO-15	0.6 "Hg	5.1 psi
05A	21-IA-8	Modified TO-15	7.8 "Hg	5.1 psi
05B	21-IA-8	Modified TO-15	7.8 "Hg	5.1 psi
06A	21-IA-9	Modified TO-15	10.6 "Hg	5.1 psi
06B	21-IA-9	Modified TO-15	10.6 "Hg	5.1 psi
07A	21-IA-10	Modified TO-15	7.3 "Hg	5 psi
07B	21-IA-10	Modified TO-15	7.3 "Hg	5 psi
08A	DUP-3	Modified TO-15	8 "Hg	5.1 psi
08B	DUP-3	Modified TO-15	8 "Hg	5.1 psi
09A	Lab Blank	Modified TO-15	NA	NA
09B	Lab Blank	Modified TO-15	NA	NA
09C	Lab Blank	Modified TO-15	NA	NA
09D	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
10C	CCV	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402214

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/27/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
10D	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11AA	LCSD	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA
11BB	LCSD	Modified TO-15	NA	NA
11C	LCS	Modified TO-15	NA	NA
11CC	LCSD	Modified TO-15	NA	NA
11D	LCS	Modified TO-15	NA	NA
11DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 02/27/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402214

Eight 6 Liter Summa Canister (SIM Certified) samples were received on February 14, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 21-IA-6

Lab ID#: 1402214-01A

No Detections Were Found.

Client Sample ID: 21-IA-6

Lab ID#: 1402214-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.044	0.19	0.24

Client Sample ID: 21-OA-2

Lab ID#: 1402214-02A

No Detections Were Found.

Client Sample ID: 21-OA-2

Lab ID#: 1402214-02B

No Detections Were Found.

Client Sample ID: 21-IA-7

Lab ID#: 1402214-03A

No Detections Were Found.

Client Sample ID: 21-IA-7

Lab ID#: 1402214-03B

No Detections Were Found.

Client Sample ID: 21-GR-2

Lab ID#: 1402214-04A

No Detections Were Found.

Client Sample ID: 21-GR-2

Lab ID#: 1402214-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 21-GR-2

Lab ID#: 1402214-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.028	0.028	0.15	0.15

Client Sample ID: 21-IA-8

Lab ID#: 1402214-05A

No Detections Were Found.

Client Sample ID: 21-IA-8

Lab ID#: 1402214-05B

No Detections Were Found.

Client Sample ID: 21-IA-9

Lab ID#: 1402214-06A

No Detections Were Found.

Client Sample ID: 21-IA-9

Lab ID#: 1402214-06B

No Detections Were Found.

Client Sample ID: 21-IA-10

Lab ID#: 1402214-07A

No Detections Were Found.

Client Sample ID: 21-IA-10

Lab ID#: 1402214-07B

No Detections Were Found.

Client Sample ID: DUP-3

Lab ID#: 1402214-08A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-3

Lab ID#: 1402214-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.037	0.041	0.20	0.22

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Client Sample ID: 21-IA-6

Lab ID#: 1402214-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022019**	**Date of Collection:**	**2/13/14 2:50:00 PM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**2/20/14 10:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 21-IA-6

Lab ID#: 1402214-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022019sim**	**Date of Collection:**	**2/13/14 2:50:00 PM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**2/20/14 10:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	0.044	0.19	0.24
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 21-OA-2

Lab ID#: 1402214-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022020**	**Date of Collection:**	**2/13/14 2:59:00 PM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/20/14 11:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 21-OA-2

Lab ID#: 1402214-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022020sim**	**Date of Collection:**	**2/13/14 2:59:00 PM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/20/14 11:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.19	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 21-IA-7

Lab ID#: 1402214-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022107**	**Date of Collection:**	**2/13/14 3:04:00 PM**
Dil. Factor:	**1.88**	**Date of Analysis:**	**2/21/14 12:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.92	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: 21-IA-7

Lab ID#: 1402214-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022107sim**	**Date of Collection:**	**2/13/14 3:04:00 PM**
Dil. Factor:	**1.88**	**Date of Analysis:**	**2/21/14 12:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.038	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.038	Not Detected	0.20	Not Detected
Trichloroethene	0.038	Not Detected	0.20	Not Detected
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 21-GR-2

Lab ID#: 1402214-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022108**	**Date of Collection:**	**2/13/14 3:16:00 PM**
Dil. Factor:	**1.38**	**Date of Analysis:**	**2/21/14 12:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.14	Not Detected	1.0	Not Detected
Chloroform	0.14	Not Detected	0.67	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.83	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 21-GR-2

Lab ID#: 1402214-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022108sim**	**Date of Collection:**	**2/13/14 3:16:00 PM**
Dil. Factor:	**1.38**	**Date of Analysis:**	**2/21/14 12:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.055	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.028	Not Detected	0.15	Not Detected
Trichloroethene	0.028	0.028	0.15	0.15
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: 21-IA-8

Lab ID#: 1402214-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022109**	**Date of Collection:**	**2/13/14 3:22:00 PM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/21/14 01:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 21-IA-8

Lab ID#: 1402214-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022109sim**	**Date of Collection:**	**2/13/14 3:22:00 PM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/21/14 01:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.20	Not Detected
Tetrachloroethene	0.036	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 21-IA-9

Lab ID#: 1402214-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022110**	**Date of Collection:**	**2/13/14 3:24:00 PM**
Dil. Factor:	**2.08**	**Date of Analysis:**	**2/21/14 02:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.21	Not Detected	1.6	Not Detected
Chloroform	0.21	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.21	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 21-IA-9

Lab ID#: 1402214-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022110sim**	**Date of Collection:**	**2/13/14 3:24:00 PM**
Dil. Factor:	**2.08**	**Date of Analysis:**	**2/21/14 02:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.021	Not Detected	0.053	Not Detected
1,1-Dichloroethene	0.021	Not Detected	0.082	Not Detected
1,1-Dichloroethane	0.042	Not Detected	0.17	Not Detected
cis-1,2-Dichloroethene	0.042	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.042	Not Detected	0.23	Not Detected
Trichloroethene	0.042	Not Detected	0.22	Not Detected
Tetrachloroethene	0.042	Not Detected	0.28	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 21-IA-10

Lab ID#: 1402214-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022111**	**Date of Collection:**	**2/13/14 3:25:00 PM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**2/21/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 21-IA-10

Lab ID#: 1402214-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022111sim**	**Date of Collection:**	**2/13/14 3:25:00 PM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**2/21/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: DUP-3

Lab ID#: 1402214-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022112**	**Date of Collection: 2/13/14**	
Dil. Factor:	**1.83**	**Date of Analysis: 2/21/14 03:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: DUP-3

Lab ID#: 1402214-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022112sim**	**Date of Collection: 2/13/14**	
Dil. Factor:	**1.83**	**Date of Analysis: 2/21/14 03:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	0.041	0.20	0.22
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402214-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022010**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 03:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402214-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022010sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 03:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402214-09C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 11:16 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402214-09D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022106sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 11:16 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 1402214-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022003**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:17 AM**

Compound	**%Recovery**
Freon 113	101
Chloroform	106
1,2-Dichlorobenzene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1402214-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022003sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:17 AM**	

Compound	**%Recovery**
Vinyl Chloride	88
1,1-Dichloroethene	106
1,1-Dichloroethane	105
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	113
Trichloroethene	105
Tetrachloroethene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402214-10C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022102**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 08:09 AM**

Compound	**%Recovery**
Freon 113	105
Chloroform	108
1,2-Dichlorobenzene	105

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: CCV

Lab ID#: 1402214-10D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 08:09 AM**	

Compound	**%Recovery**
Vinyl Chloride	96
1,1-Dichloroethene	109
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	106
1,1,1-Trichloroethane	118
Trichloroethene	106
Tetrachloroethene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCS

Lab ID#: 1402214-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:05 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	119	70-130
Chloroform	109	70-130
1,2-Dichlorobenzene	90	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1402214-11AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022005**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:48 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	119	70-130
Chloroform	109	70-130
1,2-Dichlorobenzene	90	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1402214-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022004sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:05 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	88	70-130
1,1-Dichloroethene	121	70-130
1,1-Dichloroethane	107	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	114	70-130
Trichloroethene	105	70-130
Tetrachloroethene	110	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1402214-11BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022005sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:48 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	86	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	107	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	113	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1402214-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 09:03 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	119	70-130
Chloroform	108	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCSD

Lab ID#: 1402214-11CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 09:47 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	116	70-130
Chloroform	107	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCS

Lab ID#: 1402214-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 09:03 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	119	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1402214-11DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/21/14 09:47 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	88	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	112	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	106	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company Stantec Email
Address 1501 Page Mill Rd. MS1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	21-IA-6	6L0052	2/13/14	1450	TO-15 * see notes for list	-30	-9		
02A	21-OA-2	9555	↓	1459	↓	-30	-7.5		
03A	21-IA-7	9945	↓	1504	↓	-30	-7.5		
04A	21-GR-2	21004	↓	1516	↓	-30	Ø		
05A	21-IA-8	938	↓	1522	↓	-29	-8		
06A	21-IA-9	30837	↓	1524	↓	-30	-11.5		
07A	21-IA-10	21006	↓	1525	↓	-30	-8		
08A	DUP-3	12083	↓	—	↓	-29	-8		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/14/14/1429	[signature]	2-14-14 1429
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL D/O		NA	Good	Yes No None	1402214

Form 1293 rev.11

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3/3/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402215

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/14/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402215

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/21/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	7-IA-2	Modified TO-15	6.3 "Hg	5 psi
01B	7-IA-2	Modified TO-15	6.3 "Hg	5 psi
02A	7-OA-2	Modified TO-15	8.2 "Hg	5.1 psi
02B	7-OA-2	Modified TO-15	8.2 "Hg	5.1 psi
03A	7-CS-1	Modified TO-15	6.7 "Hg	5.1 psi
03B	7-CS-1	Modified TO-15	6.7 "Hg	5.1 psi
04A	20-IA-9	Modified TO-15	6.1 "Hg	5.1 psi
04B	20-IA-9	Modified TO-15	6.1 "Hg	5.1 psi
05A	20-IA-10	Modified TO-15	7.1 "Hg	5.3 psi
05B	20-IA-10	Modified TO-15	7.1 "Hg	5.3 psi
06A	20-IA-11	Modified TO-15	8.2 "Hg	5.1 psi
06B	20-IA-11	Modified TO-15	8.2 "Hg	5.1 psi
07A	20-IA-12	Modified TO-15	7.3 "Hg	5 psi
07B	20-IA-12	Modified TO-15	7.3 "Hg	5 psi
08A	20-IA-13	Modified TO-15	8.2 "Hg	4.9 psi
08B	20-IA-13	Modified TO-15	8.2 "Hg	4.9 psi
09A	DUP-1	Modified TO-15	8.6 "Hg	5.1 psi
09B	DUP-1	Modified TO-15	8.6 "Hg	5.1 psi
10A	DUP-2	Modified TO-15	7.6 "Hg	5 psi
10B	DUP-2	Modified TO-15	7.6 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402215

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/21/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

DATE: 03/03/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402215

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 14, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 7-IA-2

Lab ID#: 1402215-01A

No Detections Were Found.

Client Sample ID: 7-IA-2

Lab ID#: 1402215-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.36	0.18	1.9

Client Sample ID: 7-OA-2

Lab ID#: 1402215-02A

No Detections Were Found.

Client Sample ID: 7-OA-2

Lab ID#: 1402215-02B

No Detections Were Found.

Client Sample ID: 7-CS-1

Lab ID#: 1402215-03A

No Detections Were Found.

Client Sample ID: 7-CS-1

Lab ID#: 1402215-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.038	0.19	0.20

Client Sample ID: 20-IA-9

Lab ID#: 1402215-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.35	1.3	2.7

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-IA-9

Lab ID#: 1402215-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.017	0.047	0.067	0.19
1,1,1-Trichloroethane	0.034	0.28	0.18	1.6
Trichloroethene	0.034	0.25	0.18	1.3
Tetrachloroethene	0.034	0.036	0.23	0.24

Client Sample ID: 20-IA-10

Lab ID#: 1402215-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.20	1.4	1.5

Client Sample ID: 20-IA-10

Lab ID#: 1402215-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.018	0.020	0.070	0.080
1,1,1-Trichloroethane	0.036	0.13	0.19	0.70
Trichloroethene	0.036	0.095	0.19	0.51

Client Sample ID: 20-IA-11

Lab ID#: 1402215-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.38	0.90	1.8

Client Sample ID: 20-IA-11

Lab ID#: 1402215-06B

No Detections Were Found.

Client Sample ID: 20-IA-12

Lab ID#: 1402215-07A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-IA-12

Lab ID#: 1402215-07A

No Detections Were Found.

Client Sample ID: 20-IA-12

Lab ID#: 1402215-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.059	0.19	0.32

Client Sample ID: 20-IA-13

Lab ID#: 1402215-08A

No Detections Were Found.

Client Sample ID: 20-IA-13

Lab ID#: 1402215-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.037	0.036 J	0.25	0.25 J

Client Sample ID: DUP-1

Lab ID#: 1402215-09A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1402215-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.038	0.34	0.20	1.8

Client Sample ID: DUP-2

Lab ID#: 1402215-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.34	0.87	1.6

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-2

Lab ID#: 1402215-10B

No Detections Were Found.

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Client Sample ID: 7-IA-2

Lab ID#: 1402215-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022007**	**Date of Collection:**	**2/13/14 10:12:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/20/14 12:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 7-IA-2

Lab ID#: 1402215-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022007sim**	**Date of Collection:**	**2/13/14 10:12:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/20/14 12:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	0.36	0.18	1.9
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 7-OA-2

Lab ID#: 1402215-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022008**	**Date of Collection:**	**2/13/14 10:26:00 AM**
Dil. Factor:	**1.85**	**Date of Analysis:**	**2/20/14 01:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 7-OA-2

Lab ID#: 1402215-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022008sim**	**Date of Collection:**	**2/13/14 10:26:00 AM**
Dil. Factor:	**1.85**	**Date of Analysis:**	**2/20/14 01:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.073	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 7-CS-1

Lab ID#: 1402215-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022009**	**Date of Collection:**	**2/13/14 10:33:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**2/20/14 02:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 7-CS-1

Lab ID#: 1402215-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022009sim**	**Date of Collection:**	**2/13/14 10:33:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**2/20/14 02:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.038	0.19	0.20
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 20-IA-9

Lab ID#: 1402215-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022010**	**Date of Collection:**	**2/13/14 11:00:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**2/20/14 03:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.35	1.3	2.7
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 20-IA-9

Lab ID#: 1402215-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022010sim**	**Date of Collection:**	**2/13/14 11:00:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**2/20/14 03:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	0.047	0.067	0.19
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	0.28	0.18	1.6
Trichloroethene	0.034	0.25	0.18	1.3
Tetrachloroethene	0.034	0.036	0.23	0.24

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 20-IA-10

Lab ID#: 1402215-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022011**	**Date of Collection:**	**2/13/14 11:04:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/20/14 04:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.20	1.4	1.5
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 20-IA-10

Lab ID#: 1402215-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022011sim**	**Date of Collection:**	**2/13/14 11:04:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/20/14 04:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	0.020	0.070	0.080
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	0.13	0.19	0.70
Trichloroethene	0.036	0.095	0.19	0.51
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 20-IA-11

Lab ID#: 1402215-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022012**	**Date of Collection:**	**2/13/14 11:23:00 AM**
Dil. Factor:	**1.85**	**Date of Analysis:**	**2/20/14 05:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.38	0.90	1.8
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 20-IA-11

Lab ID#: 1402215-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022012sim**	**Date of Collection:**	**2/13/14 11:23:00 AM**
Dil. Factor:	**1.85**	**Date of Analysis:**	**2/20/14 05:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.073	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 20-IA-12

Lab ID#: 1402215-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022013**	**Date of Collection:**	**2/13/14 11:43:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**2/20/14 05:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 20-IA-12

Lab ID#: 1402215-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022013sim**	**Date of Collection:**	**2/13/14 11:43:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**2/20/14 05:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.059	0.19	0.32
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 20-IA-13

Lab ID#: 1402215-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022014**	**Date of Collection:**	**2/13/14 11:48:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**2/20/14 06:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 20-IA-13

Lab ID#: 1402215-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022014sim**	**Date of Collection:**	**2/13/14 11:48:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**2/20/14 06:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	0.036 J	0.25	0.25 J

J = Estimated value.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: DUP-1

Lab ID#: 1402215-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022015**	**Date of Collection:**	**2/13/14**
Dil. Factor:	**1.88**	**Date of Analysis:**	**2/20/14 07:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.92	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: DUP-1

Lab ID#: 1402215-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022015sim**	**Date of Collection:**	**2/13/14**
Dil. Factor:	**1.88**	**Date of Analysis:**	**2/20/14 07:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.074	Not Detected
1,1-Dichloroethane	0.038	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.038	Not Detected	0.20	Not Detected
Trichloroethene	0.038	0.34	0.20	1.8
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: DUP-2

Lab ID#: 1402215-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022016**	**Date of Collection:**	**2/13/14**
Dil. Factor:	**1.79**	**Date of Analysis:**	**2/20/14 08:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.34	0.87	1.6
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: DUP-2

Lab ID#: 1402215-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022016sim**	**Date of Collection: 2/13/14**	
Dil. Factor:	**1.79**	**Date of Analysis: 2/20/14 08:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402215-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 11:53 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402215-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022006sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 11:53 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1402215-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022002**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:25 AM**

Compound	**%Recovery**
Freon 113	89
Chloroform	93
1,2-Dichlorobenzene	102

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1402215-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022002sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 08:25 AM**	

Compound	**%Recovery**
Vinyl Chloride	100
1,1-Dichloroethene	81
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	83
Trichloroethene	95
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1402215-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:11 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	107	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	103	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: LCSD

Lab ID#: 1402215-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 10:05 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	102	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1402215-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022003sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 09:11 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	104	70-130
1,1-Dichloroethene	95	70-130
1,1-Dichloroethane	98	70-130
cis-1,2-Dichloroethene	105	70-130
1,1,1-Trichloroethane	88	70-130
Trichloroethene	102	70-130
Tetrachloroethene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1402215-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e022004sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/20/14 10:05 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	103	70-130
1,1-Dichloroethene	95	70-130
1,1-Dichloroethane	97	70-130
cis-1,2-Dichloroethene	105	70-130
1,1,1-Trichloroethane	87	70-130
Trichloroethene	100	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	106	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and International laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Berkey
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email: mark.berkey@stantec.com
Address: 1601 Page Mill Rd. MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-357-6138

Project Info:
P.O. #
Project # 185704524.200.2003
Project Name: CoE SA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final
01A	7-IA-2	948	2/13/14	1012	TO-15 *Analyte list	-30	-7		
02A	7-OA-2	33327		1026		-30	-10		
03A	7-CS-1	34746		1033		-30	-7.5		
04A	20-IA-9	5655		1100		-30	-9		
05A	20-IA-10	5776		1104		-30	-9		
06A	20-IA-11	33982		1123		-30	-10		
07A	20-IA-12	34751		1143		-30	-8		
08A	20-IA-13	14869		1148		-30	-8		
09A	DUP-1	5748		—		-30	-10		
10A	DUP-2	10788		—		-30	-8		

Relinquished by: (signature) Date/Time 2/14/14 1429
Received by: (signature) Date/Time 2-14-14 1429
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
*TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipped Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact? Yes No None	Work Order #
	NL-Ro		NA	Good		1402215

Form 1287 rev.11

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4/9/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402216R1

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/14/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402216R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/27/2014		
DATE REISSUED:	04/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	8-OA-2	Modified TO-15	4.5 "Hg	5 psi
01B	8-OA-2	Modified TO-15	4.5 "Hg	5 psi
02A	8-CS-1	Modified TO-15	5.9 "Hg	5 psi
02B	8-CS-1	Modified TO-15	5.9 "Hg	5 psi
03A	8-IA-2	Modified TO-15	8.4 "Hg	4.9 psi
03B	8-IA-2	Modified TO-15	8.4 "Hg	4.9 psi
04A	1-CS-1	Modified TO-15	4.7 "Hg	4.9 psi
04B	1-CS-1	Modified TO-15	4.7 "Hg	4.9 psi
05A	1-OA-2	Modified TO-15	4.5 "Hg	4.9 psi
05B	1-OA-2	Modified TO-15	4.5 "Hg	4.9 psi
06A	1-IA-2	Modified TO-15	1.2 "Hg	5.1 psi
06B	1-IA-2	Modified TO-15	1.2 "Hg	5.1 psi
07A	DUP-2	Modified TO-15	6.3 "Hg	5.2 psi
07B	DUP-2	Modified TO-15	6.3 "Hg	5.2 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 04/09/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402216R1

Seven 6 Liter Summa Canister (SIM Certified) samples were received on February 14, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Summa canister for sample 1-IA-2 was leaking upon arrival. There was a significant difference (greater than 5.0" Hg) between the measured canister receipt vacuum and that which was reported on the Chain of Custody (COC) for sample 1-IA-2. The client was notified and the analysis proceeded. Reported analyte concentrations are considered to be estimated.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the

same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

THE WORKORDER WAS REISSUED ON 4/9/14 TO REMOVE VINYL CHLORIDE FROM SAMPLE DUP-2, WHICH WAS REPORTED IN ERROR.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 8-OA-2

Lab ID#: 1402216R1-01A

No Detections Were Found.

Client Sample ID: 8-OA-2

Lab ID#: 1402216R1-01B

No Detections Were Found.

Client Sample ID: 8-CS-1

Lab ID#: 1402216R1-02A

No Detections Were Found.

Client Sample ID: 8-CS-1

Lab ID#: 1402216R1-02B

No Detections Were Found.

Client Sample ID: 8-IA-2

Lab ID#: 1402216R1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.35	0.90	1.7

Client Sample ID: 8-IA-2

Lab ID#: 1402216R1-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.037	0.052	0.20	0.28

Client Sample ID: 1-CS-1

Lab ID#: 1402216R1-04A

No Detections Were Found.

Client Sample ID: 1-CS-1

Lab ID#: 1402216R1-04B

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 1-CS-1

Lab ID#: 1402216R1-04B

No Detections Were Found.

Client Sample ID: 1-OA-2

Lab ID#: 1402216R1-05A

No Detections Were Found.

Client Sample ID: 1-OA-2

Lab ID#: 1402216R1-05B

No Detections Were Found.

Client Sample ID: 1-IA-2

Lab ID#: 1402216R1-06A

No Detections Were Found.

Client Sample ID: 1-IA-2

Lab ID#: 1402216R1-06B

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1402216R1-07A

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1402216R1-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.045	0.18	0.24

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Client Sample ID: 8-OA-2

Lab ID#: 1402216R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021911**	**Date of Collection:**	**2/11/14 4:03:00 PM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**2/19/14 05:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 8-OA-2

Lab ID#: 1402216R1-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021911sim**	**Date of Collection:**	**2/11/14 4:03:00 PM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**2/19/14 05:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 8-CS-1

Lab ID#: 1402216R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021912**	**Date of Collection:**	**2/11/14 4:08:00 PM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/19/14 06:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 8-CS-1

Lab ID#: 1402216R1-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021912sim**	**Date of Collection:**	**2/11/14 4:08:00 PM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/19/14 06:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 8-IA-2

Lab ID#: 1402216R1-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021913**	**Date of Collection:**	**2/11/14 4:00:00 PM**
Dil. Factor:	**1.85**	**Date of Analysis:**	**2/19/14 08:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.35	0.90	1.7
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 8-IA-2

Lab ID#: 1402216R1-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021913sim**	**Date of Collection:**	**2/11/14 4:00:00 PM**
Dil. Factor:	**1.85**	**Date of Analysis:**	**2/19/14 08:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.073	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.037	0.052	0.20	0.28
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 1-CS-1

Lab ID#: 1402216R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021914**	**Date of Collection:**	**2/11/14 3:40:00 PM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**2/19/14 09:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 1-CS-1

Lab ID#: 1402216R1-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021914sim**	**Date of Collection:**	**2/11/14 3:40:00 PM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**2/19/14 09:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 1-OA-2

Lab ID#: 1402216R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021915**	**Date of Collection:**	**2/11/14 3:21:00 PM**
Dil. Factor:	**1.57**	**Date of Analysis:**	**2/19/14 09:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 1-OA-2

Lab ID#: 1402216R1-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021915sim**	**Date of Collection:**	**2/11/14 3:21:00 PM**
Dil. Factor:	**1.57**	**Date of Analysis:**	**2/19/14 09:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 1-IA-2

Lab ID#: 1402216R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021916**	**Date of Collection:**	**2/11/14 3:10:00 PM**
Dil. Factor:	**1.99**	**Date of Analysis:**	**2/19/14 10:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 1-IA-2

Lab ID#: 1402216R1-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021916sim**	**Date of Collection:**	**2/11/14 3:10:00 PM**
Dil. Factor:	**1.99**	**Date of Analysis:**	**2/19/14 10:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.051	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1-Dichloroethane	0.040	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.040	Not Detected	0.22	Not Detected
Trichloroethene	0.040	Not Detected	0.21	Not Detected
Tetrachloroethene	0.040	Not Detected	0.27	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: DUP-2

Lab ID#: 1402216R1-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021917**	**Date of Collection:**	**2/11/14**
Dil. Factor:	**1.72**	**Date of Analysis:**	**2/20/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: DUP-2

Lab ID#: 1402216R1-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021917simr1**	**Date of Collection:**	**2/11/14**
Dil. Factor:	**1.72**	**Date of Analysis:**	**2/20/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.045	0.18	0.24
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402216R1-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 12:23 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402216R1-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 12:23 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1402216R1-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 09:41 AM**	

Compound	**%Recovery**
Freon 113	86
Chloroform	89
1,2-Dichlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1402216R1-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021902sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 09:41 AM**	

Compound	**%Recovery**
Vinyl Chloride	96
1,1-Dichloroethene	82
1,1-Dichloroethane	91
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	85
Trichloroethene	96
Tetrachloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1402216R1-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 10:38 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	96	70-130
1,2-Dichlorobenzene	96	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1402216R1-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 11:32 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	102	70-130
Chloroform	96	70-130
1,2-Dichlorobenzene	105	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1402216R1-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 10:38 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	102	70-130
1,1-Dichloroethene	96	70-130
1,1-Dichloroethane	99	70-130
cis-1,2-Dichloroethene	106	70-130
1,1,1-Trichloroethane	89	70-130
Trichloroethene	103	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCSD

Lab ID#: 1402216R1-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e021904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/19/14 11:32 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	102	70-130
1,1-Dichloroethene	96	70-130
1,1-Dichloroethane	99	70-130
cis-1,2-Dichloroethene	106	70-130
1,1,1-Trichloroethane	89	70-130
Trichloroethene	103	70-130
Tetrachloroethene	106	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	108	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd, MS1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. # 1
Project # 185702524.200.0003
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas:
N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	8-OA-2	34399	2/11/14	1603	TO-15 * See Notes for list	-29	-5		
02A	8-CS-1	34738	2/11/14	1608		-29.5	-7		
03A	8-IA-2	35994	2/11/14	1600		-30	-8.5		
04A	1-CS-1	33897	2/11/14	1540		-30	-5		
05A	1-OA-2	33883	2/11/14	1521		-30	-5		
06A	1-IA-2	32112	2/11/14	1510		-29	-9		
07A	DUP-2	35253	2/11/14	—		-29.5	-7		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
	2/14/14 1429		2-14-14 1429
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL D/O		NA	Good	Yes No (None)	1402216

Form 1293 rev.11

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3/5/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402301

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/19/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402301

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/19/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/05/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	5-IA-3	Modified TO-15	5.5 "Hg	5 psi
01B	5-IA-3	Modified TO-15	5.5 "Hg	5 psi
02A	5-OA-1	Modified TO-15	6.3 "Hg	5.2 psi
02B	5-OA-1	Modified TO-15	6.3 "Hg	5.2 psi
03A	5-CS-1	Modified TO-15	6.1 "Hg	4.8 psi
03B	5-CS-1	Modified TO-15	6.1 "Hg	4.8 psi
04A	5-IA-4	Modified TO-15	6.5 "Hg	4.9 psi
04B	5-IA-4	Modified TO-15	6.5 "Hg	4.9 psi
05A	10-IA-3	Modified TO-15	5.9 "Hg	5 psi
05B	10-IA-3	Modified TO-15	5.9 "Hg	5 psi
06A	10-CS-2	Modified TO-15	9.2 "Hg	5.2 psi
06B	10-CS-2	Modified TO-15	9.2 "Hg	5.2 psi
07A	10-OA-3	Modified TO-15	6.3 "Hg	4.6 psi
07B	10-OA-3	Modified TO-15	6.3 "Hg	4.6 psi
08A	DUP-1	Modified TO-15	4.5 "Hg	4.9 psi
08B	DUP-1	Modified TO-15	4.5 "Hg	4.9 psi
09A	Lab Blank	Modified TO-15	NA	NA
09B	Lab Blank	Modified TO-15	NA	NA
09C	Lab Blank	Modified TO-15	NA	NA
09D	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
10C	CCV	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402301

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/19/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/05/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
10D	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11AA	LCSD	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA
11BB	LCSD	Modified TO-15	NA	NA
11C	LCS	Modified TO-15	NA	NA
11CC	LCSD	Modified TO-15	NA	NA
11D	LCS	Modified TO-15	NA	NA
11DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 03/05/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402301

Eight 6 Liter Summa Canister (SIM Certified) samples were received on February 20, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 5-IA-3

Lab ID#: 1402301-01A
No Detections Were Found.

Client Sample ID: 5-IA-3

Lab ID#: 1402301-01B
No Detections Were Found.

Client Sample ID: 5-OA-1

Lab ID#: 1402301-02A
No Detections Were Found.

Client Sample ID: 5-OA-1

Lab ID#: 1402301-02B
No Detections Were Found.

Client Sample ID: 5-CS-1

Lab ID#: 1402301-03A
No Detections Were Found.

Client Sample ID: 5-CS-1

Lab ID#: 1402301-03B
No Detections Were Found.

Client Sample ID: 5-IA-4

Lab ID#: 1402301-04A
No Detections Were Found.

Client Sample ID: 5-IA-4

Lab ID#: 1402301-04B
No Detections Were Found.

Client Sample ID: 10-IA-3

Lab ID#: 1402301-05A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 10-IA-3

Lab ID#: 1402301-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.20	1.3	1.6
Chloroform	0.17	0.28	0.82	1.4

Client Sample ID: 10-IA-3

Lab ID#: 1402301-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.033	0.042	0.18	0.23
Tetrachloroethene	0.033	0.081	0.23	0.55

Client Sample ID: 10-CS-2

Lab ID#: 1402301-06A

No Detections Were Found.

Client Sample ID: 10-CS-2

Lab ID#: 1402301-06B

No Detections Were Found.

Client Sample ID: 10-OA-3

Lab ID#: 1402301-07A

No Detections Were Found.

Client Sample ID: 10-OA-3

Lab ID#: 1402301-07B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1402301-08A

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-1

Lab ID#: 1402301-08B

No Detections Were Found.

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Client Sample ID: 5-IA-3

Lab ID#: 1402301-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022311**	**Date of Collection:**	**2/18/14 7:35:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/23/14 06:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 5-IA-3

Lab ID#: 1402301-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022311sim**	**Date of Collection:**	**2/18/14 7:35:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/23/14 06:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 5-OA-1

Lab ID#: 1402301-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022312**	**Date of Collection:**	**2/18/14 7:45:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**2/23/14 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 5-OA-1

Lab ID#: 1402301-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022312sim**	**Date of Collection:**	**2/18/14 7:45:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**2/23/14 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 5-CS-1

Lab ID#: 1402301-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022313**	**Date of Collection:**	**2/18/14 7:53:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/23/14 08:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 5-CS-1

Lab ID#: 1402301-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022313sim**	**Date of Collection:**	**2/18/14 7:53:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/23/14 08:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 5-IA-4

Lab ID#: 1402301-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022314**	**Date of Collection:**	**2/18/14 7:39:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/23/14 09:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 5-IA-4

Lab ID#: 1402301-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022314sim**	**Date of Collection:**	**2/18/14 7:39:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/23/14 09:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 10-IA-3

Lab ID#: 1402301-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022315**	**Date of Collection:**	**2/18/14 8:05:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/23/14 10:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.20	1.3	1.6
Chloroform	0.17	0.28	0.82	1.4
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: 10-IA-3

Lab ID#: 1402301-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022315sim**	**Date of Collection:**	**2/18/14 8:05:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**2/23/14 10:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	0.042	0.18	0.23
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	0.081	0.23	0.55

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 10-CS-2

Lab ID#: 1402301-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022316**	**Date of Collection:**	**2/18/14 8:18:00 AM**
Dil. Factor:	**1.95**	**Date of Analysis:**	**2/23/14 10:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.95	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 10-CS-2

Lab ID#: 1402301-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022316sim**	**Date of Collection:**	**2/18/14 8:18:00 AM**
Dil. Factor:	**1.95**	**Date of Analysis:**	**2/23/14 10:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.077	Not Detected
1,1-Dichloroethane	0.039	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.039	Not Detected	0.21	Not Detected
Trichloroethene	0.039	Not Detected	0.21	Not Detected
Tetrachloroethene	0.039	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 10-OA-3

Lab ID#: 1402301-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022317**	**Date of Collection:**	**2/18/14 8:11:00 AM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**2/24/14 08:48 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 10-OA-3

Lab ID#: 1402301-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022317sim**	**Date of Collection:**	**2/18/14 8:11:00 AM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**2/24/14 08:48 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: DUP-1

Lab ID#: 1402301-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022407**	**Date of Collection: 2/18/14**	
Dil. Factor:	**1.57**	**Date of Analysis: 2/24/14 01:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: DUP-1

Lab ID#: 1402301-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022407sim**	**Date of Collection: 2/18/14**	
Dil. Factor:	**1.57**	**Date of Analysis: 2/24/14 01:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402301-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 01:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402301-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022306sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 01:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402301-09C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 12:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402301-09D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 12:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1402301-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 09:32 AM**	

Compound	**%Recovery**
Freon 113	104
Chloroform	106
1,2-Dichlorobenzene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1402301-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022302sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 09:32 AM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	110
1,1-Dichloroethane	107
cis-1,2-Dichloroethene	107
1,1,1-Trichloroethane	117
Trichloroethene	105
Tetrachloroethene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: CCV

Lab ID#: 1402301-10C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 09:52 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	107
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: CCV

Lab ID#: 1402301-10D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 09:52 AM**	

Compound	**%Recovery**
Vinyl Chloride	91
1,1-Dichloroethene	107
1,1-Dichloroethane	105
cis-1,2-Dichloroethene	108
1,1,1-Trichloroethane	111
Trichloroethene	103
Tetrachloroethene	108

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1402301-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 10:19 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	126	70-130
Chloroform	115	70-130
1,2-Dichlorobenzene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1402301-11AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 11:03 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	126	70-130
Chloroform	111	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCS

Lab ID#: 1402301-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 10:19 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	93	70-130
1,1-Dichloroethene	127	70-130
1,1-Dichloroethane	112	70-130
cis-1,2-Dichloroethene	125	70-130
1,1,1-Trichloroethane	120	70-130
Trichloroethene	110	70-130
Tetrachloroethene	119	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1402301-11BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/23/14 11:03 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	93	70-130
1,1-Dichloroethene	128	70-130
1,1-Dichloroethane	114	70-130
cis-1,2-Dichloroethene	127	70-130
1,1,1-Trichloroethane	121	70-130
Trichloroethene	112	70-130
Tetrachloroethene	118	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCS

Lab ID#: 1402301-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 10:35 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	122	70-130
Chloroform	109	70-130
1,2-Dichlorobenzene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1402301-11CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 11:20 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	117	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1402301-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 10:35 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	95	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	110	70-130
cis-1,2-Dichloroethene	127	70-130
1,1,1-Trichloroethane	113	70-130
Trichloroethene	108	70-130
Tetrachloroethene	112	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCSD

Lab ID#: 1402301-11DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 11:20 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	94	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	110	70-130
cis-1,2-Dichloroethene	127	70-130
1,1,1-Trichloroethane	111	70-130
Trichloroethene	108	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	108	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email:
Address: 1501 Page Mill Rd MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax:

Project Info:
P.O. #:
Project #: 185702524.200.0003
Project Name: CoE SA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	5-IA-3	33773	2/18/14	0735	TO-15 *See notes below	-30	-7		
02A	5-OA-1	941	↓	0745	↓	-30	-9		
03A	5-CS-1	33582		0753		-30	-8.5		
04A	5-IA-4	33900		0739		-30	-8		
05A	10-IA-3	5669		0805		-29.5	-7		
06A	10-CS-2	35135		0818		-30	-10		
07A	10-OA-3	6L0033		0811		-30	-8		
08A	DUP-1	34241	↓	—	↓	-30	-5.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/19/14/1145	[signature]	2-19-14 1145

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Dropoff	NA	NA	Good	Yes No None	1402301

Form 1293 rev.11

eurofins | Air Toxics

3/5/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402302

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/19/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402302

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/19/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/05/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	11-IA-2	Modified TO-15	6.1 "Hg	5.1 psi
01B	11-IA-2	Modified TO-15	6.1 "Hg	5.1 psi
02A	4-IA-2	Modified TO-15	5.3 "Hg	5.1 psi
02B	4-IA-2	Modified TO-15	5.3 "Hg	5.1 psi
03A	4-OA-1	Modified TO-15	5.9 "Hg	4.6 psi
03B	4-OA-1	Modified TO-15	5.9 "Hg	4.6 psi
04A	4-CS-1	Modified TO-15	17.6 "Hg	5 psi
04B	4-CS-1	Modified TO-15	17.6 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
05B	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
06B	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA
07B	LCS	Modified TO-15	NA	NA
07BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/05/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402302

Four 6 Liter Summa Canister (SIM Certified) samples were received on February 19, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample 4-CS-1 was received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 11-IA-2

Lab ID#: 1402302-01A

No Detections Were Found.

Client Sample ID: 11-IA-2

Lab ID#: 1402302-01B

No Detections Were Found.

Client Sample ID: 4-IA-2

Lab ID#: 1402302-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	0.18	1.2	1.4
Chloroform	0.16	0.52	0.80	2.6

Client Sample ID: 4-IA-2

Lab ID#: 1402302-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.033	0.032 J	0.18	0.17 J

Client Sample ID: 4-OA-1

Lab ID#: 1402302-03A

No Detections Were Found.

Client Sample ID: 4-OA-1

Lab ID#: 1402302-03B

No Detections Were Found.

Client Sample ID: 4-CS-1

Lab ID#: 1402302-04A

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 4-CS-1

Lab ID#: 1402302-04B

No Detections Were Found.

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Client Sample ID: 11-IA-2

Lab ID#: 1402302-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022417**	**Date of Collection:**	**2/13/14 3:40:00 PM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**2/24/14 10:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 11-IA-2

Lab ID#: 1402302-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022417sim**	**Date of Collection:**	**2/13/14 3:40:00 PM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**2/24/14 10:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 4-IA-2

Lab ID#: 1402302-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022418**	**Date of Collection:**	**2/13/14 4:18:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/24/14 11:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	0.18	1.2	1.4
Chloroform	0.16	0.52	0.80	2.6
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 4-IA-2

Lab ID#: 1402302-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022418sim**	**Date of Collection:**	**2/13/14 4:18:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/24/14 11:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	0.032 J	0.18	0.17 J
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 4-OA-1

Lab ID#: 1402302-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022419**	**Date of Collection:**	**2/13/14 4:24:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/25/14 06:46 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 4-OA-1

Lab ID#: 1402302-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022419sim**	**Date of Collection:**	**2/13/14 4:24:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/25/14 06:46 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 4-CS-1

Lab ID#: 1402302-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022420**	**Date of Collection:**	**2/13/14 4:28:00 PM**
Dil. Factor:	**3.23**	**Date of Analysis:**	**2/25/14 07:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.32	Not Detected	2.5	Not Detected
Chloroform	0.32	Not Detected	1.6	Not Detected
1,2-Dichlorobenzene	0.32	Not Detected	1.9	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 4-CS-1

Lab ID#: 1402302-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022420sim**	**Date of Collection:**	**2/13/14 4:28:00 PM**
Dil. Factor:	**3.23**	**Date of Analysis:**	**2/25/14 07:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.032	Not Detected	0.082	Not Detected
1,1-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1-Dichloroethane	0.065	Not Detected	0.26	Not Detected
cis-1,2-Dichloroethene	0.065	Not Detected	0.26	Not Detected
1,1,1-Trichloroethane	0.065	Not Detected	0.35	Not Detected
Trichloroethene	0.065	Not Detected	0.35	Not Detected
Tetrachloroethene	0.065	Not Detected	0.44	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402302-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 12:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402302-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 12:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1402302-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 09:52 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	107
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: CCV

Lab ID#: 1402302-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 09:52 AM**	

Compound	**%Recovery**
Vinyl Chloride	91
1,1-Dichloroethene	107
1,1-Dichloroethane	105
cis-1,2-Dichloroethene	108
1,1,1-Trichloroethane	111
Trichloroethene	103
Tetrachloroethene	108

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1402302-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 10:35 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	122	70-130
Chloroform	109	70-130
1,2-Dichlorobenzene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1402302-07AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 11:20 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	117	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1402302-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 10:35 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	95	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	110	70-130
cis-1,2-Dichloroethene	127	70-130
1,1,1-Trichloroethane	113	70-130
Trichloroethene	108	70-130
Tetrachloroethene	112	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCSD

Lab ID#: 1402302-07BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c022404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/24/14 11:20 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	94	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	110	70-130
cis-1,2-Dichloroethene	127	70-130
1,1,1-Trichloroethane	111	70-130
Trichloroethene	108	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	108	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company Stantec Email
Address 1501 Page Mill Rd MS 1257 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	11-IA-2	6L0051	2/13/14	1540	TO-15* See notes for list	-30	-7		
02A	4-IA-2	25305	↓	1618	↓	-29	-5.5		
03A	4-OA-1	4346	↓	1624	↓	-29.5	-6		
04A	4-CS-1	3747	↓	1628	↓	-30	-18		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
2/19/14 1144	2-19-14 1144
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Drop off	NA	NA	Good	Yes No (None)	1402302

Form 1293 rev.11

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3/11/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402369

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/21/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402369

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	1-IA-3	Modified TO-15	7.1 "Hg	5.1 psi
01B	1-IA-3	Modified TO-15	7.1 "Hg	5.1 psi
02A	1-CS-2	Modified TO-15	5.5 "Hg	4.8 psi
02B	1-CS-2	Modified TO-15	5.5 "Hg	4.8 psi
03A	2-IA-3	Modified TO-15	7.6 "Hg	5.3 psi
03B	2-IA-3	Modified TO-15	7.6 "Hg	5.3 psi
04A	2-OA-2	Modified TO-15	5.9 "Hg	4.9 psi
04B	2-OA-2	Modified TO-15	5.9 "Hg	4.9 psi
05A	2-CS-2	Modified TO-15	4.3 "Hg	4.9 psi
05B	2-CS-2	Modified TO-15	4.3 "Hg	4.9 psi
06A	8-IA-3	Modified TO-15	7.8 "Hg	5.1 psi
06B	8-IA-3	Modified TO-15	7.8 "Hg	5.1 psi
07A	8-OA-3	Modified TO-15	9.4 "Hg	5 psi
07B	8-OA-3	Modified TO-15	9.4 "Hg	5 psi
08A	8-CS-2	Modified TO-15	6.5 "Hg	5.1 psi
08B	8-CS-2	Modified TO-15	6.5 "Hg	5.1 psi
09A	DUP-2	Modified TO-15	6.5 "Hg	4.9 psi
09B	DUP-2	Modified TO-15	6.5 "Hg	4.9 psi
10A	Lab Blank	Modified TO-15	NA	NA
10B	Lab Blank	Modified TO-15	NA	NA
11A	CCV	Modified TO-15	NA	NA
11B	CCV	Modified TO-15	NA	NA
12A	LCS	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402369

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12AA	LCSD	Modified TO-15	NA	NA
12B	LCS	Modified TO-15	NA	NA
12BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/10/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402369

Nine 6 Liter Summa Canister (SIM Certified) samples were received on February 21, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 1-IA-3

Lab ID#: 1402369-01A

No Detections Were Found.

Client Sample ID: 1-IA-3

Lab ID#: 1402369-01B

No Detections Were Found.

Client Sample ID: 1-CS-2

Lab ID#: 1402369-02A

No Detections Were Found.

Client Sample ID: 1-CS-2

Lab ID#: 1402369-02B

No Detections Were Found.

Client Sample ID: 2-IA-3

Lab ID#: 1402369-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.25	0.89	1.2

Client Sample ID: 2-IA-3

Lab ID#: 1402369-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.042	0.20	0.22

Client Sample ID: 2-OA-2

Lab ID#: 1402369-04A

No Detections Were Found.

Client Sample ID: 2-OA-2

Lab ID#: 1402369-04B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 2-OA-2

Lab ID#: 1402369-04B

No Detections Were Found.

Client Sample ID: 2-CS-2

Lab ID#: 1402369-05A

No Detections Were Found.

Client Sample ID: 2-CS-2

Lab ID#: 1402369-05B

No Detections Were Found.

Client Sample ID: 8-IA-3

Lab ID#: 1402369-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.33	0.89	1.6

Client Sample ID: 8-IA-3

Lab ID#: 1402369-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.036	0.045	0.20	0.25

Client Sample ID: 8-OA-3

Lab ID#: 1402369-07A

No Detections Were Found.

Client Sample ID: 8-OA-3

Lab ID#: 1402369-07B

No Detections Were Found.

Client Sample ID: 8-CS-2

Lab ID#: 1402369-08A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 8-CS-2

Lab ID#: 1402369-08A

No Detections Were Found.

Client Sample ID: 8-CS-2

Lab ID#: 1402369-08B

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1402369-09A

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1402369-09B

No Detections Were Found.

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Client Sample ID: 1-IA-3

Lab ID#: 1402369-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022816**	**Date of Collection:**	**2/18/14 3:00:00 PM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**2/28/14 07:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: 1-IA-3

Lab ID#: 1402369-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022816sim**	**Date of Collection:**	**2/18/14 3:00:00 PM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**2/28/14 07:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: 1-CS-2

Lab ID#: 1402369-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022817**	**Date of Collection:**	**2/18/14 3:10:00 PM**
Dil. Factor:	**1.62**	**Date of Analysis:**	**2/28/14 08:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: 1-CS-2

Lab ID#: 1402369-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022817sim**	**Date of Collection:**	**2/18/14 3:10:00 PM**
Dil. Factor:	**1.62**	**Date of Analysis:**	**2/28/14 08:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: 2-IA-3

Lab ID#: 1402369-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022818**	**Date of Collection:**	**2/18/14 3:35:00 PM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/28/14 08:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.25	0.89	1.2
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: 2-IA-3

Lab ID#: 1402369-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022818sim**	**Date of Collection:**	**2/18/14 3:35:00 PM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/28/14 08:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	0.042	0.20	0.22
Tetrachloroethene	0.036	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: 2-OA-2

Lab ID#: 1402369-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022819**	**Date of Collection:**	**2/18/14 3:24:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**2/28/14 09:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: 2-OA-2

Lab ID#: 1402369-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022819sim**	**Date of Collection:**	**2/18/14 3:24:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**2/28/14 09:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: 2-CS-2

Lab ID#: 1402369-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022820**	**Date of Collection:**	**2/18/14 3:28:00 PM**
Dil. Factor:	**1.56**	**Date of Analysis:**	**2/28/14 10:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: 2-CS-2

Lab ID#: 1402369-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022820sim**	**Date of Collection:**	**2/18/14 3:28:00 PM**
Dil. Factor:	**1.56**	**Date of Analysis:**	**2/28/14 10:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: 8-IA-3

Lab ID#: 1402369-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022821**	**Date of Collection:**	**2/18/14 4:18:00 PM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/28/14 10:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.33	0.89	1.6
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: 8-IA-3

Lab ID#: 1402369-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022821sim**	**Date of Collection:**	**2/18/14 4:18:00 PM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/28/14 10:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	0.045	0.20	0.25
Trichloroethene	0.036	Not Detected	0.20	Not Detected
Tetrachloroethene	0.036	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: 8-OA-3

Lab ID#: 1402369-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022822**	**Date of Collection:**	**2/18/14 4:20:00 PM**
Dil. Factor:	**1.95**	**Date of Analysis:**	**2/28/14 11:27 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.95	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: 8-OA-3

Lab ID#: 1402369-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022822sim**	**Date of Collection:**	**2/18/14 4:20:00 PM**
Dil. Factor:	**1.95**	**Date of Analysis:**	**2/28/14 11:27 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.077	Not Detected
1,1-Dichloroethane	0.039	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.039	Not Detected	0.21	Not Detected
Trichloroethene	0.039	Not Detected	0.21	Not Detected
Tetrachloroethene	0.039	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	124	70-130

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Client Sample ID: 8-CS-2

Lab ID#: 1402369-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022823**	**Date of Collection:**	**2/18/14 4:24:00 PM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/1/14 06:35 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 8-CS-2

Lab ID#: 1402369-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022823sim**	**Date of Collection:**	**2/18/14 4:24:00 PM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/1/14 06:35 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: DUP-2

Lab ID#: 1402369-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022824**	**Date of Collection:**	**2/18/14**
Dil. Factor:	**1.70**	**Date of Analysis:**	**3/1/14 07:17 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: DUP-2

Lab ID#: 1402369-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022824sim**	**Date of Collection: 2/18/14**	
Dil. Factor:	**1.70**	**Date of Analysis: 3/1/14 07:17 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402369-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022806**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 12:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402369-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022806sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 12:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: CCV

Lab ID#: 1402369-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022802**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 09:37 AM**

Compound	**%Recovery**
Freon 113	100
Chloroform	95
1,2-Dichlorobenzene	114

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: CCV

Lab ID#: 1402369-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022802sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 09:37 AM**	

Compound	**%Recovery**
Vinyl Chloride	91
1,1-Dichloroethene	95
1,1-Dichloroethane	88
cis-1,2-Dichloroethene	101
1,1,1-Trichloroethane	94
Trichloroethene	101
Tetrachloroethene	101

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: LCS

Lab ID#: 1402369-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022803**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 10:20 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	119	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: LCSD

Lab ID#: 1402369-12AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 11:02 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	125	70-130
Chloroform	105	70-130
1,2-Dichlorobenzene	110	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1402369-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022803sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 10:20 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	92	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	92	70-130
cis-1,2-Dichloroethene	118	70-130
1,1,1-Trichloroethane	97	70-130
Trichloroethene	105	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: LCSD

Lab ID#: 1402369-12BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022804sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 11:02 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	91	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	92	70-130
cis-1,2-Dichloroethene	118	70-130
1,1,1-Trichloroethane	97	70-130
Trichloroethene	105	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	120	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email: mark.becker@stantecian
Address: 1501 Page Mill Rd MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 650-813-3644

Project Info:
P.O. #:
Project #: 185702524.200.0003
Project Name: COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	1-IA-3	31422	2/18/14	1500	TO-15* See notes for list	-30	-7.5		
02A	1-CS-2	33876	↓	1510	↓	-30	-6		
03A	2-IA-3	34456	↓	1535	↓	-30	-9		
04A	2-OA-2	34267	↓	1524	↓	-29	-7		
05A	2-CS-2	34735	↓	1528	↓	-30	-5.5		
06A	8-IA-3	34031	↓	1618	↓	-30	-8		
07A	8-OA-3	5567	↓	1620	↓	-29	-8		
08A	8-CS-2	30852	↓	1624	↓	-30	-8.5		
09A	DUP-2	12670	↓	—	↓	-30	-8		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2-21-14 15:10	[signature]	2-21-14 15:10
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL B/b		NA	Good	Yes No None	1402369

Form 1293 rev.11

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3/10/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402370

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/21/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402370

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	20-OA-3	Modified TO-15	5.5 "Hg	4.9 psi
01B	20-OA-3	Modified TO-15	5.5 "Hg	4.9 psi
02A	6-IA-3	Modified TO-15	6.7 "Hg	5.2 psi
02B	6-IA-3	Modified TO-15	6.7 "Hg	5.2 psi
03A	6-OA-3	Modified TO-15	4.9 "Hg	5.3 psi
03B	6-OA-3	Modified TO-15	4.9 "Hg	5.3 psi
04A	6-CS-2	Modified TO-15	5.9 "Hg	5.1 psi
04B	6-CS-2	Modified TO-15	5.9 "Hg	5.1 psi
05A	6-BA-2	Modified TO-15	6.7 "Hg	5.1 psi
05B	6-BA-2	Modified TO-15	6.7 "Hg	5.1 psi
06A	19-IA-8	Modified TO-15	6.9 "Hg	5.2 psi
06B	19-IA-8	Modified TO-15	6.9 "Hg	5.2 psi
07A	19-IA-9	Modified TO-15	5.9 "Hg	4.9 psi
07B	19-IA-9	Modified TO-15	5.9 "Hg	4.9 psi
08A	19-IA-10	Modified TO-15	7.6 "Hg	5.2 psi
08B	19-IA-10	Modified TO-15	7.6 "Hg	5.2 psi
09A	21-IA-11	Modified TO-15	7.3 "Hg	5.3 psi
09B	21-IA-11	Modified TO-15	7.3 "Hg	5.3 psi
10A	DUP-3	Modified TO-15	6.7 "Hg	5 psi
10B	DUP-3	Modified TO-15	6.7 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402370

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/10/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402370

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 21, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-OA-3

Lab ID#: 1402370-01A

No Detections Were Found.

Client Sample ID: 20-OA-3

Lab ID#: 1402370-01B

No Detections Were Found.

Client Sample ID: 6-IA-3

Lab ID#: 1402370-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.22	0.85	1.1

Client Sample ID: 6-IA-3

Lab ID#: 1402370-02B

No Detections Were Found.

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03A

No Detections Were Found.

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03B

No Detections Were Found.

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.28	1.3	2.2

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04B

No Detections Were Found.

Client Sample ID: 6-BA-2

Lab ID#: 1402370-05A

No Detections Were Found.

Client Sample ID: 6-BA-2

Lab ID#: 1402370-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.035	0.035	0.19	0.19

Client Sample ID: 19-IA-8

Lab ID#: 1402370-06A

No Detections Were Found.

Client Sample ID: 19-IA-8

Lab ID#: 1402370-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.096	0.19	0.52

Client Sample ID: 19-IA-9

Lab ID#: 1402370-07A

No Detections Were Found.

Client Sample ID: 19-IA-9

Lab ID#: 1402370-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.033	0.044	0.18	0.24

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 19-IA-10

Lab ID#: 1402370-08A

No Detections Were Found.

Client Sample ID: 19-IA-10

Lab ID#: 1402370-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.054	0.19	0.29

Client Sample ID: 21-IA-11

Lab ID#: 1402370-09A

No Detections Were Found.

Client Sample ID: 21-IA-11

Lab ID#: 1402370-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.046	0.19	0.25

Client Sample ID: DUP-3

Lab ID#: 1402370-10A

No Detections Were Found.

Client Sample ID: DUP-3

Lab ID#: 1402370-10B

No Detections Were Found.

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Client Sample ID: 20-OA-3

Lab ID#: 1402370-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030414**	**Date of Collection:**	**2/20/14 11:07:00 AM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 05:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	90	70-130

eurofins | Air Toxics

Client Sample ID: 20-OA-3

Lab ID#: 1402370-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030414sim**	**Date of Collection:**	**2/20/14 11:07:00 AM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 05:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 6-IA-3

Lab ID#: 1402370-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030415**	**Date of Collection:**	**2/20/14 1:07:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 06:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.22	0.85	1.1
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 6-IA-3

Lab ID#: 1402370-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030415sim**	**Date of Collection:**	**2/20/14 1:07:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 06:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030416**	**Date of Collection:**	**2/20/14 1:16:00 PM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 07:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030416sim**	**Date of Collection:**	**2/20/14 1:16:00 PM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 07:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 6-CS-2

Lab ID#: 1402370-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030417**	**Date of Collection:**	**2/20/14 1:11:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/4/14 07:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.28	1.3	2.2
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 6-CS-2

Lab ID#: 1402370-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030417sim**	**Date of Collection:**	**2/20/14 1:11:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/4/14 07:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 6-BA-2

Lab ID#: 1402370-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030418**	**Date of Collection:**	**2/20/14 1:13:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 09:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: 6-BA-2

Lab ID#: 1402370-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030418sim**	**Date of Collection:**	**2/20/14 1:13:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 09:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	0.035	0.19	0.19
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 19-IA-8

Lab ID#: 1402370-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030419**	**Date of Collection:**	**2/20/14 1:48:00 PM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**3/4/14 09:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 19-IA-8

Lab ID#: 1402370-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030419sim**	**Date of Collection:**	**2/20/14 1:48:00 PM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**3/4/14 09:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.096	0.19	0.52
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 19-IA-9

Lab ID#: 1402370-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030420**	**Date of Collection:**	**2/20/14 1:50:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**3/4/14 10:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 19-IA-9

Lab ID#: 1402370-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030420sim**	**Date of Collection:**	**2/20/14 1:50:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**3/4/14 10:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	0.044	0.18	0.24
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 19-IA-10

Lab ID#: 1402370-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030421**	**Date of Collection:**	**2/20/14 1:52:00 PM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**3/5/14 06:27 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-10

Lab ID#: 1402370-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030421sim**	**Date of Collection:**	**2/20/14 1:52:00 PM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**3/5/14 06:27 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	0.054	0.19	0.29
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 21-IA-11

Lab ID#: 1402370-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030422**	**Date of Collection:**	**2/20/14 1:42:00 PM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**3/5/14 07:13 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: 21-IA-11

Lab ID#: 1402370-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030422sim**	**Date of Collection:**	**2/20/14 1:42:00 PM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**3/5/14 07:13 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	0.046	0.19	0.25
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: DUP-3

Lab ID#: 1402370-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030507**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.73**	**Date of Analysis: 3/5/14 12:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	89	70-130

eurofins | Air Toxics

Client Sample ID: DUP-3

Lab ID#: 1402370-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030507sim**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.73**	**Date of Analysis: 3/5/14 12:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.18	Not Detected
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 11:01 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 11:01 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 11:34 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	91	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030506sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 11:34 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: CCV

Lab ID#: 1402370-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:10 AM**	

Compound	**%Recovery**
Freon 113	84
Chloroform	90
1,2-Dichlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402370-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:10 AM**	

Compound	**%Recovery**
Vinyl Chloride	98
1,1-Dichloroethene	80
1,1-Dichloroethane	92
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	82
Trichloroethene	95
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1402370-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 08:13 AM**	

Compound	**%Recovery**
Freon 113	94
Chloroform	101
1,2-Dichlorobenzene	94

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: CCV

Lab ID#: 1402370-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030502sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 08:13 AM**	

Compound	**%Recovery**
Vinyl Chloride	98
1,1-Dichloroethene	83
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	85
Trichloroethene	100
Tetrachloroethene	103

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	101	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	106	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	89	70-130
Trichloroethene	104	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	105	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	102	70-130
cis-1,2-Dichloroethene	108	70-130
1,1,1-Trichloroethane	88	70-130
Trichloroethene	104	70-130
Tetrachloroethene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 09:00 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	108	70-130
Chloroform	105	70-130
1,2-Dichlorobenzene	96	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 10:06 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	102	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	97	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 09:00 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	106	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	90	70-130
Trichloroethene	105	70-130
Tetrachloroethene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 10:06 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	104	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	102	70-130
cis-1,2-Dichloroethene	108	70-130
1,1,1-Trichloroethane	88	70-130
Trichloroethene	103	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhoades
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd MS 1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	20-OA-3	5736	2/20/14	1107	TO-15 * See notes for list	-30	-5.5		
02A	6-IA-3	34440	↓	1307	↓	-30	-7		
03A	6-OA-3	34347		1316		-30	-5		
04A	6-CS-2	34246		1311		-30	-6.5		
05A	6-BA-2	33382		1313		-30	-8.5		
06A	19-IA-8	3726		1348		-30	-9		
07A	19-IA-9	12020		1350		-30	-7		
08A	19-IA-10	34262		1352		-30	-7.5		
09A	21-IA-11	4347		1342		-29.5	-9		
10A	DUP-3	5639	↓	—	↓	-30	-7.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2-21-14 1510	[signature]	2-21-14 1510
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL D/O		NA	Good	Yes No None	1402370

Form 1293 rev.11

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3/10/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402370

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/21/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402370

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	20-OA-3	Modified TO-15	5.5 "Hg	4.9 psi
01B	20-OA-3	Modified TO-15	5.5 "Hg	4.9 psi
02A	6-IA-3	Modified TO-15	6.7 "Hg	5.2 psi
02B	6-IA-3	Modified TO-15	6.7 "Hg	5.2 psi
03A	6-OA-3	Modified TO-15	4.9 "Hg	5.3 psi
03B	6-OA-3	Modified TO-15	4.9 "Hg	5.3 psi
04A	6-CS-2	Modified TO-15	5.9 "Hg	5.1 psi
04B	6-CS-2	Modified TO-15	5.9 "Hg	5.1 psi
05A	6-BA-2	Modified TO-15	6.7 "Hg	5.1 psi
05B	6-BA-2	Modified TO-15	6.7 "Hg	5.1 psi
06A	19-IA-8	Modified TO-15	6.9 "Hg	5.2 psi
06B	19-IA-8	Modified TO-15	6.9 "Hg	5.2 psi
07A	19-IA-9	Modified TO-15	5.9 "Hg	4.9 psi
07B	19-IA-9	Modified TO-15	5.9 "Hg	4.9 psi
08A	19-IA-10	Modified TO-15	7.6 "Hg	5.2 psi
08B	19-IA-10	Modified TO-15	7.6 "Hg	5.2 psi
09A	21-IA-11	Modified TO-15	7.3 "Hg	5.3 psi
09B	21-IA-11	Modified TO-15	7.3 "Hg	5.3 psi
10A	DUP-3	Modified TO-15	6.7 "Hg	5 psi
10B	DUP-3	Modified TO-15	6.7 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402370

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/10/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402370

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 21, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-OA-3

Lab ID#: 1402370-01A

No Detections Were Found.

Client Sample ID: 20-OA-3

Lab ID#: 1402370-01B

No Detections Were Found.

Client Sample ID: 6-IA-3

Lab ID#: 1402370-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.22	0.85	1.1

Client Sample ID: 6-IA-3

Lab ID#: 1402370-02B

No Detections Were Found.

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03A

No Detections Were Found.

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03B

No Detections Were Found.

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.28	1.3	2.2

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04B

No Detections Were Found.

Client Sample ID: 6-BA-2

Lab ID#: 1402370-05A

No Detections Were Found.

Client Sample ID: 6-BA-2

Lab ID#: 1402370-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.035	0.035	0.19	0.19

Client Sample ID: 19-IA-8

Lab ID#: 1402370-06A

No Detections Were Found.

Client Sample ID: 19-IA-8

Lab ID#: 1402370-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.096	0.19	0.52

Client Sample ID: 19-IA-9

Lab ID#: 1402370-07A

No Detections Were Found.

Client Sample ID: 19-IA-9

Lab ID#: 1402370-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.033	0.044	0.18	0.24

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 19-IA-10

Lab ID#: 1402370-08A

No Detections Were Found.

Client Sample ID: 19-IA-10

Lab ID#: 1402370-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.054	0.19	0.29

Client Sample ID: 21-IA-11

Lab ID#: 1402370-09A

No Detections Were Found.

Client Sample ID: 21-IA-11

Lab ID#: 1402370-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.046	0.19	0.25

Client Sample ID: DUP-3

Lab ID#: 1402370-10A

No Detections Were Found.

Client Sample ID: DUP-3

Lab ID#: 1402370-10B

No Detections Were Found.

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Client Sample ID: 20-OA-3

Lab ID#: 1402370-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030414**	**Date of Collection:**	**2/20/14 11:07:00 AM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 05:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 20-OA-3

Lab ID#: 1402370-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030414sim**	**Date of Collection:**	**2/20/14 11:07:00 AM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 05:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 6-IA-3

Lab ID#: 1402370-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030415**	**Date of Collection:**	**2/20/14 1:07:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 06:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.22	0.85	1.1
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	92	70-130

eurofins | Air Toxics

Client Sample ID: 6-IA-3

Lab ID#: 1402370-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030415sim**	**Date of Collection:**	**2/20/14 1:07:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 06:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030416**	**Date of Collection:**	**2/20/14 1:16:00 PM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 07:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: 6-OA-3

Lab ID#: 1402370-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030416sim**	**Date of Collection:**	**2/20/14 1:16:00 PM**
Dil. Factor:	**1.63**	**Date of Analysis:**	**3/4/14 07:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030417**	**Date of Collection:**	**2/20/14 1:11:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/4/14 07:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.28	1.3	2.2
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	92	70-130

eurofins | Air Toxics

Client Sample ID: 6-CS-2

Lab ID#: 1402370-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030417sim**	**Date of Collection:**	**2/20/14 1:11:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/4/14 07:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 6-BA-2

Lab ID#: 1402370-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030418**	**Date of Collection:**	**2/20/14 1:13:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 09:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: 6-BA-2

Lab ID#: 1402370-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030418sim**	**Date of Collection:**	**2/20/14 1:13:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 09:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	0.035	0.19	0.19
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-8

Lab ID#: 1402370-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030419**	**Date of Collection:**	**2/20/14 1:48:00 PM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**3/4/14 09:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-8

Lab ID#: 1402370-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030419sim**	**Date of Collection:**	**2/20/14 1:48:00 PM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**3/4/14 09:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.096	0.19	0.52
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-9

Lab ID#: 1402370-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030420**	**Date of Collection:**	**2/20/14 1:50:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**3/4/14 10:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 19-IA-9

Lab ID#: 1402370-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030420sim**	**Date of Collection:**	**2/20/14 1:50:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**3/4/14 10:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	0.044	0.18	0.24
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-10

Lab ID#: 1402370-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030421**	**Date of Collection:**	**2/20/14 1:52:00 PM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**3/5/14 06:27 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: 19-IA-10

Lab ID#: 1402370-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030421sim**	**Date of Collection:**	**2/20/14 1:52:00 PM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**3/5/14 06:27 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	0.054	0.19	0.29
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 21-IA-11

Lab ID#: 1402370-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030422**	**Date of Collection:**	**2/20/14 1:42:00 PM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**3/5/14 07:13 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: 21-IA-11

Lab ID#: 1402370-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030422sim**	**Date of Collection:**	**2/20/14 1:42:00 PM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**3/5/14 07:13 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	0.046	0.19	0.25
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: DUP-3

Lab ID#: 1402370-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030507**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.73**	**Date of Analysis: 3/5/14 12:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	89	70-130

eurofins | Air Toxics

Client Sample ID: DUP-3

Lab ID#: 1402370-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030507sim**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.73**	**Date of Analysis: 3/5/14 12:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.18	Not Detected
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 11:01 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 11:01 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 11:34 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	91	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402370-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030506sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 11:34 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402370-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:10 AM**	

Compound	**%Recovery**
Freon 113	84
Chloroform	90
1,2-Dichlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: CCV

Lab ID#: 1402370-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:10 AM**	

Compound	**%Recovery**
Vinyl Chloride	98
1,1-Dichloroethene	80
1,1-Dichloroethane	92
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	82
Trichloroethene	95
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1402370-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 08:13 AM**	

Compound	**%Recovery**
Freon 113	94
Chloroform	101
1,2-Dichlorobenzene	94

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: CCV

Lab ID#: 1402370-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030502sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 08:13 AM**	

Compound	**%Recovery**
Vinyl Chloride	98
1,1-Dichloroethene	83
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	85
Trichloroethene	100
Tetrachloroethene	103

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	101	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	106	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	89	70-130
Trichloroethene	104	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	105	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	102	70-130
cis-1,2-Dichloroethene	108	70-130
1,1,1-Trichloroethane	88	70-130
Trichloroethene	104	70-130
Tetrachloroethene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 09:00 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	108	70-130
Chloroform	105	70-130
1,2-Dichlorobenzene	96	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 10:06 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	102	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	97	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: LCS

Lab ID#: 1402370-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 09:00 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	106	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	90	70-130
Trichloroethene	105	70-130
Tetrachloroethene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1402370-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/14 10:06 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	104	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	102	70-130
cis-1,2-Dichloroethene	108	70-130
1,1,1-Trichloroethane	88	70-130
Trichloroethene	103	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

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4/8/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402371R1

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/21/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402371R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		
DATE REISSUED:	04/08/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	7-OA-3	Modified TO-15	5.9 "Hg	5.2 psi
01B	7-OA-3	Modified TO-15	5.9 "Hg	5.2 psi
02A	7-CS-2	Modified TO-15	6.7 "Hg	5 psi
02B	7-CS-2	Modified TO-15	6.7 "Hg	5 psi
03A	20-IA-16	Modified TO-15	6.7 "Hg	4.8 psi
03B	20-IA-16	Modified TO-15	6.7 "Hg	4.8 psi
04A	20-IA-17	Modified TO-15	7.6 "Hg	5.2 psi
04B	20-IA-17	Modified TO-15	7.6 "Hg	5.2 psi
05A	20-IA-18	Modified TO-15	6.1 "Hg	5.2 psi
05B	20-IA-18	Modified TO-15	6.1 "Hg	5.2 psi
06A	20-IA-19	Modified TO-15	12.4 "Hg	5.1 psi
06B	20-IA-19	Modified TO-15	12.4 "Hg	5.1 psi
07A	20-IA-20	Modified TO-15	7.3 "Hg	5.1 psi
07B	20-IA-20	Modified TO-15	7.3 "Hg	5.1 psi
08A	20-IA-21	Modified TO-15	6.5 "Hg	4.8 psi
08B	20-IA-21	Modified TO-15	6.5 "Hg	4.8 psi
09A	20-IA-22	Modified TO-15	7.8 "Hg	5.2 psi
09B	20-IA-22	Modified TO-15	7.8 "Hg	5.2 psi
10A	DUP-2	Modified TO-15	6.3 "Hg	5 psi
10B	DUP-2	Modified TO-15	6.3 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402371R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/10/2014		
DATE REISSUED:	04/08/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 04/08/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402371R1

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 21, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

THE WORKORDER WAS REISSUED ON 4/8/14 TO REMOVE VINYL CHLORIDE FROM SAMPLE 7-CS-2, WHICH WAS REPORTED IN ERROR.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 7-OA-3

Lab ID#: 1402371R1-01A

No Detections Were Found.

Client Sample ID: 7-OA-3

Lab ID#: 1402371R1-01B

No Detections Were Found.

Client Sample ID: 7-CS-2

Lab ID#: 1402371R1-02A

No Detections Were Found.

Client Sample ID: 7-CS-2

Lab ID#: 1402371R1-02B

No Detections Were Found.

Client Sample ID: 20-IA-16

Lab ID#: 1402371R1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.27	1.3	2.1

Client Sample ID: 20-IA-16

Lab ID#: 1402371R1-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.017	0.042	0.068	0.16
1,1,1-Trichloroethane	0.034	0.25	0.19	1.4
Trichloroethene	0.034	0.18	0.18	0.98

Client Sample ID: 20-IA-17

Lab ID#: 1402371R1-04A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-IA-17

Lab ID#: 1402371R1-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.018	0.029	0.072	0.11
1,1,1-Trichloroethane	0.036	0.12	0.20	0.67
Trichloroethene	0.036	0.080	0.19	0.43

Client Sample ID: 20-IA-18

Lab ID#: 1402371R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.35	0.83	1.7

Client Sample ID: 20-IA-18

Lab ID#: 1402371R1-05B

No Detections Were Found.

Client Sample ID: 20-IA-19

Lab ID#: 1402371R1-06A

No Detections Were Found.

Client Sample ID: 20-IA-19

Lab ID#: 1402371R1-06B

No Detections Were Found.

Client Sample ID: 20-IA-20

Lab ID#: 1402371R1-07A

No Detections Were Found.

Client Sample ID: 20-IA-20

Lab ID#: 1402371R1-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.036	0.057	0.19	0.30

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 20-IA-21

Lab ID#: 1402371R1-08A

No Detections Were Found.

Client Sample ID: 20-IA-21

Lab ID#: 1402371R1-08B

No Detections Were Found.

Client Sample ID: 20-IA-22

Lab ID#: 1402371R1-09A

No Detections Were Found.

Client Sample ID: 20-IA-22

Lab ID#: 1402371R1-09B

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1402371R1-10A

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1402371R1-10B

No Detections Were Found.

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Client Sample ID: 7-OA-3

Lab ID#: 1402371R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022715**	**Date of Collection:**	**2/20/14 10:08:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**2/27/14 07:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: 7-OA-3

Lab ID#: 1402371R1-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022715sim**	**Date of Collection:**	**2/20/14 10:08:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**2/27/14 07:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: 7-CS-2

Lab ID#: 1402371R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022716**	**Date of Collection:**	**2/20/14 10:14:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**2/27/14 08:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: 7-CS-2

Lab ID#: 1402371R1-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022716simr1**	**Date of Collection:**	**2/20/14 10:14:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**2/27/14 08:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.18	Not Detected
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: 20-IA-16

Lab ID#: 1402371R1-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022717**	**Date of Collection:**	**2/20/14 10:42:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**2/27/14 09:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.27	1.3	2.1
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	115	70-130

eurofins | Air Toxics

Client Sample ID: 20-IA-16

Lab ID#: 1402371R1-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022717sim**	**Date of Collection:**	**2/20/14 10:42:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**2/27/14 09:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	0.042	0.068	0.16
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	0.25	0.19	1.4
Trichloroethene	0.034	0.18	0.18	0.98
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	119	70-130

eurofins | Air Toxics

Client Sample ID: 20-IA-17

Lab ID#: 1402371R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022718**	**Date of Collection:**	**2/20/14 10:44:00 AM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**2/27/14 09:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: 20-IA-17

Lab ID#: 1402371R1-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022718sim**	**Date of Collection:**	**2/20/14 10:44:00 AM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**2/27/14 09:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	0.029	0.072	0.11
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	0.12	0.20	0.67
Trichloroethene	0.036	0.080	0.19	0.43
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	118	70-130

eurofins | Air Toxics

Client Sample ID: 20-IA-18

Lab ID#: 1402371R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022719**	**Date of Collection:**	**2/20/14 10:56:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/27/14 10:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.35	0.83	1.7
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: 20-IA-18

Lab ID#: 1402371R1-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022719sim**	**Date of Collection:**	**2/20/14 10:56:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/27/14 10:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	121	70-130

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Client Sample ID: 20-IA-19

Lab ID#: 1402371R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022720**	**Date of Collection:**	**2/20/14 11:02:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**2/27/14 10:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.23	Not Detected	1.8	Not Detected
Chloroform	0.23	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: 20-IA-19

Lab ID#: 1402371R1-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022720sim**	**Date of Collection:**	**2/20/14 11:02:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**2/27/14 10:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.023	Not Detected	0.059	Not Detected
1,1-Dichloroethene	0.023	Not Detected	0.091	Not Detected
1,1-Dichloroethane	0.046	Not Detected	0.19	Not Detected
cis-1,2-Dichloroethene	0.046	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.046	Not Detected	0.25	Not Detected
Trichloroethene	0.046	Not Detected	0.25	Not Detected
Tetrachloroethene	0.046	Not Detected	0.31	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: 20-IA-20

Lab ID#: 1402371R1-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022807**	**Date of Collection:**	**2/20/14 11:08:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/28/14 01:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: 20-IA-20

Lab ID#: 1402371R1-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022807sim**	**Date of Collection:**	**2/20/14 11:08:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**2/28/14 01:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.19	Not Detected
Trichloroethene	0.036	0.057	0.19	0.30
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: 20-IA-21

Lab ID#: 1402371R1-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022722**	**Date of Collection:**	**2/20/14 11:13:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/28/14 07:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: 20-IA-21

Lab ID#: 1402371R1-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022722sim**	**Date of Collection:**	**2/20/14 11:13:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**2/28/14 07:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: 20-IA-22

Lab ID#: 1402371R1-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022723**	**Date of Collection:**	**2/20/14 11:16:00 AM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/28/14 08:29 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 20-IA-22

Lab ID#: 1402371R1-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022723sim**	**Date of Collection:**	**2/20/14 11:16:00 AM**
Dil. Factor:	**1.82**	**Date of Analysis:**	**2/28/14 08:29 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.20	Not Detected
Tetrachloroethene	0.036	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: DUP-2

Lab ID#: 1402371R1-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022808**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.70**	**Date of Analysis: 2/28/14 02:04 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	110	70-130

eurofins | Air Toxics

Client Sample ID: DUP-2

Lab ID#: 1402371R1-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022808sim**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.70**	**Date of Analysis: 2/28/14 02:04 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402371R1-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 12:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	116	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402371R1-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022706sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 12:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402371R1-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022806**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 12:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402371R1-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022806sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 12:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402371R1-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 09:18 AM**	

Compound	**%Recovery**
Freon 113	103
Chloroform	98
1,2-Dichlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402371R1-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022702sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 09:18 AM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	92
1,1-Dichloroethane	86
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	93
Trichloroethene	101
Tetrachloroethene	101

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	120	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402371R1-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022802**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 09:37 AM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	95
1,2-Dichlorobenzene	114

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	120	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1402371R1-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022802sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 09:37 AM**	

Compound	**%Recovery**
Vinyl Chloride	91
1,1-Dichloroethene	95
1,1-Dichloroethane	88
cis-1,2-Dichloroethene	101
1,1,1-Trichloroethane	94
Trichloroethene	101
Tetrachloroethene	101

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	122	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1402371R1-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 09:54 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	116	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	101	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: LCSD

Lab ID#: 1402371R1-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 10:35 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	97	70-130
1,2-Dichlorobenzene	106	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: LCS

Lab ID#: 1402371R1-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 09:54 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	106	70-130
1,1-Dichloroethane	89	70-130
cis-1,2-Dichloroethene	114	70-130
1,1,1-Trichloroethane	95	70-130
Trichloroethene	102	70-130
Tetrachloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	121	70-130

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Client Sample ID: LCSD

Lab ID#: 1402371R1-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/27/14 10:35 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	107	70-130
1,1-Dichloroethane	89	70-130
cis-1,2-Dichloroethene	115	70-130
1,1,1-Trichloroethane	95	70-130
Trichloroethene	102	70-130
Tetrachloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	121	70-130

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Client Sample ID: LCS

Lab ID#: 1402371R1-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022803**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 10:20 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	119	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: LCSD

Lab ID#: 1402371R1-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 11:02 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	125	70-130
Chloroform	105	70-130
1,2-Dichlorobenzene	110	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1402371R1-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022803sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 10:20 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	92	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	92	70-130
cis-1,2-Dichloroethene	118	70-130
1,1,1-Trichloroethane	97	70-130
Trichloroethene	105	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: LCSD

Lab ID#: 1402371R1-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v022804sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/28/14 11:02 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	91	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	92	70-130
cis-1,2-Dichloroethene	118	70-130
1,1,1-Trichloroethane	97	70-130
Trichloroethene	105	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	120	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-356-6130

Project Info:
P.O. #
Project # 185702524.200.0083
Project Name: COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	7-OA-3	941600	2/20/14	1008	TO-15* See note for list	-29.5	-7.5		
02A	7-CS-2	6L0012	↓	1014	↓	-30	-8.5		
03A	20-IA-16	31136	↓	1042	↓	-30	-8		
04A	20-IA-17	34247	↓	1044	↓	-30	-8.5		
05A	20-IA-18	9915	↓	1056	↓	-30	-6.5		
06A	20-IA-19	34448	↓	1102	↓	-30	-12.5		
07A	20-IA-20	12709	↓	1108	↓	-29.5	-8.5		
08A	20-IA-21	33559	↓	1113	↓	-29	-7		
09A	20-IA-22	5624	↓	1116	↓	-30	-8		
10A	DUP-2	33793	↓	—	↓	-30	-7		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2-21-14 1510	[signature]	2-21-14 1510

Notes: *TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Air p/o		[illegible]	Good	Yes No None	1402371

Form 1293 rev.11

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3/6/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402372

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/21/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402372

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/06/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	3-IA-2	Modified TO-15	6.3 "Hg	5.3 psi
01B	3-IA-2	Modified TO-15	6.3 "Hg	5.3 psi
02A	3-OA-1	Modified TO-15	5.9 "Hg	5.3 psi
02B	3-OA-1	Modified TO-15	5.9 "Hg	5.3 psi
03A	3-CS-1	Modified TO-15	4.9 "Hg	5.1 psi
03B	3-CS-1	Modified TO-15	4.9 "Hg	5.1 psi
04A	18-IA-4	Modified TO-15	0 psi	5 psi
04B	18-IA-4	Modified TO-15	0 psi	5 psi
05A	18-IA-5	Modified TO-15	6.7 "Hg	5.2 psi
05B	18-IA-5	Modified TO-15	6.7 "Hg	5.2 psi
06A	18-IA-6	Modified TO-15	6.1 "Hg	5.1 psi
06B	18-IA-6	Modified TO-15	6.1 "Hg	5.1 psi
07A(cancelled)	18-OA-1	Modified TO-15	26.3 "Hg	5.1 psi
07B(cancelled)	18-OA-1	Modified TO-15	26.3 "Hg	5.1 psi
08A	18-GR-2	Modified TO-15	0 psi	5 psi
08B	18-GR-2	Modified TO-15	0 psi	5 psi
09A	7-IA-3	Modified TO-15	6.9 "Hg	4.9 psi
09B	7-IA-3	Modified TO-15	6.9 "Hg	4.9 psi
10A	DUP-1	Modified TO-15	6.5 "Hg	5 psi
10B	DUP-1	Modified TO-15	6.5 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1402372

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/06/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/06/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402372

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 21, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Despite the use of flow controllers for sample collection, the final canister vacuums for samples 18-IA-4 and 18-GR-2 were measured at ambient pressure in the field. These ambient pressure readings were confirmed by the laboratory upon sample receipt.

Sample 18-OA-1 was received with significant vacuum remaining in the canister. The sample was cancelled per client request February 26, 2014.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 3-IA-2

Lab ID#: 1402372-01A

No Detections Were Found.

Client Sample ID: 3-IA-2

Lab ID#: 1402372-01B

No Detections Were Found.

Client Sample ID: 3-OA-1

Lab ID#: 1402372-02A

No Detections Were Found.

Client Sample ID: 3-OA-1

Lab ID#: 1402372-02B

No Detections Were Found.

Client Sample ID: 3-CS-1

Lab ID#: 1402372-03A

No Detections Were Found.

Client Sample ID: 3-CS-1

Lab ID#: 1402372-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.032	0.034	0.17	0.18

Client Sample ID: 18-IA-4

Lab ID#: 1402372-04A

No Detections Were Found.

Client Sample ID: 18-IA-4

Lab ID#: 1402372-04B

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 18-IA-5

Lab ID#: 1402372-05A

No Detections Were Found.

Client Sample ID: 18-IA-5

Lab ID#: 1402372-05B

No Detections Were Found.

Client Sample ID: 18-IA-6

Lab ID#: 1402372-06A

No Detections Were Found.

Client Sample ID: 18-IA-6

Lab ID#: 1402372-06B

No Detections Were Found.

Client Sample ID: 18-GR-2

Lab ID#: 1402372-08A

No Detections Were Found.

Client Sample ID: 18-GR-2

Lab ID#: 1402372-08B

No Detections Were Found.

Client Sample ID: 7-IA-3

Lab ID#: 1402372-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.20	0.84	0.98

Client Sample ID: 7-IA-3

Lab ID#: 1402372-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 7-IA-3

Lab ID#: 1402372-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.29	0.18	1.6

Client Sample ID: DUP-1

Lab ID#: 1402372-10A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1402372-10B

No Detections Were Found.

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Client Sample ID: 3-IA-2

Lab ID#: 1402372-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030309**	**Date of Collection:**	**2/20/14 8:08:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/3/14 02:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 3-IA-2

Lab ID#: 1402372-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030309sim**	**Date of Collection:**	**2/20/14 8:08:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/3/14 02:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 3-OA-1

Lab ID#: 1402372-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030310**	**Date of Collection:**	**2/20/14 8:17:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**3/3/14 02:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 3-OA-1

Lab ID#: 1402372-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030310sim**	**Date of Collection:**	**2/20/14 8:17:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**3/3/14 02:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 3-CS-1

Lab ID#: 1402372-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030311**	**Date of Collection:**	**2/20/14 8:23:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/3/14 03:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 3-CS-1

Lab ID#: 1402372-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030311sim**	**Date of Collection:**	**2/20/14 8:23:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/3/14 03:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	0.034	0.17	0.18
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 18-IA-4

Lab ID#: 1402372-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030312**	**Date of Collection:**	**2/20/14 8:56:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**3/3/14 04:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	Not Detected	1.0	Not Detected
Chloroform	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 18-IA-4

Lab ID#: 1402372-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030312sim**	**Date of Collection:**	**2/20/14 8:56:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**3/3/14 04:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Trichloroethene	0.027	Not Detected	0.14	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 18-IA-5

Lab ID#: 1402372-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030313**	**Date of Collection:**	**2/20/14 8:58:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/3/14 04:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 18-IA-5

Lab ID#: 1402372-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030313sim**	**Date of Collection:**	**2/20/14 8:58:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/3/14 04:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 18-IA-6

Lab ID#: 1402372-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030314**	**Date of Collection:**	**2/20/14 9:00:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**3/3/14 05:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 18-IA-6

Lab ID#: 1402372-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030314sim**	**Date of Collection:**	**2/20/14 9:00:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**3/3/14 05:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 18-GR-2

Lab ID#: 1402372-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030315**	**Date of Collection:**	**2/20/14 9:20:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**3/3/14 07:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	Not Detected	1.0	Not Detected
Chloroform	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 18-GR-2

Lab ID#: 1402372-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030315sim**	**Date of Collection:**	**2/20/14 9:20:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**3/3/14 07:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Trichloroethene	0.027	Not Detected	0.14	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 7-IA-3

Lab ID#: 1402372-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030316**	**Date of Collection:**	**2/20/14 10:03:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**3/3/14 08:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.20	0.84	0.98
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 7-IA-3

Lab ID#: 1402372-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030316sim**	**Date of Collection:**	**2/20/14 10:03:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**3/3/14 08:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.29	0.18	1.6
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: DUP-1

Lab ID#: 1402372-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030317**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/3/14 09:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: DUP-1

Lab ID#: 1402372-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030317sim**	**Date of Collection: 2/20/14**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/3/14 09:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402372-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 11:13 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402372-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030306sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 11:13 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 1402372-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 08:19 AM**	

Compound	**%Recovery**
Freon 113	88
Chloroform	89
1,2-Dichlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1402372-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030302sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 08:19 AM**	

Compound	**%Recovery**
Vinyl Chloride	96
1,1-Dichloroethene	80
1,1-Dichloroethane	91
cis-1,2-Dichloroethene	87
1,1,1-Trichloroethane	81
Trichloroethene	92
Tetrachloroethene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1402372-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 09:04 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	106	70-130
Chloroform	100	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 1402372-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 09:43 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	107	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCS

Lab ID#: 1402372-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 09:04 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	107	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	90	70-130
Trichloroethene	104	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1402372-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/3/14 09:43 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	106	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	90	70-130
Trichloroethene	105	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	103	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd MS 1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	3-IA-2	12713	2/20/14	808	TO-15 *see notes for list	-30	-7.5		
02A	3-OA-1	33963	↓	817	↓	-30	-7		
03A	3-CS-1	23993		823		-30	-6		
04A	18-IA-4	34198		856		-30	-1		
05A	18-IA-5	WL0014		858		-30	-8.5		
06A	18-IA-6	34505		900		-30	-9		
07A	18-OA-1	34503		930		-30	-26		
08A	18-GR-2	33779		0920		-30	Ø		
09A	7-IA-3	35164		1003		-29.5	-7		
10A	DUP-1	902	↓	—	↓	-30	-7.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2-21-14 1510	[signature]	2-21-14 1510
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
*TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL D/O		NA	Good	Yes No None	1402372

Form 1293 rev.11

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3/10/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1402386

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/21/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1402386

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/21/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/06/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	21-IA-12	Modified TO-15	6.5 "Hg	4.9 psi
01B	21-IA-12	Modified TO-15	6.5 "Hg	4.9 psi
02A	21-OA-3	Modified TO-15	6.9 "Hg	5 psi
02B	21-OA-3	Modified TO-15	6.9 "Hg	5 psi
03A	21-IA-13	Modified TO-15	8 "Hg	5.1 psi
03B	21-IA-13	Modified TO-15	8 "Hg	5.1 psi
04A	21-IA-14	Modified TO-15	9.6 "Hg	4.9 psi
04B	21-IA-14	Modified TO-15	9.6 "Hg	4.9 psi
05A	21-IA-15	Modified TO-15	5.9 "Hg	4.9 psi
05B	21-IA-15	Modified TO-15	5.9 "Hg	4.9 psi
06A	21-GR-3	Modified TO-15	0 psi	5.3 psi
06B	21-GR-3	Modified TO-15	0 psi	5.3 psi
07A	11-IA-3	Modified TO-15	7.6 "Hg	5.2 psi
07B	11-IA-3	Modified TO-15	7.6 "Hg	5.2 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 03/10/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1402386

Seven 6 Liter Summa Canister (SIM Certified) samples were received on February 21, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Despite the use of flow controllers for sample collection, the final canister vacuums for sample 21-GR-3 was measured at ambient pressure in the field. These ambient pressure readings was confirmed by the laboratory upon sample receipt.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the

same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 21-IA-12

Lab ID#: 1402386-01A

No Detections Were Found.

Client Sample ID: 21-IA-12

Lab ID#: 1402386-01B

No Detections Were Found.

Client Sample ID: 21-OA-3

Lab ID#: 1402386-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.20	0.85	0.98

Client Sample ID: 21-OA-3

Lab ID#: 1402386-02B

No Detections Were Found.

Client Sample ID: 21-IA-13

Lab ID#: 1402386-03A

No Detections Were Found.

Client Sample ID: 21-IA-13

Lab ID#: 1402386-03B

No Detections Were Found.

Client Sample ID: 21-IA-14

Lab ID#: 1402386-04A

No Detections Were Found.

Client Sample ID: 21-IA-14

Lab ID#: 1402386-04B

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 21-IA-15

Lab ID#: 1402386-05A

No Detections Were Found.

Client Sample ID: 21-IA-15

Lab ID#: 1402386-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.033	0.034	0.18	0.18

Client Sample ID: 21-GR-3

Lab ID#: 1402386-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.14	0.79	0.66	3.8

Client Sample ID: 21-GR-3

Lab ID#: 1402386-06B

No Detections Were Found.

Client Sample ID: 11-IA-3

Lab ID#: 1402386-07A

No Detections Were Found.

Client Sample ID: 11-IA-3

Lab ID#: 1402386-07B

No Detections Were Found.

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Client Sample ID: 21-IA-12

Lab ID#: 1402386-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030407**	**Date of Collection:**	**2/20/14 2:32:00 PM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**3/4/14 11:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 21-IA-12

Lab ID#: 1402386-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030407sim**	**Date of Collection:**	**2/20/14 2:32:00 PM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**3/4/14 11:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 21-OA-3

Lab ID#: 1402386-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030408**	**Date of Collection:**	**2/20/14 2:34:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 12:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.20	0.85	0.98
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 21-OA-3

Lab ID#: 1402386-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030408sim**	**Date of Collection:**	**2/20/14 2:34:00 PM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**3/4/14 12:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 21-IA-13

Lab ID#: 1402386-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030409**	**Date of Collection:**	**2/20/14 2:46:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/4/14 01:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 21-IA-13

Lab ID#: 1402386-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030409sim**	**Date of Collection:**	**2/20/14 2:46:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/4/14 01:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 21-IA-14

Lab ID#: 1402386-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030410**	**Date of Collection:**	**2/20/14 2:48:00 PM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**3/4/14 02:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.20	Not Detected	1.5	Not Detected
Chloroform	0.20	Not Detected	0.96	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 21-IA-14

Lab ID#: 1402386-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030410sim**	**Date of Collection:**	**2/20/14 2:48:00 PM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**3/4/14 02:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.078	Not Detected
1,1-Dichloroethane	0.039	Not Detected	0.16	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.039	Not Detected	0.21	Not Detected
Trichloroethene	0.039	Not Detected	0.21	Not Detected
Tetrachloroethene	0.039	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 21-IA-15

Lab ID#: 1402386-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030411**	**Date of Collection:**	**2/20/14 2:50:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**3/4/14 02:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 21-IA-15

Lab ID#: 1402386-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030411sim**	**Date of Collection:**	**2/20/14 2:50:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**3/4/14 02:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	0.034	0.18	0.18
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 21-GR-3

Lab ID#: 1402386-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030412**	**Date of Collection:**	**2/20/14 3:00:00 PM**
Dil. Factor:	**1.36**	**Date of Analysis:**	**3/4/14 03:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.14	Not Detected	1.0	Not Detected
Chloroform	0.14	0.79	0.66	3.8
1,2-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 21-GR-3

Lab ID#: 1402386-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030412sim**	**Date of Collection:**	**2/20/14 3:00:00 PM**
Dil. Factor:	**1.36**	**Date of Analysis:**	**3/4/14 03:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.054	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 11-IA-3

Lab ID#: 1402386-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030413**	**Date of Collection:**	**2/20/14 3:28:00 PM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**3/4/14 04:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 11-IA-3

Lab ID#: 1402386-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030413sim**	**Date of Collection:**	**2/20/14 3:28:00 PM**
Dil. Factor:	**1.81**	**Date of Analysis:**	**3/4/14 04:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402386-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 11:01 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1402386-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 11:01 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1402386-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:10 AM**	

Compound	**%Recovery**
Freon 113	84
Chloroform	90
1,2-Dichlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: CCV

Lab ID#: 1402386-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:10 AM**	

Compound	**%Recovery**
Vinyl Chloride	98
1,1-Dichloroethene	80
1,1-Dichloroethane	92
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	82
Trichloroethene	95
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1402386-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	101	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 1402386-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: LCS

Lab ID#: 1402386-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 08:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	106	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	89	70-130
Trichloroethene	104	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1402386-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e030404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	105	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	102	70-130
cis-1,2-Dichloroethene	108	70-130
1,1,1-Trichloroethane	88	70-130
Trichloroethene	104	70-130
Tetrachloroethene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	103	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Marc Beckman
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email:
Address: [illegible] City: Bakersfield State: CA Zip: 93304
Phone: 661-246-[illegible] Fax: 408-337-6138

Project Info:
P.O. #:
Project #: 185702424.200.003
Project Name: CASE 3-4 Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)
01A	21-I4-12	35536	2/20/14	1432	TO-15 + Reduced Target	-30	-7		
02A	21-O4-3	12343		1434		-30	-9		
03A	21-I4-13	34493		1440		-30	-9		
04A	21-I4-14	35252		1448		-30	-10		
05A	21-I4-15	5652		1450		-30	-7		
06A	21-GR-3	417		1500		-30	0		
07A	11-TA-3	12074	2/20/14	1528		-30	-9		

Relinquished by: (signature) Date/Time 2-21-14 1510
Received by: (signature) Date/Time 2-21-14 1510
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes: * TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL c/o		NA	Good	Yes / No / None	1402386

Form 1266 rev. 11

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3/14/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1403007

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/28/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1403007

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	16-OA-3	Modified TO-15	4.0 "Hg	5 psi
01B	16-OA-3	Modified TO-15	4.0 "Hg	5 psi
02A	4-IA-3	Modified TO-15	7.0 "Hg	5 psi
02B	4-IA-3	Modified TO-15	7.0 "Hg	5 psi
03A	4-OA-2	Modified TO-15	6.5 "Hg	5 psi
03B	4-OA-2	Modified TO-15	6.5 "Hg	5 psi
04A	4-CS-2	Modified TO-15	12.5 "Hg	5 psi
04B	4-CS-2	Modified TO-15	12.5 "Hg	5 psi
05A	3-IA-3	Modified TO-15	5.5 "Hg	5 psi
05B	3-IA-3	Modified TO-15	5.5 "Hg	5 psi
06A	3-OA-2	Modified TO-15	12.0 "Hg	5 psi
06B	3-OA-2	Modified TO-15	12.0 "Hg	5 psi
07A	3-CS-2	Modified TO-15	6.5 "Hg	5 psi
07B	3-CS-2	Modified TO-15	6.5 "Hg	5 psi
08A	18-IA-7	Modified TO-15	15.0 "Hg	5 psi
08B	18-IA-7	Modified TO-15	15.0 "Hg	5 psi
09A	18-IA-8	Modified TO-15	8.0 "Hg	5 psi
09B	18-IA-8	Modified TO-15	8.0 "Hg	5 psi
10A	DUP-1	Modified TO-15	5.0 "Hg	5 psi
10B	DUP-1	Modified TO-15	5.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1403007

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/14/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1403007

Ten 6 Liter Summa Canister (SIM Certified) samples were received on March 03, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 16-OA-3

Lab ID#: 1403007-01A

No Detections Were Found.

Client Sample ID: 16-OA-3

Lab ID#: 1403007-01B

No Detections Were Found.

Client Sample ID: 4-IA-3

Lab ID#: 1403007-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.27	0.85	1.3

Client Sample ID: 4-IA-3

Lab ID#: 1403007-02B

No Detections Were Found.

Client Sample ID: 4-OA-2

Lab ID#: 1403007-03A

No Detections Were Found.

Client Sample ID: 4-OA-2

Lab ID#: 1403007-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.034	0.038	0.23	0.26

Client Sample ID: 4-CS-2

Lab ID#: 1403007-04A

No Detections Were Found.

Client Sample ID: 4-CS-2

Lab ID#: 1403007-04B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 4-CS-2

Lab ID#: 1403007-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.023	0.14	0.059	0.36

Client Sample ID: 3-IA-3

Lab ID#: 1403007-05A

No Detections Were Found.

Client Sample ID: 3-IA-3

Lab ID#: 1403007-05B

No Detections Were Found.

Client Sample ID: 3-OA-2

Lab ID#: 1403007-06A

No Detections Were Found.

Client Sample ID: 3-OA-2

Lab ID#: 1403007-06B

No Detections Were Found.

Client Sample ID: 3-CS-2

Lab ID#: 1403007-07A

No Detections Were Found.

Client Sample ID: 3-CS-2

Lab ID#: 1403007-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.25	0.044	0.64
Trichloroethene	0.034	0.067	0.18	0.36

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 18-IA-7

Lab ID#: 1403007-08A

No Detections Were Found.

Client Sample ID: 18-IA-7

Lab ID#: 1403007-08B

No Detections Were Found.

Client Sample ID: 18-IA-8

Lab ID#: 1403007-09A

No Detections Were Found.

Client Sample ID: 18-IA-8

Lab ID#: 1403007-09B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1403007-10A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1403007-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.35	0.041	0.88

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Client Sample ID: 16-OA-3

Lab ID#: 1403007-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030614**	**Date of Collection:**	**2/25/14 9:22:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**3/6/14 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 16-OA-3

Lab ID#: 1403007-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030614sim**	**Date of Collection:**	**2/25/14 9:22:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**3/6/14 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 4-IA-3

Lab ID#: 1403007-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030615**	**Date of Collection:**	**2/27/14 7:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/6/14 07:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	0.27	0.85	1.3
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 4-IA-3

Lab ID#: 1403007-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030615sim**	**Date of Collection:**	**2/27/14 7:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/6/14 07:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 4-OA-2

Lab ID#: 1403007-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030616**	**Date of Collection:**	**2/27/14 7:18:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/6/14 08:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 4-OA-2

Lab ID#: 1403007-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030616sim**	**Date of Collection:**	**2/27/14 7:18:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/6/14 08:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	0.038	0.23	0.26

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 4-CS-2

Lab ID#: 1403007-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030617**	**Date of Collection:**	**2/27/14 7:20:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**3/6/14 09:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.23	Not Detected	1.8	Not Detected
Chloroform	0.23	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 4-CS-2

Lab ID#: 1403007-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030617sim**	**Date of Collection:**	**2/27/14 7:20:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**3/6/14 09:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.023	0.14	0.059	0.36
1,1-Dichloroethene	0.023	Not Detected	0.091	Not Detected
1,1-Dichloroethane	0.046	Not Detected	0.19	Not Detected
cis-1,2-Dichloroethene	0.046	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.046	Not Detected	0.25	Not Detected
Trichloroethene	0.046	Not Detected	0.25	Not Detected
Tetrachloroethene	0.046	Not Detected	0.31	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 3-IA-3

Lab ID#: 1403007-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030618**	**Date of Collection:**	**2/27/14 8:02:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/6/14 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: 3-IA-3

Lab ID#: 1403007-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030618sim**	**Date of Collection:**	**2/27/14 8:02:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/6/14 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 3-OA-2

Lab ID#: 1403007-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030708**	**Date of Collection:**	**2/27/14 8:16:00 AM**
Dil. Factor:	**2.23**	**Date of Analysis:**	**3/7/14 01:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.22	Not Detected	1.7	Not Detected
Chloroform	0.22	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.22	Not Detected	1.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 3-OA-2

Lab ID#: 1403007-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030708sim**	**Date of Collection:**	**2/27/14 8:16:00 AM**
Dil. Factor:	**2.23**	**Date of Analysis:**	**3/7/14 01:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.022	Not Detected	0.057	Not Detected
1,1-Dichloroethene	0.022	Not Detected	0.088	Not Detected
1,1-Dichloroethane	0.045	Not Detected	0.18	Not Detected
cis-1,2-Dichloroethene	0.045	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.045	Not Detected	0.24	Not Detected
Trichloroethene	0.045	Not Detected	0.24	Not Detected
Tetrachloroethene	0.045	Not Detected	0.30	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: 3-CS-2

Lab ID#: 1403007-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030620**	**Date of Collection:**	**2/27/14 8:24:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 3-CS-2

Lab ID#: 1403007-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030620sim**	**Date of Collection:**	**2/27/14 8:24:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.25	0.044	0.64
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.067	0.18	0.36
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 18-IA-7

Lab ID#: 1403007-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030621**	**Date of Collection:**	**2/27/14 8:40:00 AM**
Dil. Factor:	**2.68**	**Date of Analysis:**	**3/7/14 08:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.27	Not Detected	2.0	Not Detected
Chloroform	0.27	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 18-IA-7

Lab ID#: 1403007-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030621sim**	**Date of Collection:**	**2/27/14 8:40:00 AM**
Dil. Factor:	**2.68**	**Date of Analysis:**	**3/7/14 08:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.027	Not Detected	0.068	Not Detected
1,1-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1-Dichloroethane	0.054	Not Detected	0.22	Not Detected
cis-1,2-Dichloroethene	0.054	Not Detected	0.21	Not Detected
1,1,1-Trichloroethane	0.054	Not Detected	0.29	Not Detected
Trichloroethene	0.054	Not Detected	0.29	Not Detected
Tetrachloroethene	0.054	Not Detected	0.36	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 18-IA-8

Lab ID#: 1403007-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030709**	**Date of Collection:**	**2/27/14 8:41:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 18-IA-8

Lab ID#: 1403007-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030709sim**	**Date of Collection:**	**2/27/14 8:41:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403007-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030710**	**Date of Collection: 2/27/14**	
Dil. Factor:	**1.61**	**Date of Analysis: 3/7/14 03:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403007-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030710sim**	**Date of Collection: 2/27/14**	
Dil. Factor:	**1.61**	**Date of Analysis: 3/7/14 03:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.35	0.041	0.88
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 12:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 12:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1403007-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:10 AM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	99
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1403007-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:10 AM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	105
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	112
Trichloroethene	103
Tetrachloroethene	110

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: CCV

Lab ID#: 1403007-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	112
1,2-Dichlorobenzene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1403007-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	84
1,1-Dichloroethene	103
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	114
Trichloroethene	103
Tetrachloroethene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1403007-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:53 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	120	70-130
Chloroform	108	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1403007-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 10:37 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	122	70-130
Chloroform	107	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1403007-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:53 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	119	70-130
1,1-Dichloroethane	106	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	113	70-130
Trichloroethene	105	70-130
Tetrachloroethene	109	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 10:37 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	91	70-130
1,1-Dichloroethene	121	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	124	70-130
1,1,1-Trichloroethane	115	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: LCS

Lab ID#: 1403007-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1403007-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	101	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1403007-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	107	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	114	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd MS 1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	16-OA-3	914	2/25/14	0922	TO-15 + See notes for list	-29	-4.5		
02A	4-IA-3	1624	2/27/14	0724		-30	-7		
03A	4-OA-2	23925		0718		-29	-5		
04A	4-CS-2	33531		0720		-30	-12.5		
05A	3-IA-3	34725		0802		-29	-5		
06A	3-OA-2	13850		0816		-30	-14		
07A	3-CS-2	20994		0824		-30	-6		
08A	18-IA-7	35978		0840		-30	-15		
09A	18-IA-8	33552		0841		-29.5	-7.5		
10A	DUP-1	03789		[redacted]		-29.5	-5.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/28/14 13:17	[signature]	2-28-14 13:17
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
*TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Courier	NA	NA	Good	Yes No None	1403007

Form 1293 rev.11

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3/14/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1403007

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/28/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1403007

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	16-OA-3	Modified TO-15	4.0 "Hg	5 psi
01B	16-OA-3	Modified TO-15	4.0 "Hg	5 psi
02A	4-IA-3	Modified TO-15	7.0 "Hg	5 psi
02B	4-IA-3	Modified TO-15	7.0 "Hg	5 psi
03A	4-OA-2	Modified TO-15	6.5 "Hg	5 psi
03B	4-OA-2	Modified TO-15	6.5 "Hg	5 psi
04A	4-CS-2	Modified TO-15	12.5 "Hg	5 psi
04B	4-CS-2	Modified TO-15	12.5 "Hg	5 psi
05A	3-IA-3	Modified TO-15	5.5 "Hg	5 psi
05B	3-IA-3	Modified TO-15	5.5 "Hg	5 psi
06A	3-OA-2	Modified TO-15	12.0 "Hg	5 psi
06B	3-OA-2	Modified TO-15	12.0 "Hg	5 psi
07A	3-CS-2	Modified TO-15	6.5 "Hg	5 psi
07B	3-CS-2	Modified TO-15	6.5 "Hg	5 psi
08A	18-IA-7	Modified TO-15	15.0 "Hg	5 psi
08B	18-IA-7	Modified TO-15	15.0 "Hg	5 psi
09A	18-IA-8	Modified TO-15	8.0 "Hg	5 psi
09B	18-IA-8	Modified TO-15	8.0 "Hg	5 psi
10A	DUP-1	Modified TO-15	5.0 "Hg	5 psi
10B	DUP-1	Modified TO-15	5.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1403007

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/14/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1403007

Ten 6 Liter Summa Canister (SIM Certified) samples were received on March 03, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 16-OA-3

Lab ID#: 1403007-01A

No Detections Were Found.

Client Sample ID: 16-OA-3

Lab ID#: 1403007-01B

No Detections Were Found.

Client Sample ID: 4-IA-3

Lab ID#: 1403007-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.27	0.85	1.3

Client Sample ID: 4-IA-3

Lab ID#: 1403007-02B

No Detections Were Found.

Client Sample ID: 4-OA-2

Lab ID#: 1403007-03A

No Detections Were Found.

Client Sample ID: 4-OA-2

Lab ID#: 1403007-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.034	0.038	0.23	0.26

Client Sample ID: 4-CS-2

Lab ID#: 1403007-04A

No Detections Were Found.

Client Sample ID: 4-CS-2

Lab ID#: 1403007-04B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 4-CS-2

Lab ID#: 1403007-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.023	0.14	0.059	0.36

Client Sample ID: 3-IA-3

Lab ID#: 1403007-05A

No Detections Were Found.

Client Sample ID: 3-IA-3

Lab ID#: 1403007-05B

No Detections Were Found.

Client Sample ID: 3-OA-2

Lab ID#: 1403007-06A

No Detections Were Found.

Client Sample ID: 3-OA-2

Lab ID#: 1403007-06B

No Detections Were Found.

Client Sample ID: 3-CS-2

Lab ID#: 1403007-07A

No Detections Were Found.

Client Sample ID: 3-CS-2

Lab ID#: 1403007-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.25	0.044	0.64
Trichloroethene	0.034	0.067	0.18	0.36

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 18-IA-7

Lab ID#: 1403007-08A

No Detections Were Found.

Client Sample ID: 18-IA-7

Lab ID#: 1403007-08B

No Detections Were Found.

Client Sample ID: 18-IA-8

Lab ID#: 1403007-09A

No Detections Were Found.

Client Sample ID: 18-IA-8

Lab ID#: 1403007-09B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1403007-10A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1403007-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.35	0.041	0.88

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Client Sample ID: 16-OA-3

Lab ID#: 1403007-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030614**	**Date of Collection:**	**2/25/14 9:22:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**3/6/14 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 16-OA-3

Lab ID#: 1403007-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030614sim**	**Date of Collection:**	**2/25/14 9:22:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**3/6/14 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 4-IA-3

Lab ID#: 1403007-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030615**	**Date of Collection:**	**2/27/14 7:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/6/14 07:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	0.27	0.85	1.3
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 4-IA-3

Lab ID#: 1403007-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030615sim**	**Date of Collection:**	**2/27/14 7:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/6/14 07:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 4-OA-2

Lab ID#: 1403007-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030616**	**Date of Collection:**	**2/27/14 7:18:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/6/14 08:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 4-OA-2

Lab ID#: 1403007-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030616sim**	**Date of Collection:**	**2/27/14 7:18:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/6/14 08:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	0.038	0.23	0.26

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 4-CS-2

Lab ID#: 1403007-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030617**	**Date of Collection:**	**2/27/14 7:20:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**3/6/14 09:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.23	Not Detected	1.8	Not Detected
Chloroform	0.23	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 4-CS-2

Lab ID#: 1403007-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030617sim**	**Date of Collection:**	**2/27/14 7:20:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**3/6/14 09:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.023	0.14	0.059	0.36
1,1-Dichloroethene	0.023	Not Detected	0.091	Not Detected
1,1-Dichloroethane	0.046	Not Detected	0.19	Not Detected
cis-1,2-Dichloroethene	0.046	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.046	Not Detected	0.25	Not Detected
Trichloroethene	0.046	Not Detected	0.25	Not Detected
Tetrachloroethene	0.046	Not Detected	0.31	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 3-IA-3

Lab ID#: 1403007-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030618**	**Date of Collection:**	**2/27/14 8:02:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/6/14 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 3-IA-3

Lab ID#: 1403007-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030618sim**	**Date of Collection:**	**2/27/14 8:02:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/6/14 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 3-OA-2

Lab ID#: 1403007-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030708**	**Date of Collection:**	**2/27/14 8:16:00 AM**
Dil. Factor:	**2.23**	**Date of Analysis:**	**3/7/14 01:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.22	Not Detected	1.7	Not Detected
Chloroform	0.22	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.22	Not Detected	1.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: 3-OA-2

Lab ID#: 1403007-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030708sim**	**Date of Collection:**	**2/27/14 8:16:00 AM**
Dil. Factor:	**2.23**	**Date of Analysis:**	**3/7/14 01:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.022	Not Detected	0.057	Not Detected
1,1-Dichloroethene	0.022	Not Detected	0.088	Not Detected
1,1-Dichloroethane	0.045	Not Detected	0.18	Not Detected
cis-1,2-Dichloroethene	0.045	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.045	Not Detected	0.24	Not Detected
Trichloroethene	0.045	Not Detected	0.24	Not Detected
Tetrachloroethene	0.045	Not Detected	0.30	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 3-CS-2

Lab ID#: 1403007-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030620**	**Date of Collection:**	**2/27/14 8:24:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 3-CS-2

Lab ID#: 1403007-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030620sim**	**Date of Collection:**	**2/27/14 8:24:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.25	0.044	0.64
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.067	0.18	0.36
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 18-IA-7

Lab ID#: 1403007-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030621**	**Date of Collection:**	**2/27/14 8:40:00 AM**
Dil. Factor:	**2.68**	**Date of Analysis:**	**3/7/14 08:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.27	Not Detected	2.0	Not Detected
Chloroform	0.27	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 18-IA-7

Lab ID#: 1403007-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030621sim**	**Date of Collection:**	**2/27/14 8:40:00 AM**
Dil. Factor:	**2.68**	**Date of Analysis:**	**3/7/14 08:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.027	Not Detected	0.068	Not Detected
1,1-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1-Dichloroethane	0.054	Not Detected	0.22	Not Detected
cis-1,2-Dichloroethene	0.054	Not Detected	0.21	Not Detected
1,1,1-Trichloroethane	0.054	Not Detected	0.29	Not Detected
Trichloroethene	0.054	Not Detected	0.29	Not Detected
Tetrachloroethene	0.054	Not Detected	0.36	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 18-IA-8

Lab ID#: 1403007-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030709**	**Date of Collection:**	**2/27/14 8:41:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 18-IA-8

Lab ID#: 1403007-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030709sim**	**Date of Collection:**	**2/27/14 8:41:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403007-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030710**	**Date of Collection: 2/27/14**	
Dil. Factor:	**1.61**	**Date of Analysis: 3/7/14 03:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403007-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030710sim**	**Date of Collection: 2/27/14**	
Dil. Factor:	**1.61**	**Date of Analysis: 3/7/14 03:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.35	0.041	0.88
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 12:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 12:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1403007-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:10 AM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	99
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1403007-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:10 AM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	105
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	112
Trichloroethene	103
Tetrachloroethene	110

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: CCV

Lab ID#: 1403007-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	112
1,2-Dichlorobenzene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1403007-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	84
1,1-Dichloroethene	103
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	114
Trichloroethene	103
Tetrachloroethene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1403007-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:53 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	120	70-130
Chloroform	108	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 10:37 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	122	70-130
Chloroform	107	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1403007-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:53 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	119	70-130
1,1-Dichloroethane	106	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	113	70-130
Trichloroethene	105	70-130
Tetrachloroethene	109	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 10:37 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	91	70-130
1,1-Dichloroethene	121	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	124	70-130
1,1,1-Trichloroethane	115	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	113	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1403007-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1403007-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	101	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	114	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1403007-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	107	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1403007-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	114	70-130

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4/9/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1403007R1

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/28/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1403007R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		
DATE REISSUED:	04/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	16-OA-3	Modified TO-15	4.0 "Hg	5 psi
01B	16-OA-3	Modified TO-15	4.0 "Hg	5 psi
02A	4-IA-3	Modified TO-15	7.0 "Hg	5 psi
02B	4-IA-3	Modified TO-15	7.0 "Hg	5 psi
03A	4-OA-2	Modified TO-15	6.5 "Hg	5 psi
03B	4-OA-2	Modified TO-15	6.5 "Hg	5 psi
04A	4-CS-2	Modified TO-15	12.5 "Hg	5 psi
04B	4-CS-2	Modified TO-15	12.5 "Hg	5 psi
05A	3-IA-3	Modified TO-15	5.5 "Hg	5 psi
05B	3-IA-3	Modified TO-15	5.5 "Hg	5 psi
06A	3-OA-2	Modified TO-15	12.0 "Hg	5 psi
06B	3-OA-2	Modified TO-15	12.0 "Hg	5 psi
07A	3-CS-2	Modified TO-15	6.5 "Hg	5 psi
07B	3-CS-2	Modified TO-15	6.5 "Hg	5 psi
08A	18-IA-7	Modified TO-15	15.0 "Hg	5 psi
08B	18-IA-7	Modified TO-15	15.0 "Hg	5 psi
09A	18-IA-8	Modified TO-15	8.0 "Hg	5 psi
09B	18-IA-8	Modified TO-15	8.0 "Hg	5 psi
10A	DUP-1	Modified TO-15	5.0 "Hg	5 psi
10B	DUP-1	Modified TO-15	5.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1403007R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		
DATE REISSUED:	04/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 04/09/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1403007R1

Ten 6 Liter Summa Canister (SIM Certified) samples were received on March 03, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

THE WORKORDER WAS REISSUED ON 4/9/14 TO REMOVE VINYL CHLORIDE FROM SAMPLES 4-CS-2, 3-CS-2 AND DUP-1 WHICH WERE REPORTED IN ERROR.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 16-OA-3

Lab ID#: 1403007R1-01A

No Detections Were Found.

Client Sample ID: 16-OA-3

Lab ID#: 1403007R1-01B

No Detections Were Found.

Client Sample ID: 4-IA-3

Lab ID#: 1403007R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.27	0.85	1.3

Client Sample ID: 4-IA-3

Lab ID#: 1403007R1-02B

No Detections Were Found.

Client Sample ID: 4-OA-2

Lab ID#: 1403007R1-03A

No Detections Were Found.

Client Sample ID: 4-OA-2

Lab ID#: 1403007R1-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.034	0.038	0.23	0.26

Client Sample ID: 4-CS-2

Lab ID#: 1403007R1-04A

No Detections Were Found.

Client Sample ID: 4-CS-2

Lab ID#: 1403007R1-04B

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 4-CS-2

Lab ID#: 1403007R1-04B

No Detections Were Found.

Client Sample ID: 3-IA-3

Lab ID#: 1403007R1-05A

No Detections Were Found.

Client Sample ID: 3-IA-3

Lab ID#: 1403007R1-05B

No Detections Were Found.

Client Sample ID: 3-OA-2

Lab ID#: 1403007R1-06A

No Detections Were Found.

Client Sample ID: 3-OA-2

Lab ID#: 1403007R1-06B

No Detections Were Found.

Client Sample ID: 3-CS-2

Lab ID#: 1403007R1-07A

No Detections Were Found.

Client Sample ID: 3-CS-2

Lab ID#: 1403007R1-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.067	0.18	0.36

Client Sample ID: 18-IA-7

Lab ID#: 1403007R1-08A

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 18-IA-7

Lab ID#: 1403007R1-08B

No Detections Were Found.

Client Sample ID: 18-IA-8

Lab ID#: 1403007R1-09A

No Detections Were Found.

Client Sample ID: 18-IA-8

Lab ID#: 1403007R1-09B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1403007R1-10A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1403007R1-10B

No Detections Were Found.

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Client Sample ID: 16-OA-3

Lab ID#: 1403007R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030614**	**Date of Collection:**	**2/25/14 9:22:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**3/6/14 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 16-OA-3

Lab ID#: 1403007R1-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030614sim**	**Date of Collection:**	**2/25/14 9:22:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**3/6/14 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 4-IA-3

Lab ID#: 1403007R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030615**	**Date of Collection:**	**2/27/14 7:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/6/14 07:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	0.27	0.85	1.3
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 4-IA-3

Lab ID#: 1403007R1-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030615sim**	**Date of Collection:**	**2/27/14 7:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/6/14 07:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 4-OA-2

Lab ID#: 1403007R1-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030616**	**Date of Collection:**	**2/27/14 7:18:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/6/14 08:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 4-OA-2

Lab ID#: 1403007R1-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030616sim**	**Date of Collection:**	**2/27/14 7:18:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/6/14 08:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	0.038	0.23	0.26

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 4-CS-2

Lab ID#: 1403007R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030617**	**Date of Collection:**	**2/27/14 7:20:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**3/6/14 09:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.23	Not Detected	1.8	Not Detected
Chloroform	0.23	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 4-CS-2

Lab ID#: 1403007R1-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030617simr1**	**Date of Collection:**	**2/27/14 7:20:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**3/6/14 09:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.023	Not Detected	0.059	Not Detected
1,1-Dichloroethene	0.023	Not Detected	0.091	Not Detected
1,1-Dichloroethane	0.046	Not Detected	0.19	Not Detected
cis-1,2-Dichloroethene	0.046	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.046	Not Detected	0.25	Not Detected
Trichloroethene	0.046	Not Detected	0.25	Not Detected
Tetrachloroethene	0.046	Not Detected	0.31	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 3-IA-3

Lab ID#: 1403007R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030618**	**Date of Collection:**	**2/27/14 8:02:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/6/14 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 3-IA-3

Lab ID#: 1403007R1-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030618sim**	**Date of Collection:**	**2/27/14 8:02:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/6/14 10:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 3-OA-2

Lab ID#: 1403007R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030708**	**Date of Collection:**	**2/27/14 8:16:00 AM**
Dil. Factor:	**2.23**	**Date of Analysis:**	**3/7/14 01:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.22	Not Detected	1.7	Not Detected
Chloroform	0.22	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.22	Not Detected	1.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 3-OA-2

Lab ID#: 1403007R1-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030708sim**	**Date of Collection:**	**2/27/14 8:16:00 AM**
Dil. Factor:	**2.23**	**Date of Analysis:**	**3/7/14 01:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.022	Not Detected	0.057	Not Detected
1,1-Dichloroethene	0.022	Not Detected	0.088	Not Detected
1,1-Dichloroethane	0.045	Not Detected	0.18	Not Detected
cis-1,2-Dichloroethene	0.045	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.045	Not Detected	0.24	Not Detected
Trichloroethene	0.045	Not Detected	0.24	Not Detected
Tetrachloroethene	0.045	Not Detected	0.30	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 3-CS-2

Lab ID#: 1403007R1-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030620**	**Date of Collection:**	**2/27/14 8:24:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 3-CS-2

Lab ID#: 1403007R1-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030620simr1**	**Date of Collection:**	**2/27/14 8:24:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 07:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.067	0.18	0.36
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 18-IA-7

Lab ID#: 1403007R1-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030621**	**Date of Collection:**	**2/27/14 8:40:00 AM**
Dil. Factor:	**2.68**	**Date of Analysis:**	**3/7/14 08:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.27	Not Detected	2.0	Not Detected
Chloroform	0.27	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 18-IA-7

Lab ID#: 1403007R1-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030621sim**	**Date of Collection:**	**2/27/14 8:40:00 AM**
Dil. Factor:	**2.68**	**Date of Analysis:**	**3/7/14 08:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.027	Not Detected	0.068	Not Detected
1,1-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1-Dichloroethane	0.054	Not Detected	0.22	Not Detected
cis-1,2-Dichloroethene	0.054	Not Detected	0.21	Not Detected
1,1,1-Trichloroethane	0.054	Not Detected	0.29	Not Detected
Trichloroethene	0.054	Not Detected	0.29	Not Detected
Tetrachloroethene	0.054	Not Detected	0.36	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 18-IA-8

Lab ID#: 1403007R1-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030709**	**Date of Collection:**	**2/27/14 8:41:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 18-IA-8

Lab ID#: 1403007R1-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030709sim**	**Date of Collection:**	**2/27/14 8:41:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 02:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403007R1-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030710**	**Date of Collection:**	**2/27/14**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 03:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403007R1-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030710simr1**	**Date of Collection:**	**2/27/14**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 03:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007R1-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 12:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007R1-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 12:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007R1-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403007R1-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1403007R1-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:10 AM**	

Compound	**%Recovery**
Freon 113	100
Chloroform	99
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1403007R1-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:10 AM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	105
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	112
Trichloroethene	103
Tetrachloroethene	110

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: CCV

Lab ID#: 1403007R1-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	112
1,2-Dichlorobenzene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1403007R1-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	84
1,1-Dichloroethene	103
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	114
Trichloroethene	103
Tetrachloroethene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCS

Lab ID#: 1403007R1-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:53 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	120	70-130
Chloroform	108	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007R1-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 10:37 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	122	70-130
Chloroform	107	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: LCS

Lab ID#: 1403007R1-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 09:53 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	119	70-130
1,1-Dichloroethane	106	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	113	70-130
Trichloroethene	105	70-130
Tetrachloroethene	109	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007R1-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/6/14 10:37 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	91	70-130
1,1-Dichloroethene	121	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	124	70-130
1,1,1-Trichloroethane	115	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: LCS

Lab ID#: 1403007R1-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007R1-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	101	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1403007R1-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	107	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1403007R1-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	114	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, relative to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rivas
Company: Stantec
Email: [illegible]
Address: 1340 Byrd Ave #1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-296-0711 Fax: 408-356-6138

Project Info:
P.O. #:
Project #: 185702524.240.003
Project Name: COE SA Testing

Turn Around Time: ☑ Normal ☐ Rush (specify)

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	16-OA-3	914	2/25/14	0922	TO-15 Sentinel List	-29	-4.5		
02A	4-IA-3	1624	2/27/14	0724		-30	-7		
03A	4-OA-2	23925		0718		-29	-5		
04A	4-CS-2	33531		0720		-30	-12.5		
05A	3-IA-3	34725		0802		-29	-5		
06A	3-OA-2	13850		0816		-30	-14		
07A	3-CS-2	20914		0824		-30	-6		
08A	18-IA-7	35918		0840		-30	-18		
09A	18-IA-8	33552		0841		-29.5	-7.5		
10A	DUP-1	03789		[redacted]		-29.5	-5.5		

Relinquished by: (signature) Date/Time: 2/28/14 13:17
Received by: (signature) Date/Time: 2-28-14 1817
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Notes: * TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Courier	NA	NA	Good	Yes No None	1403007

Form 1295 rev 1

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3/14/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1403008

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/28/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1403008

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	5-IA-5	Modified TO-15	6.5 "Hg	5 psi
01B	5-IA-5	Modified TO-15	6.5 "Hg	5 psi
02A	5-IA-6	Modified TO-15	5.0 "Hg	5 psi
02B	5-IA-6	Modified TO-15	5.0 "Hg	5 psi
03A(cancelled)	5-OA-2	Modified TO-15	21.0 "Hg	5 psi
03B(cancelled)	5-OA-2	Modified TO-15	21.0 "Hg	5 psi
04A	5-CS-2	Modified TO-15	4.5 "Hg	5 psi
04B	5-CS-2	Modified TO-15	4.5 "Hg	5 psi
05A	13-IA-3	Modified TO-15	11.0 "Hg	5 psi
05B	13-IA-3	Modified TO-15	11.0 "Hg	5 psi
06A	14-IA-3	Modified TO-15	8.0 "Hg	5 psi
06B	14-IA-3	Modified TO-15	8.0 "Hg	5 psi
07A	15-IA-3	Modified TO-15	8.0 "Hg	5 psi
07B	15-IA-3	Modified TO-15	8.0 "Hg	5 psi
08A	16-IA-3	Modified TO-15	7.0 "Hg	5 psi
08B	16-IA-3	Modified TO-15	7.0 "Hg	5 psi
09A	17-IA-3	Modified TO-15	8.0 "Hg	5 psi
09B	17-IA-3	Modified TO-15	8.0 "Hg	5 psi
10A	DUP-1	Modified TO-15	5.0 "Hg	5 psi
10B	DUP-1	Modified TO-15	5.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA

Continued on next page

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DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 03/14/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1403008

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 28, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample 5-OA-2 was cancelled on 3/3/14 per client's request.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 5-IA-5

Lab ID#: 1403008-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.32	0.83	1.6

Client Sample ID: 5-IA-5

Lab ID#: 1403008-01B

No Detections Were Found.

Client Sample ID: 5-IA-6

Lab ID#: 1403008-02A

No Detections Were Found.

Client Sample ID: 5-IA-6

Lab ID#: 1403008-02B

No Detections Were Found.

Client Sample ID: 5-CS-2

Lab ID#: 1403008-04A

No Detections Were Found.

Client Sample ID: 5-CS-2

Lab ID#: 1403008-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.15	0.040	0.38

Client Sample ID: 13-IA-3

Lab ID#: 1403008-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.21	0.52	1.0	2.5

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 13-IA-3

Lab ID#: 1403008-05B

No Detections Were Found.

Client Sample ID: 14-IA-3

Lab ID#: 1403008-06A

No Detections Were Found.

Client Sample ID: 14-IA-3

Lab ID#: 1403008-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.037	0.061	0.25	0.41

Client Sample ID: 15-IA-3

Lab ID#: 1403008-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.35	0.89	1.7

Client Sample ID: 15-IA-3

Lab ID#: 1403008-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.037	0.041	0.25	0.28

Client Sample ID: 16-IA-3

Lab ID#: 1403008-08A

No Detections Were Found.

Client Sample ID: 16-IA-3

Lab ID#: 1403008-08B

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 17-IA-3

Lab ID#: 1403008-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.25	1.4	1.9
Chloroform	0.18	1.1	0.89	5.5

Client Sample ID: 17-IA-3

Lab ID#: 1403008-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.018	0.018	0.072	0.073
1,1-Dichloroethane	0.037	0.044	0.15	0.18
1,1,1-Trichloroethane	0.037	0.066	0.20	0.36
Trichloroethene	0.037	0.041	0.20	0.22

Client Sample ID: DUP-1

Lab ID#: 1403008-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.16	0.40	0.79	2.0

Client Sample ID: DUP-1

Lab ID#: 1403008-10B

No Detections Were Found.

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Client Sample ID: 5-IA-5

Lab ID#: 1403008-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030711**	**Date of Collection:**	**2/25/14 8:03:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 04:09 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.32	0.83	1.6
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 5-IA-5

Lab ID#: 1403008-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030711sim**	**Date of Collection:**	**2/25/14 8:03:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 04:09 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 5-IA-6

Lab ID#: 1403008-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030712**	**Date of Collection:**	**2/25/14 8:06:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 04:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 5-IA-6

Lab ID#: 1403008-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030712sim**	**Date of Collection:**	**2/25/14 8:06:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 04:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 5-CS-2

Lab ID#: 1403008-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030713**	**Date of Collection:**	**2/25/14 8:17:00 AM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**3/7/14 05:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 5-CS-2

Lab ID#: 1403008-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030713sim**	**Date of Collection:**	**2/25/14 8:17:00 AM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**3/7/14 05:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.15	0.040	0.38
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 13-IA-3

Lab ID#: 1403008-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030714**	**Date of Collection:**	**2/25/14 9:10:00 AM**
Dil. Factor:	**2.12**	**Date of Analysis:**	**3/7/14 06:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.21	Not Detected	1.6	Not Detected
Chloroform	0.21	0.52	1.0	2.5
1,2-Dichlorobenzene	0.21	Not Detected	1.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 13-IA-3

Lab ID#: 1403008-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030714sim**	**Date of Collection:**	**2/25/14 9:10:00 AM**
Dil. Factor:	**2.12**	**Date of Analysis:**	**3/7/14 06:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.021	Not Detected	0.054	Not Detected
1,1-Dichloroethene	0.021	Not Detected	0.084	Not Detected
1,1-Dichloroethane	0.042	Not Detected	0.17	Not Detected
cis-1,2-Dichloroethene	0.042	Not Detected	0.17	Not Detected
1,1,1-Trichloroethane	0.042	Not Detected	0.23	Not Detected
Trichloroethene	0.042	Not Detected	0.23	Not Detected
Tetrachloroethene	0.042	Not Detected	0.29	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 14-IA-3

Lab ID#: 1403008-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030715**	**Date of Collection:**	**2/25/14 9:18:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 06:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 14-IA-3

Lab ID#: 1403008-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030715sim**	**Date of Collection:**	**2/25/14 9:18:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 06:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	0.061	0.25	0.41

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 15-IA-3

Lab ID#: 1403008-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030716**	**Date of Collection:**	**2/25/14 9:26:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 07:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.35	0.89	1.7
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 15-IA-3

Lab ID#: 1403008-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030716sim**	**Date of Collection:**	**2/25/14 9:26:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 07:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	0.041	0.25	0.28

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 16-IA-3

Lab ID#: 1403008-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030717**	**Date of Collection:**	**2/25/14 9:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/7/14 07:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 16-IA-3

Lab ID#: 1403008-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030717sim**	**Date of Collection:**	**2/25/14 9:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/7/14 07:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 17-IA-3

Lab ID#: 1403008-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030718**	**Date of Collection:**	**2/25/14 9:14:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 08:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.25	1.4	1.9
Chloroform	0.18	1.1	0.89	5.5
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 17-IA-3

Lab ID#: 1403008-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030718sim**	**Date of Collection:**	**2/25/14 9:14:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 08:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	0.018	0.072	0.073
1,1-Dichloroethane	0.037	0.044	0.15	0.18
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	0.066	0.20	0.36
Trichloroethene	0.037	0.041	0.20	0.22
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403008-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030719**	**Date of Collection:**	**2/25/14**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 09:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	0.40	0.79	2.0
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403008-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030719sim**	**Date of Collection: 2/25/14**	
Dil. Factor:	**1.61**	**Date of Analysis: 3/7/14 09:35 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403008-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403008-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1403008-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	112
1,2-Dichlorobenzene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1403008-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	84
1,1-Dichloroethene	103
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	114
Trichloroethene	103
Tetrachloroethene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCS

Lab ID#: 1403008-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1403008-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	101	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1403008-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	107	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1403008-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	114	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec
Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-356-6138

Project Info:
P.O. #
Project # 185702524.200.003
Project Name: COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	5-IA-5	3744	2/25/14	0803	TO-15 * See notes for list	-30	-5		
02A	5-IA-6	5788		0806		-30	-5		
03A	5-OA-2	10988		0813	[Faulty Controller Do not Analyze]	-30	-22		
04A	5-CS-2	9417		0817		-30	-5		
05A	13-IA-3	14037		0910		-30	-13		
06A	14-IA-3	9935		0918		-30	-7.5		
07A	15-IA-3	33969		0926		-30	-7		
08A	16-IA-3	4235		0924		-30	-7.5		
09A	17-IA-3	33961		0914		-30	-9.5		
10A	DUP-1	34214		—		-28	-6		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/28/14 13:17	[signature]	2-28-14 1317

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Courier	NA	NA	Good	Yes No None	1403008

Form 1293 rev.11

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4/8/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1403008R1

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/28/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1403008R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		
DATE REISSUED:	04/08/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	5-IA-5	Modified TO-15	6.5 "Hg	5 psi
01B	5-IA-5	Modified TO-15	6.5 "Hg	5 psi
02A	5-IA-6	Modified TO-15	5.0 "Hg	5 psi
02B	5-IA-6	Modified TO-15	5.0 "Hg	5 psi
03A(cancelled)	5-OA-2	Modified TO-15	21.0 "Hg	5 psi
03B(cancelled)	5-OA-2	Modified TO-15	21.0 "Hg	5 psi
04A	5-CS-2	Modified TO-15	4.5 "Hg	5 psi
04B	5-CS-2	Modified TO-15	4.5 "Hg	5 psi
05A	13-IA-3	Modified TO-15	11.0 "Hg	5 psi
05B	13-IA-3	Modified TO-15	11.0 "Hg	5 psi
06A	14-IA-3	Modified TO-15	8.0 "Hg	5 psi
06B	14-IA-3	Modified TO-15	8.0 "Hg	5 psi
07A	15-IA-3	Modified TO-15	8.0 "Hg	5 psi
07B	15-IA-3	Modified TO-15	8.0 "Hg	5 psi
08A	16-IA-3	Modified TO-15	7.0 "Hg	5 psi
08B	16-IA-3	Modified TO-15	7.0 "Hg	5 psi
09A	17-IA-3	Modified TO-15	8.0 "Hg	5 psi
09B	17-IA-3	Modified TO-15	8.0 "Hg	5 psi
10A	DUP-1	Modified TO-15	5.0 "Hg	5 psi
10B	DUP-1	Modified TO-15	5.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1403008R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702524.200.0003
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2014		
DATE REISSUED:	04/08/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

DATE: 04/08/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1403008R1

Ten 6 Liter Summa Canister (SIM Certified) samples were received on February 28, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample 5-OA-2 was cancelled on 3/3/14 per client's request.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

THE WORKORDER WAS REISSUED ON 4/8/14 TO REMOVE VINYL CHLORIDE FROM SAMPLE 5-CS-2, WHICH WAS REPORTED IN ERROR.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 5-IA-5

Lab ID#: 1403008R1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.32	0.83	1.6

Client Sample ID: 5-IA-5

Lab ID#: 1403008R1-01B

No Detections Were Found.

Client Sample ID: 5-IA-6

Lab ID#: 1403008R1-02A

No Detections Were Found.

Client Sample ID: 5-IA-6

Lab ID#: 1403008R1-02B

No Detections Were Found.

Client Sample ID: 5-CS-2

Lab ID#: 1403008R1-04A

No Detections Were Found.

Client Sample ID: 5-CS-2

Lab ID#: 1403008R1-04B

No Detections Were Found.

Client Sample ID: 13-IA-3

Lab ID#: 1403008R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.21	0.52	1.0	2.5

Client Sample ID: 13-IA-3

Lab ID#: 1403008R1-05B

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 13-IA-3

Lab ID#: 1403008R1-05B

No Detections Were Found.

Client Sample ID: 14-IA-3

Lab ID#: 1403008R1-06A

No Detections Were Found.

Client Sample ID: 14-IA-3

Lab ID#: 1403008R1-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.037	0.061	0.25	0.41

Client Sample ID: 15-IA-3

Lab ID#: 1403008R1-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.18	0.35	0.89	1.7

Client Sample ID: 15-IA-3

Lab ID#: 1403008R1-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.037	0.041	0.25	0.28

Client Sample ID: 16-IA-3

Lab ID#: 1403008R1-08A

No Detections Were Found.

Client Sample ID: 16-IA-3

Lab ID#: 1403008R1-08B

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 17-IA-3

Lab ID#: 1403008R1-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.25	1.4	1.9
Chloroform	0.18	1.1	0.89	5.5

Client Sample ID: 17-IA-3

Lab ID#: 1403008R1-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.018	0.018	0.072	0.073
1,1-Dichloroethane	0.037	0.044	0.15	0.18
1,1,1-Trichloroethane	0.037	0.066	0.20	0.36
Trichloroethene	0.037	0.041	0.20	0.22

Client Sample ID: DUP-1

Lab ID#: 1403008R1-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.16	0.40	0.79	2.0

Client Sample ID: DUP-1

Lab ID#: 1403008R1-10B

No Detections Were Found.

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Client Sample ID: 5-IA-5

Lab ID#: 1403008R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030711**	**Date of Collection:**	**2/25/14 8:03:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 04:09 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.32	0.83	1.6
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 5-IA-5

Lab ID#: 1403008R1-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030711sim**	**Date of Collection:**	**2/25/14 8:03:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**3/7/14 04:09 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 5-IA-6

Lab ID#: 1403008R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030712**	**Date of Collection:**	**2/25/14 8:06:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 04:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 5-IA-6

Lab ID#: 1403008R1-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030712sim**	**Date of Collection:**	**2/25/14 8:06:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 04:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 5-CS-2

Lab ID#: 1403008R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030713**	**Date of Collection:**	**2/25/14 8:17:00 AM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**3/7/14 05:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 5-CS-2

Lab ID#: 1403008R1-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030713simr1**	**Date of Collection:**	**2/25/14 8:17:00 AM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**3/7/14 05:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 13-IA-3

Lab ID#: 1403008R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030714**	**Date of Collection:**	**2/25/14 9:10:00 AM**
Dil. Factor:	**2.12**	**Date of Analysis:**	**3/7/14 06:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.21	Not Detected	1.6	Not Detected
Chloroform	0.21	0.52	1.0	2.5
1,2-Dichlorobenzene	0.21	Not Detected	1.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 13-IA-3

Lab ID#: 1403008R1-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030714sim**	**Date of Collection:**	**2/25/14 9:10:00 AM**
Dil. Factor:	**2.12**	**Date of Analysis:**	**3/7/14 06:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.021	Not Detected	0.054	Not Detected
1,1-Dichloroethene	0.021	Not Detected	0.084	Not Detected
1,1-Dichloroethane	0.042	Not Detected	0.17	Not Detected
cis-1,2-Dichloroethene	0.042	Not Detected	0.17	Not Detected
1,1,1-Trichloroethane	0.042	Not Detected	0.23	Not Detected
Trichloroethene	0.042	Not Detected	0.23	Not Detected
Tetrachloroethene	0.042	Not Detected	0.29	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 14-IA-3

Lab ID#: 1403008R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030715**	**Date of Collection:**	**2/25/14 9:18:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 06:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 14-IA-3

Lab ID#: 1403008R1-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030715sim**	**Date of Collection:**	**2/25/14 9:18:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 06:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	0.061	0.25	0.41

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 15-IA-3

Lab ID#: 1403008R1-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030716**	**Date of Collection:**	**2/25/14 9:26:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 07:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	0.35	0.89	1.7
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 15-IA-3

Lab ID#: 1403008R1-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030716sim**	**Date of Collection:**	**2/25/14 9:26:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 07:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	0.041	0.25	0.28

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 16-IA-3

Lab ID#: 1403008R1-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030717**	**Date of Collection:**	**2/25/14 9:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/7/14 07:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 16-IA-3

Lab ID#: 1403008R1-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030717sim**	**Date of Collection:**	**2/25/14 9:24:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/7/14 07:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 17-IA-3

Lab ID#: 1403008R1-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030718**	**Date of Collection:**	**2/25/14 9:14:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 08:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.25	1.4	1.9
Chloroform	0.18	1.1	0.89	5.5
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 17-IA-3

Lab ID#: 1403008R1-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030718sim**	**Date of Collection:**	**2/25/14 9:14:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**3/7/14 08:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	0.018	0.072	0.073
1,1-Dichloroethane	0.037	0.044	0.15	0.18
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	0.066	0.20	0.36
Trichloroethene	0.037	0.041	0.20	0.22
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403008R1-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030719**	**Date of Collection:**	**2/25/14**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 09:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	0.40	0.79	2.0
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: DUP-1

Lab ID#: 1403008R1-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030719sim**	**Date of Collection:**	**2/25/14**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/14 09:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403008R1-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403008R1-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1403008R1-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	112
1,2-Dichlorobenzene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1403008R1-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	84
1,1-Dichloroethene	103
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	114
Trichloroethene	103
Tetrachloroethene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCS

Lab ID#: 1403008R1-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1403008R1-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	101	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1403008R1-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	107	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1403008R1-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	114	70-130

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Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: [illegible] Email: [illegible]
Address: 501 Page Mill Rd M8125 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-386-6138

Project Info:
P.O. #:
Project #: 1850-02524-100.003
Project Name: GE SA Testing

Turn Around Time: ☑ Normal ☐ Rush ____ specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)
01	S-EA-5	3744	2/25/14	0803	TO-15 & the [illegible] list	-30	-5		
02	S-EA-6	5788		0806		-30	-5		
03	S-OA-2	10988		0812	Faulty Controller Do not Analyze	-30	-22		
04	S-CS-2	9417		0817		-30	-5		
05	B-EA-3	14037		0910		-30	-13		
06	14-EA-3	9935		0918		-30	-7.5		
07	15-EA-3	33969		0926		-30	-7		
08	16-EA-3	4225		0924		-30	-7.5		
09	17-EA-3	33967		0914		-30	-9.5		
10	DUP-1	34214	↓	—	↓	-28	-6		

Relinquished by: (signature) Date/Time: 2/28/14 13:17
Received by: (signature) Date/Time: 2-28-14 1317
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes: * TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Courier	NA	NA	Good	Yes No None	1403008

Form 1998 rev. 1

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3/11/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702524.200.0003
Workorder #: 1403009

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 2/28/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1403009

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	
FAX:	503-297-5429	**PROJECT #**	185702524.200.0003 COE IA Testing
DATE RECEIVED:	02/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/11/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	18-IA-9	Modified TO-15	10.5 "Hg	5 psi
01B	18-IA-9	Modified TO-15	10.5 "Hg	5 psi
02A	18-GR-3	Modified TO-15	0.5 "Hg	5 psi
02B	18-GR-3	Modified TO-15	0.5 "Hg	5 psi
03A	18-OA-2	Modified TO-15	5.5 "Hg	5 psi
03B	18-OA-2	Modified TO-15	5.5 "Hg	5 psi
04A	Lab Blank	Modified TO-15	NA	NA
04B	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
05B	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA
06B	LCS	Modified TO-15	NA	NA
06BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 03/11/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1403009

Three 6 Liter Summa Canister (SIM Certified) samples were received on February 28, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 18-IA-9

Lab ID#: 1403009-01A

No Detections Were Found.

Client Sample ID: 18-IA-9

Lab ID#: 1403009-01B

No Detections Were Found.

Client Sample ID: 18-GR-3

Lab ID#: 1403009-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.14	0.32	0.66	1.6

Client Sample ID: 18-GR-3

Lab ID#: 1403009-02B

No Detections Were Found.

Client Sample ID: 18-OA-2

Lab ID#: 1403009-03A

No Detections Were Found.

Client Sample ID: 18-OA-2

Lab ID#: 1403009-03B

No Detections Were Found.

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Client Sample ID: 18-IA-9

Lab ID#: 1403009-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030720**	**Date of Collection:**	**2/27/14 8:44:00 AM**
Dil. Factor:	**2.06**	**Date of Analysis:**	**3/7/14 10:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.21	Not Detected	1.6	Not Detected
Chloroform	0.21	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.21	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 18-IA-9

Lab ID#: 1403009-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030720sim**	**Date of Collection:**	**2/27/14 8:44:00 AM**
Dil. Factor:	**2.06**	**Date of Analysis:**	**3/7/14 10:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.021	Not Detected	0.053	Not Detected
1,1-Dichloroethene	0.021	Not Detected	0.082	Not Detected
1,1-Dichloroethane	0.041	Not Detected	0.17	Not Detected
cis-1,2-Dichloroethene	0.041	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.041	Not Detected	0.22	Not Detected
Trichloroethene	0.041	Not Detected	0.22	Not Detected
Tetrachloroethene	0.041	Not Detected	0.28	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 18-GR-3

Lab ID#: 1403009-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030721**	**Date of Collection:**	**2/27/14 8:58:00 AM**
Dil. Factor:	**1.36**	**Date of Analysis:**	**3/7/14 10:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.14	Not Detected	1.0	Not Detected
Chloroform	0.14	0.32	0.66	1.6
1,2-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: 18-GR-3

Lab ID#: 1403009-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030721sim**	**Date of Collection:**	**2/27/14 8:58:00 AM**
Dil. Factor:	**1.36**	**Date of Analysis:**	**3/7/14 10:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.054	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 18-OA-2

Lab ID#: 1403009-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030722**	**Date of Collection:**	**2/27/14 9:05:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/8/14 06:34 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 18-OA-2

Lab ID#: 1403009-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030722sim**	**Date of Collection:**	**2/27/14 9:05:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**3/8/14 06:34 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403009-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1403009-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030706sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 12:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1403009-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Freon 113	107
Chloroform	112
1,2-Dichlorobenzene	113

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1403009-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030702sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 09:27 AM**	

Compound	**%Recovery**
Vinyl Chloride	84
1,1-Dichloroethene	103
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	114
Trichloroethene	103
Tetrachloroethene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCS

Lab ID#: 1403009-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	107	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1403009-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	115	70-130
Chloroform	101	70-130
1,2-Dichlorobenzene	116	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1403009-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030703sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:09 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	109	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	107	70-130
Tetrachloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1403009-06BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c030704sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/14 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	108	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	114	70-130

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Page 1 of 1

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-356-6138

Project Info:
P.O. #
Project # 185702524.200.0003
Project Name: CoE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	18-IA-9	4241	2/27/14	0844	TO-15 *See notes for list	-30	-10.5		
02A	18-GR-3	5654	↓	0858	↓	-30	Ø		
03A	18-OA-2	6L0019	↓	0905	↓	-30	-6.5		

Relinquished by: (signature) Date/Time 2/28/14 13:17
Received by: (signature) Date/Time 2-28-14 1317
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL Courier	NA	NA	Good	Yes No (None)	1403009

Form 1293 rev.11

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4/25/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702836.200.0001
Workorder #: 1404398

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 4/22/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1404398

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	04/22/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/24/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	25-IA-1	Modified TO-15	6.9 "Hg	4.8 psi
01B	25-IA-1	Modified TO-15	6.9 "Hg	4.8 psi
02A	25-IA-2	Modified TO-15	6.7 "Hg	5.1 psi
02B	25-IA-2	Modified TO-15	6.7 "Hg	5.1 psi
03A	25-IA-3	Modified TO-15	6.3 "Hg	5.1 psi
03B	25-IA-3	Modified TO-15	6.3 "Hg	5.1 psi
04A	25-OA-1	Modified TO-15	8.4 "Hg	4.8 psi
04B	25-OA-1	Modified TO-15	8.4 "Hg	4.8 psi
05A	DUP-1	Modified TO-15	6.7 "Hg	4.9 psi
05B	DUP-1	Modified TO-15	6.7 "Hg	4.9 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 04/24/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1404398

Five 6 Liter Summa Canister (SIM Certified) samples were received on April 22, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 25-IA-1

Lab ID#: 1404398-01A

No Detections Were Found.

Client Sample ID: 25-IA-1

Lab ID#: 1404398-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.051	0.18	0.27

Client Sample ID: 25-IA-2

Lab ID#: 1404398-02A

No Detections Were Found.

Client Sample ID: 25-IA-2

Lab ID#: 1404398-02B

No Detections Were Found.

Client Sample ID: 25-IA-3

Lab ID#: 1404398-03A

No Detections Were Found.

Client Sample ID: 25-IA-3

Lab ID#: 1404398-03B

No Detections Were Found.

Client Sample ID: 25-OA-1

Lab ID#: 1404398-04A

No Detections Were Found.

Client Sample ID: 25-OA-1

Lab ID#: 1404398-04B

No Detections Were Found.

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-1

Lab ID#: 1404398-05A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1404398-05B

No Detections Were Found.

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Client Sample ID: 25-IA-1

Lab ID#: 1404398-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042307**	**Date of Collection:**	**4/21/14 8:05:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/23/14 12:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 25-IA-1

Lab ID#: 1404398-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042307sim**	**Date of Collection:**	**4/21/14 8:05:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/23/14 12:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.051	0.18	0.27
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 25-IA-2

Lab ID#: 1404398-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042308**	**Date of Collection:**	**4/21/14 8:08:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**4/23/14 01:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	88	70-130

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Client Sample ID: 25-IA-2

Lab ID#: 1404398-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042308sim**	**Date of Collection:**	**4/21/14 8:08:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**4/23/14 01:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 25-IA-3

Lab ID#: 1404398-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042309**	**Date of Collection:**	**4/21/14 8:10:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/23/14 01:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 25-IA-3

Lab ID#: 1404398-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042309sim**	**Date of Collection:**	**4/21/14 8:10:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/23/14 01:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 25-OA-1

Lab ID#: 1404398-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042310**	**Date of Collection:**	**4/21/14 8:30:00 AM**
Dil. Factor:	**1.84**	**Date of Analysis:**	**4/23/14 02:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 25-OA-1

Lab ID#: 1404398-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042310sim**	**Date of Collection:**	**4/21/14 8:30:00 AM**
Dil. Factor:	**1.84**	**Date of Analysis:**	**4/23/14 02:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.073	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: DUP-1

Lab ID#: 1404398-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042311**	**Date of Collection:**	**4/21/14**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/23/14 03:27 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: DUP-1

Lab ID#: 1404398-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042311sim**	**Date of Collection:**	**4/21/14**
Dil. Factor:	**1.72**	**Date of Analysis:**	**4/23/14 03:27 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1404398-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 11:35 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	84	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1404398-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042306sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 11:35 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: CCV

Lab ID#: 1404398-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042302**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 08:21 AM**

Compound	**%Recovery**
Freon 113	102
Chloroform	94
1,2-Dichlorobenzene	116

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: CCV

Lab ID#: 1404398-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042302sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 08:21 AM**	

Compound	**%Recovery**
Vinyl Chloride	79
1,1-Dichloroethene	96
1,1-Dichloroethane	93
cis-1,2-Dichloroethene	100
1,1,1-Trichloroethane	93
Trichloroethene	99
Tetrachloroethene	102

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: LCS

Lab ID#: 1404398-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 09:04 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	116	70-130
Chloroform	97	70-130
1,2-Dichlorobenzene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1404398-08AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 10:02 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	116	70-130
Chloroform	96	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1404398-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 09:04 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	80	70-130
1,1-Dichloroethene	111	70-130
1,1-Dichloroethane	95	70-130
cis-1,2-Dichloroethene	114	70-130
1,1,1-Trichloroethane	94	70-130
Trichloroethene	102	70-130
Tetrachloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1404398-08BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/14 10:02 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	81	70-130
1,1-Dichloroethene	109	70-130
1,1-Dichloroethane	94	70-130
cis-1,2-Dichloroethene	113	70-130
1,1,1-Trichloroethane	92	70-130
Trichloroethene	102	70-130
Tetrachloroethene	106	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	106	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email: mark.becker@stantec.com
Address: 1501 Page Mill Rd MS 1254 City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-356-6138

Project Info:
P.O. #
Project # 185702836.200.0001
Project Name: COE IA Testing

Turn Around Time:
☐ Normal
☑ Rush 3 day (specify)

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	25-IA-1	22508	4/21/14	0805	TO-15 *See note for list	-30	-7.5		
02A	25-IA-2	6L0050	↓	0808	↓	-30	-9		
03A	25-IA-3	33537	↓	0810	↓	-30	-6.5		
04A	25-OA-1	24229	↓	0830	↓	-30	-8.5		
05A	DUP-1	14881	↓	—	↓	-30	-7.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	4/22/14 11:50	[signature]	4-22-14 11:50
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
*TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FAT D/O		NA	Good	Yes No None	1404398

Form 1293 rev.11

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4/28/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702836.200.0001
Workorder #: 1404443

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 4/24/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1404443

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	04/24/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/28/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	25-IA-4	Modified TO-15	6.5 "Hg	5 psi
01B	25-IA-4	Modified TO-15	6.5 "Hg	5 psi
02A	25-IA-5	Modified TO-15	6.5 "Hg	5 psi
02B	25-IA-5	Modified TO-15	6.5 "Hg	5 psi
03A	25-IA-6	Modified TO-15	6.0 "Hg	5 psi
03B	25-IA-6	Modified TO-15	6.0 "Hg	5 psi
04A	25-OA-2	Modified TO-15	7.0 "Hg	5 psi
04B	25-OA-2	Modified TO-15	7.0 "Hg	5 psi
05A	DUP-1	Modified TO-15	6.5 "Hg	5 psi
05B	DUP-1	Modified TO-15	6.5 "Hg	5 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 04/28/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1404443

Five 6 Liter Summa Canister (SIM Certified) samples were received on April 24, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 25-IA-4

Lab ID#: 1404443-01A

No Detections Were Found.

Client Sample ID: 25-IA-4

Lab ID#: 1404443-01B

No Detections Were Found.

Client Sample ID: 25-IA-5

Lab ID#: 1404443-02A

No Detections Were Found.

Client Sample ID: 25-IA-5

Lab ID#: 1404443-02B

No Detections Were Found.

Client Sample ID: 25-IA-6

Lab ID#: 1404443-03A

No Detections Were Found.

Client Sample ID: 25-IA-6

Lab ID#: 1404443-03B

No Detections Were Found.

Client Sample ID: 25-OA-2

Lab ID#: 1404443-04A

No Detections Were Found.

Client Sample ID: 25-OA-2

Lab ID#: 1404443-04B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1404443-05A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-1

Lab ID#: 1404443-05A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1404443-05B

No Detections Were Found.

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Client Sample ID: 25-IA-4

Lab ID#: 1404443-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042507**	**Date of Collection:**	**4/23/14 7:04:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/25/14 03:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	86	70-130

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Client Sample ID: 25-IA-4

Lab ID#: 1404443-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042507sim**	**Date of Collection:**	**4/23/14 7:04:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/25/14 03:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: 25-IA-5

Lab ID#: 1404443-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042508**	**Date of Collection:**	**4/23/14 7:07:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/25/14 03:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 25-IA-5

Lab ID#: 1404443-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042508sim**	**Date of Collection:**	**4/23/14 7:07:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/25/14 03:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 25-IA-6

Lab ID#: 1404443-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042509**	**Date of Collection:**	**4/23/14 7:10:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/25/14 04:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: 25-IA-6

Lab ID#: 1404443-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042509sim**	**Date of Collection:**	**4/23/14 7:10:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**4/25/14 04:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 25-OA-2

Lab ID#: 1404443-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042510**	**Date of Collection:**	**4/23/14 7:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/25/14 05:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: 25-OA-2

Lab ID#: 1404443-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042510sim**	**Date of Collection:**	**4/23/14 7:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/25/14 05:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: DUP-1

Lab ID#: 1404443-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042511**	**Date of Collection:**	**4/23/14**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/25/14 05:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: DUP-1

Lab ID#: 1404443-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042511sim**	**Date of Collection:**	**4/23/14**
Dil. Factor:	**1.71**	**Date of Analysis:**	**4/25/14 05:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1404443-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 01:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1404443-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042506sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 01:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: CCV

Lab ID#: 1404443-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 09:47 AM**	

Compound	**%Recovery**
Freon 113	95
Chloroform	94
1,2-Dichlorobenzene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: CCV

Lab ID#: 1404443-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042502sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 09:47 AM**	

Compound	**%Recovery**
Vinyl Chloride	107
1,1-Dichloroethene	110
1,1-Dichloroethane	107
cis-1,2-Dichloroethene	111
1,1,1-Trichloroethane	105
Trichloroethene	103
Tetrachloroethene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1404443-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 10:50 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	111	70-130
Chloroform	95	70-130
1,2-Dichlorobenzene	94	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCSD

Lab ID#: 1404443-08AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 11:38 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	111	70-130
Chloroform	94	70-130
1,2-Dichlorobenzene	95	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1404443-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 10:50 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	110	70-130
1,1-Dichloroethene	121	70-130
1,1-Dichloroethane	107	70-130
cis-1,2-Dichloroethene	123	70-130
1,1,1-Trichloroethane	102	70-130
Trichloroethene	101	70-130
Tetrachloroethene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1404443-08BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c042504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/14 11:38 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	105	70-130
1,1-Dichloroethene	119	70-130
1,1-Dichloroethane	107	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	101	70-130
Trichloroethene	100	70-130
Tetrachloroethene	103	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhoden
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd. MB1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702836.200.0001
Project Name CoE IA Testing

Turn Around Time:
☐ Normal
☑ Rush 2 day (specify)

Lab Use Only
Pressurized by: R
Date: 4.25.14
Pressurization Gas: (N) He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	25-IA-4	11032	4/23/14	0704	TO-15* See notes for list	-30	-6.5	65 psig	3 psi
02A	25-IA-5	34448	↓	0707	↓	-30	-7.5	65 psig	↓
03A	25-IA-6	13343	↓	0710	↓	-30	-7.5	60 psig	↓
04A	25-OA-2	25305	↓	0715	↓	-30	-7	70 psig	↓
05A	DUP-1	30933	↓	—	↓	-30	-7	65 psig	↓

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	4/24/14 1300	[signature]	4-24-14 1300
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	EAI o/o		NA	Good	Yes No None	1404443

Form 1293 rev.11

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5/20/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #:
Workorder #: 1405104

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 5/6/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1405104

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	COE IA Testing
DATE RECEIVED:	05/06/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/19/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	30-OA-2	Modified TO-15	6.5 "Hg	5 psi
01B	30-OA-2	Modified TO-15	6.5 "Hg	5 psi
02A	30-IA-7	Modified TO-15	7.0 "Hg	5 psi
02B	30-IA-7	Modified TO-15	7.0 "Hg	5 psi
03A	30-IA-8	Modified TO-15	5.5 "Hg	5 psi
03B	30-IA-8	Modified TO-15	5.5 "Hg	5 psi
04A	30-IA-9	Modified TO-15	6.0 "Hg	5 psi
04B	30-IA-9	Modified TO-15	6.0 "Hg	5 psi
05A	30-IA-11	Modified TO-15	7.5 "Hg	5 psi
05B	30-IA-11	Modified TO-15	7.5 "Hg	5 psi
06A	30-IA-10	Modified TO-15	6.5 "Hg	5 psi
06B	30-IA-10	Modified TO-15	6.5 "Hg	5 psi
07A	DUP-1	Modified TO-15	6.5 "Hg	5 psi
07B	DUP-1	Modified TO-15	6.5 "Hg	5 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 05/19/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1405104

Seven 6 Liter Summa Canister (SIM Certified) samples were received on May 06, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 30-OA-2

Lab ID#: 1405104-01A

No Detections Were Found.

Client Sample ID: 30-OA-2

Lab ID#: 1405104-01B

No Detections Were Found.

Client Sample ID: 30-IA-7

Lab ID#: 1405104-02A

No Detections Were Found.

Client Sample ID: 30-IA-7

Lab ID#: 1405104-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.035	0.063	0.19	0.34

Client Sample ID: 30-IA-8

Lab ID#: 1405104-03A

No Detections Were Found.

Client Sample ID: 30-IA-8

Lab ID#: 1405104-03B

No Detections Were Found.

Client Sample ID: 30-IA-9

Lab ID#: 1405104-04A

No Detections Were Found.

Client Sample ID: 30-IA-9

Lab ID#: 1405104-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 30-IA-9

Lab ID#: 1405104-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.034	0.058	0.18	0.32

Client Sample ID: 30-IA-11

Lab ID#: 1405104-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.51	1.4	3.9

Client Sample ID: 30-IA-11

Lab ID#: 1405104-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.036	0.048	0.20	0.26
Trichloroethene	0.036	0.066	0.19	0.35

Client Sample ID: 30-IA-10

Lab ID#: 1405104-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.65	1.3	5.0

Client Sample ID: 30-IA-10

Lab ID#: 1405104-06B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1405104-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.61	1.3	4.7

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-1

Lab ID#: 1405104-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.034	0.035	0.19	0.19

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Client Sample ID: 30-OA-2

Lab ID#: 1405104-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051512**	**Date of Collection:**	**5/4/14 8:00:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/15/14 03:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 30-OA-2

Lab ID#: 1405104-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051512sim**	**Date of Collection:**	**5/4/14 8:00:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/15/14 03:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 30-IA-7

Lab ID#: 1405104-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051513**	**Date of Collection:**	**5/4/14 8:08:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/15/14 04:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 30-IA-7

Lab ID#: 1405104-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051513sim**	**Date of Collection:**	**5/4/14 8:08:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/15/14 04:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	0.063	0.19	0.34
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: 30-IA-8

Lab ID#: 1405104-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051514**	**Date of Collection:**	**5/4/14 8:15:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**5/15/14 05:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 30-IA-8

Lab ID#: 1405104-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051514sim**	**Date of Collection:**	**5/4/14 8:15:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**5/15/14 05:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: 30-IA-9

Lab ID#: 1405104-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051515**	**Date of Collection:**	**5/4/14 8:20:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**5/15/14 06:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 30-IA-9

Lab ID#: 1405104-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051515sim**	**Date of Collection:**	**5/4/14 8:20:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**5/15/14 06:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	0.058	0.18	0.32
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 30-IA-11

Lab ID#: 1405104-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051516**	**Date of Collection:**	**5/4/14 8:25:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**5/15/14 06:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	0.51	1.4	3.9
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 30-IA-11

Lab ID#: 1405104-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051516sim**	**Date of Collection:**	**5/4/14 8:25:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**5/15/14 06:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	0.048	0.20	0.26
Trichloroethene	0.036	0.066	0.19	0.35
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: 30-IA-10

Lab ID#: 1405104-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051517**	**Date of Collection:**	**5/4/14 8:30:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/15/14 08:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.65	1.3	5.0
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 30-IA-10

Lab ID#: 1405104-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051517sim**	**Date of Collection:**	**5/4/14 8:30:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/15/14 08:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: DUP-1

Lab ID#: 1405104-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051518**	**Date of Collection: 5/4/14**	
Dil. Factor:	**1.71**	**Date of Analysis: 5/15/14 09:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	0.61	1.3	4.7
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: DUP-1

Lab ID#: 1405104-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051518sim**	**Date of Collection: 5/4/14**	
Dil. Factor:	**1.71**	**Date of Analysis: 5/15/14 09:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	0.035	0.19	0.19
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405104-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051508**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 12:04 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405104-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051508sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 12:04 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: CCV

Lab ID#: 1405104-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 09:51 AM**	

Compound	**%Recovery**
Freon 113	93
Chloroform	79
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: CCV

Lab ID#: 1405104-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051505sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 09:51 AM**	

Compound	**%Recovery**
Vinyl Chloride	73
1,1-Dichloroethene	87
1,1-Dichloroethane	81
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	82
Trichloroethene	92
Tetrachloroethene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	126	70-130

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Client Sample ID: LCS

Lab ID#: 1405104-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 10:30 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	111	70-130
Chloroform	86	70-130
1,2-Dichlorobenzene	101	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	123	70-130

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Client Sample ID: LCSD

Lab ID#: 1405104-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051507**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 11:10 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	112	70-130
Chloroform	87	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: LCS

Lab ID#: 1405104-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051506sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 10:30 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	74	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	84	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	83	70-130
Trichloroethene	93	70-130
Tetrachloroethene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	128	70-130

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Client Sample ID: LCSD

Lab ID#: 1405104-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051507sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 11:10 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	73	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	83	70-130
cis-1,2-Dichloroethene	102	70-130
1,1,1-Trichloroethane	82	70-130
Trichloroethene	93	70-130
Tetrachloroethene	99	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	123	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and International laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
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Page 1 of 1

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email: mark.becker@stantec.com
Address: 500 Ash Hill Rd Ste 74 City: Palo Alto State: CA Zip: 94304
Phone: 831-241-0711 Fax: 408-356-6138

Project Info:
P.O. #:
Project #: 1857-02836-200.0001
Project Name: CoE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final Check
01A	30-04-2	35135	5/4/14	0800	TO-15* Reduced list	-30	-6.5		
02A	30-IA-7	34465	↓	0808	↓	-30	-7.5		
03A	30-IA-8	4187		0815		-30	-5.5		
04A	30-IA-9	5736		0820		-30	-6.5		
05A	30-IA-11	33791		0825		-30	-7.5		
06A	30-IA-10	33558		0830		-30	-6.5		
07A	DUP-1	35762	↓	—	↓	-30	-6.5		

Relinquished by: (signature) Date/Time: 5/6/14 10:40
Received by: (signature) Date/Time: 5-6-14 10:40
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Exit Dropoff		NA	Good	Yes No None	1405104

Form 1293 rev.11

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5/20/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #:
Workorder #: 1405105

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 5/6/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1405105

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	COE IA Testing
DATE RECEIVED:	05/06/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/20/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	23-OA-1	Modified TO-15	5.5 "Hg	5 psi
01B	23-OA-1	Modified TO-15	5.5 "Hg	5 psi
02A	23-IA-1	Modified TO-15	7.0 "Hg	5 psi
02B	23-IA-1	Modified TO-15	7.0 "Hg	5 psi
03A	23-IA-3	Modified TO-15	7.5 "Hg	5 psi
03B	23-IA-3	Modified TO-15	7.5 "Hg	5 psi
04A	23-IA-2	Modified TO-15	7.0 "Hg	5 psi
04B	23-IA-2	Modified TO-15	7.0 "Hg	5 psi
05A	23-GR-1	Modified TO-15	0.0 "Hg	5 psi
05B	23-GR-1	Modified TO-15	0.0 "Hg	5 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 05/20/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1405105

Five 6 Liter Summa Canister (SIM Certified) samples were received on May 06, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 23-OA-1

Lab ID#: 1405105-01A

No Detections Were Found.

Client Sample ID: 23-OA-1

Lab ID#: 1405105-01B

No Detections Were Found.

Client Sample ID: 23-IA-1

Lab ID#: 1405105-02A

No Detections Were Found.

Client Sample ID: 23-IA-1

Lab ID#: 1405105-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.16	0.19	0.89

Client Sample ID: 23-IA-3

Lab ID#: 1405105-03A

No Detections Were Found.

Client Sample ID: 23-IA-3

Lab ID#: 1405105-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.018	0.039	0.071	0.15
cis-1,2-Dichloroethene	0.036	0.18	0.14	0.72
Trichloroethene	0.036	4.3	0.19	23

Client Sample ID: 23-IA-2

Lab ID#: 1405105-04A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 23-IA-2

Lab ID#: 1405105-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.018	0.085	0.069	0.34
cis-1,2-Dichloroethene	0.035	0.46	0.14	1.8
Trichloroethene	0.035	9.5	0.19	51

Client Sample ID: 23-GR-1

Lab ID#: 1405105-05A

No Detections Were Found.

Client Sample ID: 23-GR-1

Lab ID#: 1405105-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.013	0.040	0.053	0.16
cis-1,2-Dichloroethene	0.027	0.25	0.11	0.99
Trichloroethene	0.027	5.0	0.14	27

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Client Sample ID: 23-OA-1

Lab ID#: 1405105-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051614**	**Date of Collection:**	**5/4/14 7:10:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**5/16/14 07:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 23-OA-1

Lab ID#: 1405105-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051614sim**	**Date of Collection:**	**5/4/14 7:10:00 AM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**5/16/14 07:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 23-IA-1

Lab ID#: 1405105-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051615**	**Date of Collection:**	**5/4/14 7:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/16/14 08:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 23-IA-1

Lab ID#: 1405105-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051615sim**	**Date of Collection:**	**5/4/14 7:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/16/14 08:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.16	0.19	0.89
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 23-IA-3

Lab ID#: 1405105-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051616**	**Date of Collection:**	**5/4/14 7:20:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**5/16/14 09:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 23-IA-3

Lab ID#: 1405105-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051616sim**	**Date of Collection:**	**5/4/14 7:20:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**5/16/14 09:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	0.039	0.071	0.15
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	0.18	0.14	0.72
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	4.3	0.19	23
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 23-IA-2

Lab ID#: 1405105-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051617**	**Date of Collection:**	**5/4/14 7:25:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/16/14 09:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 23-IA-2

Lab ID#: 1405105-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051617sim**	**Date of Collection:**	**5/4/14 7:25:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/16/14 09:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	0.085	0.069	0.34
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	0.46	0.14	1.8
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	9.5	0.19	51
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: 23-GR-1

Lab ID#: 1405105-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051618**	**Date of Collection:**	**5/4/14 7:39:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**5/16/14 10:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	Not Detected	1.0	Not Detected
Chloroform	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 23-GR-1

Lab ID#: 1405105-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051618sim**	**Date of Collection:**	**5/4/14 7:39:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**5/16/14 10:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	0.040	0.053	0.16
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	0.25	0.11	0.99
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Trichloroethene	0.027	5.0	0.14	27
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405105-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051605**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 12:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405105-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051605sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 12:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1405105-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051602**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 09:41 AM**

Compound	%Recovery
Freon 113	97
Chloroform	86
1,2-Dichlorobenzene	103

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: CCV

Lab ID#: 1405105-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 09:41 AM**	

Compound	**%Recovery**
Vinyl Chloride	72
1,1-Dichloroethene	86
1,1-Dichloroethane	80
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	81
Trichloroethene	92
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	123	70-130

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Client Sample ID: LCS

Lab ID#: 1405105-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 11:10 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	109	70-130
Chloroform	86	70-130
1,2-Dichlorobenzene	95	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: LCSD

Lab ID#: 1405105-08AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 11:48 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	111	70-130
Chloroform	87	70-130
1,2-Dichlorobenzene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: LCS

Lab ID#: 1405105-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 11:10 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	73	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	83	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	83	70-130
Trichloroethene	96	70-130
Tetrachloroethene	101	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	119	70-130

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Client Sample ID: LCSD

Lab ID#: 1405105-08BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/16/14 11:48 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	72	70-130
1,1-Dichloroethene	96	70-130
1,1-Dichloroethane	82	70-130
cis-1,2-Dichloroethene	101	70-130
1,1,1-Trichloroethane	82	70-130
Trichloroethene	92	70-130
Tetrachloroethene	99	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	126	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd MS 1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-357-6138

Project Info:
P.O. #
Project # 185702836.200.0001
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	23-OA-1	25298	5/4/14	0710	TO-15 * See notes for list	-30	-6		
02A	23-IA-1	5589	↓	0715	↓	-30	-8.5		
03A	23-IA-3	22508	↓	0720	↓	-30	-8		
04A	23-IA-2	9547	↓	0725	↓	-30	-6.5		
05A	23-GR-1	33662	↓	0739	↓	-30	Ø		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	5/6/14 10:40	[signature]	5-6-14 10:40

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	EAT Dropoff		NA	Good	Yes No None	1405105

Form 1293 rev.11

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5/20/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #:
Workorder #: 1405106

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 5/6/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1405106

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	COE IA Testing
DATE RECEIVED:	05/06/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/19/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	30-IA-1	Modified TO-15	6.0 "Hg	5 psi
01B	30-IA-1	Modified TO-15	6.0 "Hg	5 psi
02A	30-IA-2	Modified TO-15	6.5 "Hg	5 psi
02B	30-IA-2	Modified TO-15	6.5 "Hg	5 psi
03A	30-IA-3	Modified TO-15	7.0 "Hg	5 psi
03B	30-IA-3	Modified TO-15	7.0 "Hg	5 psi
04A	30-IA-4	Modified TO-15	6.5 "Hg	5 psi
04B	30-IA-4	Modified TO-15	6.5 "Hg	5 psi
05A	30-IA-5	Modified TO-15	6.5 "Hg	5 psi
05B	30-IA-5	Modified TO-15	6.5 "Hg	5 psi
06A	30-IA-6	Modified TO-15	6.5 "Hg	5 psi
06B	30-IA-6	Modified TO-15	6.5 "Hg	5 psi
07A	30-OA-1	Modified TO-15	8.0 "Hg	5 psi
07B	30-OA-1	Modified TO-15	8.0 "Hg	5 psi
08A	DUP-1	Modified TO-15	6.0 "Hg	5 psi
08B	DUP-1	Modified TO-15	6.0 "Hg	5 psi
09A	Lab Blank	Modified TO-15	NA	NA
09B	Lab Blank	Modified TO-15	NA	NA
09C	Lab Blank	Modified TO-15	NA	NA
09D	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
10C	CCV	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1405106

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	COE IA Testing
DATE RECEIVED:	05/06/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/19/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
10D	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11AA	LCSD	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA
11BB	LCSD	Modified TO-15	NA	NA
11C	LCS	Modified TO-15	NA	NA
11CC	LCSD	Modified TO-15	NA	NA
11D	LCS	Modified TO-15	NA	NA
11DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 05/19/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1405106

Eight 6 Liter Summa Canister (SIM Certified) samples were received on May 06, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 30-IA-1

Lab ID#: 1405106-01A

No Detections Were Found.

Client Sample ID: 30-IA-1

Lab ID#: 1405106-01B

No Detections Were Found.

Client Sample ID: 30-IA-2

Lab ID#: 1405106-02A

No Detections Were Found.

Client Sample ID: 30-IA-2

Lab ID#: 1405106-02B

No Detections Were Found.

Client Sample ID: 30-IA-3

Lab ID#: 1405106-03A

No Detections Were Found.

Client Sample ID: 30-IA-3

Lab ID#: 1405106-03B

No Detections Were Found.

Client Sample ID: 30-IA-4

Lab ID#: 1405106-04A

No Detections Were Found.

Client Sample ID: 30-IA-4

Lab ID#: 1405106-04B

No Detections Were Found.

Client Sample ID: 30-IA-5

Lab ID#: 1405106-05A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 30-IA-5

Lab ID#: 1405106-05A

No Detections Were Found.

Client Sample ID: 30-IA-5

Lab ID#: 1405106-05B

No Detections Were Found.

Client Sample ID: 30-IA-6

Lab ID#: 1405106-06A

No Detections Were Found.

Client Sample ID: 30-IA-6

Lab ID#: 1405106-06B

No Detections Were Found.

Client Sample ID: 30-OA-1

Lab ID#: 1405106-07A

No Detections Were Found.

Client Sample ID: 30-OA-1

Lab ID#: 1405106-07B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1405106-08A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1405106-08B

No Detections Were Found.

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Client Sample ID: 30-IA-1

Lab ID#: 1405106-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050916**	**Date of Collection:**	**5/2/14 8:00:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**5/10/14 06:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 30-IA-1

Lab ID#: 1405106-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050916sim**	**Date of Collection:**	**5/2/14 8:00:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**5/10/14 06:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 30-IA-2

Lab ID#: 1405106-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050917**	**Date of Collection:**	**5/2/14 8:02:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 06:57 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 30-IA-2

Lab ID#: 1405106-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050917sim**	**Date of Collection:**	**5/2/14 8:02:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 06:57 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: 30-IA-3

Lab ID#: 1405106-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050918**	**Date of Collection:**	**5/2/14 8:07:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/10/14 07:36 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 30-IA-3

Lab ID#: 1405106-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050918sim**	**Date of Collection:**	**5/2/14 8:07:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**5/10/14 07:36 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 30-IA-4

Lab ID#: 1405106-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050922**	**Date of Collection:**	**5/2/14 8:11:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 10:18 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 30-IA-4

Lab ID#: 1405106-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050922sim**	**Date of Collection:**	**5/2/14 8:11:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 10:18 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 30-IA-5

Lab ID#: 1405106-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050923**	**Date of Collection:**	**5/2/14 8:25:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 11:12 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 30-IA-5

Lab ID#: 1405106-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050923sim**	**Date of Collection:**	**5/2/14 8:25:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 11:12 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: 30-IA-6

Lab ID#: 1405106-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050921**	**Date of Collection:**	**5/2/14 8:15:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 09:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 30-IA-6

Lab ID#: 1405106-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050921sim**	**Date of Collection:**	**5/2/14 8:15:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**5/10/14 09:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 30-OA-1

Lab ID#: 1405106-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051509**	**Date of Collection:**	**5/2/14 7:45:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**5/15/14 01:30 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 30-OA-1

Lab ID#: 1405106-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051509sim**	**Date of Collection:**	**5/2/14 7:45:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**5/15/14 01:30 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: DUP-1

Lab ID#: 1405106-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051510**	**Date of Collection: 5/2/14**	
Dil. Factor:	**1.68**	**Date of Analysis: 5/15/14 02:08 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: DUP-1

Lab ID#: 1405106-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051510sim**	**Date of Collection: 5/2/14**	
Dil. Factor:	**1.68**	**Date of Analysis: 5/15/14 02:08 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405106-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 03:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405106-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 03:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405106-09C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051508**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 12:04 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405106-09D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051508sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 12:04 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: CCV

Lab ID#: 1405106-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050902**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 12:22 PM**

Compound	**%Recovery**
Freon 113	105
Chloroform	90
1,2-Dichlorobenzene	111

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: CCV

Lab ID#: 1405106-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050902sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 12:22 PM**	

Compound	**%Recovery**
Vinyl Chloride	78
1,1-Dichloroethene	93
1,1-Dichloroethane	87
cis-1,2-Dichloroethene	96
1,1,1-Trichloroethane	87
Trichloroethene	98
Tetrachloroethene	107

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	121	70-130

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Client Sample ID: CCV

Lab ID#: 1405106-10C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 09:51 AM**	

Compound	**%Recovery**
Freon 113	93
Chloroform	79
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: CCV

Lab ID#: 1405106-10D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051505sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 09:51 AM**	

Compound	**%Recovery**
Vinyl Chloride	73
1,1-Dichloroethene	87
1,1-Dichloroethane	81
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	82
Trichloroethene	92
Tetrachloroethene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	126	70-130

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Client Sample ID: LCS

Lab ID#: 1405106-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 01:54 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	122	70-130
Chloroform	97	70-130
1,2-Dichlorobenzene	113	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1405106-11AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 02:47 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	92	70-130
1,2-Dichlorobenzene	112	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: LCS

Lab ID#: 1405106-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 01:54 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	82	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	93	70-130
cis-1,2-Dichloroethene	114	70-130
1,1,1-Trichloroethane	92	70-130
Trichloroethene	100	70-130
Tetrachloroethene	110	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: LCSD

Lab ID#: 1405106-11BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v050904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/9/14 02:47 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	79	70-130
1,1-Dichloroethene	106	70-130
1,1-Dichloroethane	90	70-130
cis-1,2-Dichloroethene	111	70-130
1,1,1-Trichloroethane	89	70-130
Trichloroethene	100	70-130
Tetrachloroethene	106	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: LCS

Lab ID#: 1405106-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 10:30 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	111	70-130
Chloroform	86	70-130
1,2-Dichlorobenzene	101	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	123	70-130

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Client Sample ID: LCSD

Lab ID#: 1405106-11CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051507**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 11:10 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	112	70-130
Chloroform	87	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: LCS

Lab ID#: 1405106-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051506sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 10:30 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	74	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	84	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	83	70-130
Trichloroethene	93	70-130
Tetrachloroethene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	128	70-130

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Client Sample ID: LCSD

Lab ID#: 1405106-11DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v051507sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/15/14 11:10 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	73	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	83	70-130
cis-1,2-Dichloroethene	102	70-130
1,1,1-Trichloroethane	82	70-130
Trichloroethene	93	70-130
Tetrachloroethene	99	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	123	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of those samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Page 1 of 1

Project Manager Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Road City Palo Alto State CA Zip 94304
Phone 831-246-0744 Fax 408-358-6139

Project Info:
P.O. #
Project # (557-07536.200.000)
Project Name COE IA Testing

Turn Around Time: ☑ Normal ☐ Rush ___ specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	30-IA-1	32509	5/2/14	0800	TO-15 + Secondary list	-30	-7		
02A	30-IA-2	12081		0802		-30	-8		
03A	30-IA-3	34341		0807		-30	-7.5		
04A	30-IA-4	33656		0811		-30	-7		
05A	30-IA-5	34214		0825		-30	-7		
06A	30-IA-6	5687		0815		-30	-7.5		
07A	30-OA-1	6L0050		0745		-30	-5		
08A	DUP-1	34435		—		-29	-6		

Relinquished by: (signature) Date/Time 5/6/14 10:40
Received by: (signature) Date/Time 5-6-14 10:40
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FAT Royal		NA	Good	Yes No None	1405106

Form 1283 rev.1

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6/10/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702836.200.0001
Workorder #: 1405482

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 5/27/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1405482

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	05/27/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	28-OA-1	Modified TO-15	6.7 "Hg	5.1 psi
01B	28-OA-1	Modified TO-15	6.7 "Hg	5.1 psi
02A	28-IA-5	Modified TO-15	6.9 "Hg	5.1 psi
02B	28-IA-5	Modified TO-15	6.9 "Hg	5.1 psi
03A	28-IA-1	Modified TO-15	6.1 "Hg	5 psi
03B	28-IA-1	Modified TO-15	6.1 "Hg	5 psi
04A	28-IA-2	Modified TO-15	6.7 "Hg	5 psi
04B	28-IA-2	Modified TO-15	6.7 "Hg	5 psi
05A	28-IA-3	Modified TO-15	6.9 "Hg	5 psi
05B	28-IA-3	Modified TO-15	6.9 "Hg	5 psi
06A	28-IA-4	Modified TO-15	7.3 "Hg	4.9 psi
06B	28-IA-4	Modified TO-15	7.3 "Hg	4.9 psi
07A	DUP-2	Modified TO-15	6.9 "Hg	5.2 psi
07B	DUP-2	Modified TO-15	6.9 "Hg	5.2 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 06/10/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1405482

Seven 6 Liter Summa Canister (SIM Certified) samples were received on May 27, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 28-OA-1

Lab ID#: 1405482-01A

No Detections Were Found.

Client Sample ID: 28-OA-1

Lab ID#: 1405482-01B

No Detections Were Found.

Client Sample ID: 28-IA-5

Lab ID#: 1405482-02A

No Detections Were Found.

Client Sample ID: 28-IA-5

Lab ID#: 1405482-02B

No Detections Were Found.

Client Sample ID: 28-IA-1

Lab ID#: 1405482-03A

No Detections Were Found.

Client Sample ID: 28-IA-1

Lab ID#: 1405482-03B

No Detections Were Found.

Client Sample ID: 28-IA-2

Lab ID#: 1405482-04A

No Detections Were Found.

Client Sample ID: 28-IA-2

Lab ID#: 1405482-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.054	0.18	0.29

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 28-IA-3

Lab ID#: 1405482-05A

No Detections Were Found.

Client Sample ID: 28-IA-3

Lab ID#: 1405482-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.078	0.19	0.42

Client Sample ID: 28-IA-4

Lab ID#: 1405482-06A

No Detections Were Found.

Client Sample ID: 28-IA-4

Lab ID#: 1405482-06B

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1405482-07A

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1405482-07B

No Detections Were Found.

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Client Sample ID: 28-OA-1

Lab ID#: 1405482-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060410**	**Date of Collection:**	**5/24/14 8:15:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 03:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: 28-OA-1

Lab ID#: 1405482-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060410sim**	**Date of Collection:**	**5/24/14 8:15:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 03:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 28-IA-5

Lab ID#: 1405482-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060411**	**Date of Collection:**	**5/24/14 8:30:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/4/14 04:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 28-IA-5

Lab ID#: 1405482-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060411sim**	**Date of Collection:**	**5/24/14 8:30:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/4/14 04:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 28-IA-1

Lab ID#: 1405482-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060412**	**Date of Collection:**	**5/24/14 8:34:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**6/4/14 05:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 28-IA-1

Lab ID#: 1405482-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060412sim**	**Date of Collection:**	**5/24/14 8:34:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**6/4/14 05:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 28-IA-2

Lab ID#: 1405482-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060413**	**Date of Collection:**	**5/24/14 8:40:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**6/4/14 06:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 28-IA-2

Lab ID#: 1405482-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060413sim**	**Date of Collection:**	**5/24/14 8:40:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**6/4/14 06:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.054	0.18	0.29
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 28-IA-3

Lab ID#: 1405482-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060414**	**Date of Collection:**	**5/24/14 8:44:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 28-IA-3

Lab ID#: 1405482-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060414sim**	**Date of Collection:**	**5/24/14 8:44:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.078	0.19	0.42
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: 28-IA-4

Lab ID#: 1405482-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060415**	**Date of Collection:**	**5/24/14 8:50:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**6/4/14 08:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: 28-IA-4

Lab ID#: 1405482-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060415sim**	**Date of Collection:**	**5/24/14 8:50:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**6/4/14 08:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: DUP-2

Lab ID#: 1405482-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060416**	**Date of Collection: 5/24/14**	
Dil. Factor:	**1.76**	**Date of Analysis: 6/4/14 09:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: DUP-2

Lab ID#: 1405482-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060416sim**	**Date of Collection: 5/24/14**	
Dil. Factor:	**1.76**	**Date of Analysis: 6/4/14 09:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405482-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060407**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 12:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	78	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405482-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060407sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 12:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 1405482-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060405**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 11:05 AM**

Compound	**%Recovery**
Freon 113	97
Chloroform	88
1,2-Dichlorobenzene	108

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: CCV

Lab ID#: 1405482-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060405sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 11:05 AM**	

Compound	**%Recovery**
Vinyl Chloride	74
1,1-Dichloroethene	89
1,1-Dichloroethane	84
cis-1,2-Dichloroethene	94
1,1,1-Trichloroethane	87
Trichloroethene	96
Tetrachloroethene	104

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: LCS

Lab ID#: 1405482-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 09:35 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	107	70-130
Chloroform	89	70-130
1,2-Dichlorobenzene	103	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1405482-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 10:20 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	102	70-130
Chloroform	85	70-130
1,2-Dichlorobenzene	103	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCS

Lab ID#: 1405482-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 09:35 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	70	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	83	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	85	70-130
Trichloroethene	94	70-130
Tetrachloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCSD

Lab ID#: 1405482-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 10:20 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	72	70-130
1,1-Dichloroethene	97	70-130
1,1-Dichloroethane	83	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	86	70-130
Trichloroethene	94	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	115	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Tristan Rhodes
Company: Stantec Email: [illegible]
Address: [illegible] City: Palo Alto State: CA Zip: 94304
Phone: 831-246-0711 Fax: 408-336-6138

Project Info:
P.O. #:
Project #: 185702836.200.0001
Project Name: [illegible] Testing

Turn Around Time: ☑ Normal ☐ Rush ___ specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01	28-04-1	33791	5/24/14	0815	TO-15 + Tentative Id list	-30	-6.5		
02	28-E4-5	5693		0830		-30	-7		
03	28-E4-1	05364		0834		-30	-7.5		
04	28-E4-2	13656		0840		-30	-7.5		
05	28-E4-3	33582		0844		-30	-8		
06	28-E4-4	21004		0850		-30	-8		
07	DUP-2	35139				-30	-8		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	5/27/14 12:00	[signature]	5/27/14 12:00
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	5/27/14 3:20	[signature]	5/27/14 1515
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	HD		NA	Good	Yes No None	1405482

Form 1243 rev. 1

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6/11/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IAQ Testing
Project #: 185702836.200.0001
Workorder #: 1405483

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 5/27/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1405483

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IAQ Testing
DATE RECEIVED:	05/27/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/11/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	28-OA-7	Modified TO-15	6.9 "Hg	5.3 psi
01B	28-OA-7	Modified TO-15	6.9 "Hg	5.3 psi
02A	28-IA-8	Modified TO-15	6.9 "Hg	5.1 psi
02B	28-IA-8	Modified TO-15	6.9 "Hg	5.1 psi
03A	28-IA-9	Modified TO-15	8.4 "Hg	5.3 psi
03B	28-IA-9	Modified TO-15	8.4 "Hg	5.3 psi
04A	28-IA-10	Modified TO-15	7.8 "Hg	4.8 psi
04B	28-IA-10	Modified TO-15	7.8 "Hg	4.8 psi
05A	DUP-2	Modified TO-15	7.1 "Hg	5.1 psi
05B	DUP-2	Modified TO-15	7.1 "Hg	5.1 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
06C	Lab Blank	Modified TO-15	NA	NA
06D	Lab Blank	Modified TO-15	NA	NA
06E	Lab Blank	Modified TO-15	NA	NA
06F	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
07C	CCV	Modified TO-15	NA	NA
07D	CCV	Modified TO-15	NA	NA
07E	CCV	Modified TO-15	NA	NA
07F	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1405483

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IAQ Testing
DATE RECEIVED:	05/27/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/11/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA
08C	LCS	Modified TO-15	NA	NA
08CC	LCSD	Modified TO-15	NA	NA
08D	LCS	Modified TO-15	NA	NA
08DD	LCSD	Modified TO-15	NA	NA
08E	LCS	Modified TO-15	NA	NA
08EE	LCSD	Modified TO-15	NA	NA
08F	LCS	Modified TO-15	NA	NA
08FF	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 06/11/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1405483

Five 6 Liter Summa Canister (SIM Certified) samples were received on May 27, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 28-OA-7

Lab ID#: 1405483-01A

No Detections Were Found.

Client Sample ID: 28-OA-7

Lab ID#: 1405483-01B

No Detections Were Found.

Client Sample ID: 28-IA-8

Lab ID#: 1405483-02A

No Detections Were Found.

Client Sample ID: 28-IA-8

Lab ID#: 1405483-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.046	0.19	0.24

Client Sample ID: 28-IA-9

Lab ID#: 1405483-03A

No Detections Were Found.

Client Sample ID: 28-IA-9

Lab ID#: 1405483-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.038	0.071	0.20	0.38

Client Sample ID: 28-IA-10

Lab ID#: 1405483-04A

No Detections Were Found.

Client Sample ID: 28-IA-10

Lab ID#: 1405483-04B

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 28-IA-10

Lab ID#: 1405483-04B

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1405483-05A

No Detections Were Found.

Client Sample ID: DUP-2

Lab ID#: 1405483-05B

No Detections Were Found.

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Client Sample ID: 28-OA-7

Lab ID#: 1405483-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060914**	**Date of Collection:**	**5/26/14 8:14:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**6/9/14 07:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 28-OA-7

Lab ID#: 1405483-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060914sim**	**Date of Collection:**	**5/26/14 8:14:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**6/9/14 07:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: 28-IA-8

Lab ID#: 1405483-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060916**	**Date of Collection:**	**5/26/14 8:21:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/9/14 09:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: 28-IA-8

Lab ID#: 1405483-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060916sim**	**Date of Collection:**	**5/26/14 8:21:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/9/14 09:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.046	0.19	0.24
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: 28-IA-9

Lab ID#: 1405483-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061021**	**Date of Collection:**	**5/26/14 8:26:00 AM**
Dil. Factor:	**1.89**	**Date of Analysis:**	**6/11/14 08:59 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.19	Not Detected	1.4	Not Detected
Chloroform	0.19	Not Detected	0.92	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: 28-IA-9

Lab ID#: 1405483-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061021sim**	**Date of Collection:**	**5/26/14 8:26:00 AM**
Dil. Factor:	**1.89**	**Date of Analysis:**	**6/11/14 08:59 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
1,1-Dichloroethene	0.019	Not Detected	0.075	Not Detected
1,1-Dichloroethane	0.038	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected
1,1,1-Trichloroethane	0.038	Not Detected	0.21	Not Detected
Trichloroethene	0.038	0.071	0.20	0.38
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 28-IA-10

Lab ID#: 1405483-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061022**	**Date of Collection:**	**5/26/14 8:31:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**6/11/14 09:43 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 28-IA-10

Lab ID#: 1405483-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061022sim**	**Date of Collection:**	**5/26/14 8:31:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**6/11/14 09:43 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: DUP-2

Lab ID#: 1405483-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061108**	**Date of Collection:**	**5/26/14**
Dil. Factor:	**1.77**	**Date of Analysis:**	**6/11/14 03:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: DUP-2

Lab ID#: 1405483-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061108sim**	**Date of Collection: 5/26/14**	
Dil. Factor:	**1.77**	**Date of Analysis: 6/11/14 03:04 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405483-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060906**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 12:10 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405483-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060906sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 12:10 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405483-06C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061010**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 03:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405483-06D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061010sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 03:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405483-06E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061107c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 02:06 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405483-06F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061107simc**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 02:06 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405483-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060905**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 11:15 AM**

Compound	**%Recovery**
Freon 113	94
Chloroform	86
1,2-Dichlorobenzene	104

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	113	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405483-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 11:15 AM**	

Compound	**%Recovery**
Vinyl Chloride	72
1,1-Dichloroethene	91
1,1-Dichloroethane	85
cis-1,2-Dichloroethene	94
1,1,1-Trichloroethane	88
Trichloroethene	95
Tetrachloroethene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	123	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405483-07C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061005**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 11:36 AM**

Compound	%Recovery
Freon 113	97
Chloroform	94
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405483-07D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061005sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 11:36 AM**	

Compound	**%Recovery**
Vinyl Chloride	74
1,1-Dichloroethene	92
1,1-Dichloroethane	88
cis-1,2-Dichloroethene	94
1,1,1-Trichloroethane	90
Trichloroethene	94
Tetrachloroethene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	116	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405483-07E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 09:46 AM**	

Compound	**%Recovery**
Freon 113	91
Chloroform	94
1,2-Dichlorobenzene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405483-07F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 09:46 AM**	

Compound	**%Recovery**
Vinyl Chloride	94
1,1-Dichloroethene	106
1,1-Dichloroethane	105
cis-1,2-Dichloroethene	109
1,1,1-Trichloroethane	102
Trichloroethene	96
Tetrachloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405483-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 09:57 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	109	70-130
Chloroform	92	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	112	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405483-08AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 10:39 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	106	70-130
Chloroform	89	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	111	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405483-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 09:57 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	71	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	84	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	85	70-130
Trichloroethene	93	70-130
Tetrachloroethene	94	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	121	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405483-08BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v060904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/14 10:39 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	70	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	85	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	86	70-130
Trichloroethene	92	70-130
Tetrachloroethene	94	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	119	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405483-08C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 12:26 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	109	70-130
Chloroform	91	70-130
1,2-Dichlorobenzene	97	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405483-08CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 01:07 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	86	70-130
1,2-Dichlorobenzene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCS

Lab ID#: 1405483-08D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061006sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 12:26 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	71	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	85	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	85	70-130
Trichloroethene	90	70-130
Tetrachloroethene	91	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: LCSD

Lab ID#: 1405483-08DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v061007sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/10/14 01:07 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	71	70-130
1,1-Dichloroethene	99	70-130
1,1-Dichloroethane	85	70-130
cis-1,2-Dichloroethene	102	70-130
1,1,1-Trichloroethane	85	70-130
Trichloroethene	90	70-130
Tetrachloroethene	90	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: LCS

Lab ID#: 1405483-08E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 10:40 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	113	70-130
Chloroform	98	70-130
1,2-Dichlorobenzene	99	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1405483-08EE

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 11:28 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	101	70-130
Chloroform	90	70-130
1,2-Dichlorobenzene	88	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 1405483-08F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 10:40 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	102	70-130
1,1-Dichloroethene	121	70-130
1,1-Dichloroethane	105	70-130
cis-1,2-Dichloroethene	118	70-130
1,1,1-Trichloroethane	102	70-130
Trichloroethene	96	70-130
Tetrachloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1405483-08FF

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c061104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/11/14 11:28 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	99	70-130
1,1-Dichloroethene	121	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	119	70-130
1,1,1-Trichloroethane	102	70-130
Trichloroethene	98	70-130
Tetrachloroethene	101	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Project Manager Mark Becker
Collected by: (Print and Sign) Wendy Chen Wendy Chen
Company Stantec Email
Address 1501 Page Mill Rd, MS 1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702836.200.0001
Project Name COE IAQ Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	28-OA-7	4367	5/26/14	814	TO-15* See Notes for list	-30	-8		
02A	28-IA-8	13671	↓	821	↓	-30	-7		
03A	28-IA-9	14006	↓	826	↓	-30	-9		
04A	28-IA-10	5695	↓	831	↓	-29.5	-8.5		
05A	DUP-2	33996	↓	—	↓	-30	-7.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Wendy Chen	5/27/2014 12:00	[illegible]	5/27/14 12:00
[illegible]	5/27 3:20	[illegible] EAT	5/27/14 1515
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: * TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	HD		NA	Good	Yes No None	1405483

Form 1293 rev.11

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6/10/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702836.200.0001
Workorder #: 1405484

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 5/27/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1405484

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	05/27/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	27-IA-1	Modified TO-15	5.7 "Hg	5.2 psi
01B	27-IA-1	Modified TO-15	5.7 "Hg	5.2 psi
02A	27-OA-1	Modified TO-15	6.7 "Hg	5.2 psi
02B	27-OA-1	Modified TO-15	6.7 "Hg	5.2 psi
03A	27-IA-2	Modified TO-15	6.1 "Hg	5.3 psi
03B	27-IA-2	Modified TO-15	6.1 "Hg	5.3 psi
04A	27-IA-4	Modified TO-15	6.9 "Hg	5.3 psi
04B	27-IA-4	Modified TO-15	6.9 "Hg	5.3 psi
05A	27-IA-3	Modified TO-15	5.5 "Hg	5.3 psi
05B	27-IA-3	Modified TO-15	5.5 "Hg	5.3 psi
06A	27-IA-5	Modified TO-15	5.9 "Hg	5.2 psi
06B	27-IA-5	Modified TO-15	5.9 "Hg	5.2 psi
07A	27-IA-6	Modified TO-15	6.5 "Hg	5.3 psi
07B	27-IA-6	Modified TO-15	6.5 "Hg	5.3 psi
08A	27-IA-7	Modified TO-15	6.5 "Hg	5.4 psi
08B	27-IA-7	Modified TO-15	6.5 "Hg	5.4 psi
09A	27-IA-8	Modified TO-15	6.3 "Hg	5.6 psi
09B	27-IA-8	Modified TO-15	6.3 "Hg	5.6 psi
10A	DUP-1	Modified TO-15	6.7 "Hg	5.3 psi
10B	DUP-1	Modified TO-15	6.7 "Hg	5.3 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1405484

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	05/27/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/10/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 06/10/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1405484

Ten 6 Liter Summa Canister (SIM Certified) samples were received on May 27, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 27-IA-1

Lab ID#: 1405484-01A

No Detections Were Found.

Client Sample ID: 27-IA-1

Lab ID#: 1405484-01B

No Detections Were Found.

Client Sample ID: 27-OA-1

Lab ID#: 1405484-02A

No Detections Were Found.

Client Sample ID: 27-OA-1

Lab ID#: 1405484-02B

No Detections Were Found.

Client Sample ID: 27-IA-2

Lab ID#: 1405484-03A

No Detections Were Found.

Client Sample ID: 27-IA-2

Lab ID#: 1405484-03B

No Detections Were Found.

Client Sample ID: 27-IA-4

Lab ID#: 1405484-04A

No Detections Were Found.

Client Sample ID: 27-IA-4

Lab ID#: 1405484-04B

No Detections Were Found.

Client Sample ID: 27-IA-3

Lab ID#: 1405484-05A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 27-IA-3

Lab ID#: 1405484-05A

No Detections Were Found.

Client Sample ID: 27-IA-3

Lab ID#: 1405484-05B

No Detections Were Found.

Client Sample ID: 27-IA-5

Lab ID#: 1405484-06A

No Detections Were Found.

Client Sample ID: 27-IA-5

Lab ID#: 1405484-06B

No Detections Were Found.

Client Sample ID: 27-IA-6

Lab ID#: 1405484-07A

No Detections Were Found.

Client Sample ID: 27-IA-6

Lab ID#: 1405484-07B

No Detections Were Found.

Client Sample ID: 27-IA-7

Lab ID#: 1405484-08A

No Detections Were Found.

Client Sample ID: 27-IA-7

Lab ID#: 1405484-08B

No Detections Were Found.

Client Sample ID: 27-IA-8

Lab ID#: 1405484-09A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 27-IA-8

Lab ID#: 1405484-09A

No Detections Were Found.

Client Sample ID: 27-IA-8

Lab ID#: 1405484-09B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1405484-10A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1405484-10B

No Detections Were Found.

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Client Sample ID: 27-IA-1

Lab ID#: 1405484-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060410**	**Date of Collection:**	**5/24/14 7:00:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**6/4/14 04:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 27-IA-1

Lab ID#: 1405484-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060410sim**	**Date of Collection:**	**5/24/14 7:00:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**6/4/14 04:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 27-OA-1

Lab ID#: 1405484-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060411**	**Date of Collection:**	**5/24/14 7:10:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 05:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 27-OA-1

Lab ID#: 1405484-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060411sim**	**Date of Collection:**	**5/24/14 7:10:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 05:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 27-IA-2

Lab ID#: 1405484-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060412**	**Date of Collection:**	**5/24/14 7:15:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**6/4/14 06:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: 27-IA-2

Lab ID#: 1405484-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060412sim**	**Date of Collection:**	**5/24/14 7:15:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**6/4/14 06:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 27-IA-4

Lab ID#: 1405484-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060413**	**Date of Collection:**	**5/24/14 7:20:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**6/4/14 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-4

Lab ID#: 1405484-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060413sim**	**Date of Collection:**	**5/24/14 7:20:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**6/4/14 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-3

Lab ID#: 1405484-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060414**	**Date of Collection:**	**5/24/14 7:24:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**6/4/14 08:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-3

Lab ID#: 1405484-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060414sim**	**Date of Collection:**	**5/24/14 7:24:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**6/4/14 08:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 27-IA-5

Lab ID#: 1405484-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060415**	**Date of Collection:**	**5/24/14 7:30:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**6/4/14 09:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 27-IA-5

Lab ID#: 1405484-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060415sim**	**Date of Collection:**	**5/24/14 7:30:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**6/4/14 09:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 27-IA-6

Lab ID#: 1405484-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060416**	**Date of Collection:**	**5/24/14 7:34:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 10:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 27-IA-6

Lab ID#: 1405484-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060416sim**	**Date of Collection:**	**5/24/14 7:34:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/4/14 10:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 27-IA-7

Lab ID#: 1405484-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060507**	**Date of Collection:**	**5/24/14 7:40:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/5/14 01:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 27-IA-7

Lab ID#: 1405484-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060507sim**	**Date of Collection:**	**5/24/14 7:40:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/5/14 01:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 27-IA-8

Lab ID#: 1405484-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060508**	**Date of Collection:**	**5/24/14 7:45:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**6/5/14 02:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	88	70-130

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Client Sample ID: 27-IA-8

Lab ID#: 1405484-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060508sim**	**Date of Collection:**	**5/24/14 7:45:00 AM**
Dil. Factor:	**1.78**	**Date of Analysis:**	**6/5/14 02:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.19	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: DUP-1

Lab ID#: 1405484-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060509**	**Date of Collection:**	**5/24/14**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/5/14 02:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: DUP-1

Lab ID#: 1405484-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060509sim**	**Date of Collection:**	**5/24/14**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/5/14 02:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405484-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 12:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405484-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 12:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405484-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 12:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405484-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060506sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 12:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: CCV

Lab ID#: 1405484-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 09:48 AM**	

Compound	**%Recovery**
Freon 113	97
Chloroform	98
1,2-Dichlorobenzene	101

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: CCV

Lab ID#: 1405484-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 09:48 AM**	

Compound	**%Recovery**
Vinyl Chloride	99
1,1-Dichloroethene	106
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	105
1,1,1-Trichloroethane	107
Trichloroethene	98
Tetrachloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: CCV

Lab ID#: 1405484-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 09:08 AM**	

Compound	**%Recovery**
Freon 113	102
Chloroform	98
1,2-Dichlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1405484-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060502sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 09:08 AM**	

Compound	**%Recovery**
Vinyl Chloride	110
1,1-Dichloroethene	110
1,1-Dichloroethane	106
cis-1,2-Dichloroethene	106
1,1,1-Trichloroethane	108
Trichloroethene	99
Tetrachloroethene	101

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405484-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 10:31 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	105	70-130
Chloroform	95	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1405484-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 11:12 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	111	70-130
Chloroform	96	70-130
1,2-Dichlorobenzene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405484-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 10:31 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	100	70-130
1,1-Dichloroethene	116	70-130
1,1-Dichloroethane	104	70-130
cis-1,2-Dichloroethene	115	70-130
1,1,1-Trichloroethane	103	70-130
Trichloroethene	96	70-130
Tetrachloroethene	96	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1405484-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 11:12 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	98	70-130
1,1-Dichloroethene	117	70-130
1,1-Dichloroethane	104	70-130
cis-1,2-Dichloroethene	117	70-130
1,1,1-Trichloroethane	102	70-130
Trichloroethene	98	70-130
Tetrachloroethene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1405484-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 09:55 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	116	70-130
Chloroform	100	70-130
1,2-Dichlorobenzene	90	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 1405484-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 10:38 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	114	70-130
Chloroform	100	70-130
1,2-Dichlorobenzene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1405484-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 09:55 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	104	70-130
1,1-Dichloroethene	122	70-130
1,1-Dichloroethane	107	70-130
cis-1,2-Dichloroethene	119	70-130
1,1,1-Trichloroethane	106	70-130
Trichloroethene	100	70-130
Tetrachloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1405484-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c060504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/14 10:38 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	102	70-130
1,1-Dichloroethene	120	70-130
1,1-Dichloroethane	106	70-130
cis-1,2-Dichloroethene	119	70-130
1,1,1-Trichloroethane	105	70-130
Trichloroethene	100	70-130
Tetrachloroethene	101	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Mark Becker
Collected by: (Print and Sign) [illegible]
Company [illegible] Email [illegible]
Address [illegible] City [illegible] State CA Zip [illegible]
Phone 831-246-0211 Fax 408-356-6138

Project Info:
P.O. #
Project # [illegible]
Project Name COE EA Testing

Turn Around Time: ☑ Normal ☐ Rush specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01	27-EA-1	6L039	5/24/14	0700	TO-15 + Decode for list	-30	-7		
02	27-OA-1	23925		0710		-30	-6.5		
03	27-EA-2	34327		0715		-30	-6.5		
04	27-EA-4	3574		0720		-30	-7		
05	27-EA-3	30846		0724		-30	-6		
06	27-EA-5	6L005		0730		-30	-6.5		
07	27-EA-6	6L002		0734		-30	-7.5		
08	27-EA-7	5739		0740		-30	-7.5		
09	27-EA-8	14010		0745		-30	-7.5		
10	DUP-1	34399	↓	—	↓	-30	-7.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[illegible]	5/27/14 12:00	[illegible]	5/27/14 12:00
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[illegible]	5/27/14 [illegible]	[illegible] EAT	5/27/14 1515
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, ~~TCE~~ 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	LID		NA	Good	Yes No None	1405484

Form 1295 rev 1

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6/11/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IAQ Testing
Project #:
Workorder #: 1405485

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 5/27/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1405485

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	COE IAQ Testing
DATE RECEIVED:	05/27/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	27-OA-10	Modified TO-15	7.8 "Hg	5.3 psi
01B	27-OA-10	Modified TO-15	7.8 "Hg	5.3 psi
02A	27-IA-11	Modified TO-15	5.7 "Hg	5.3 psi
02B	27-IA-11	Modified TO-15	5.7 "Hg	5.3 psi
03A	27-IA-12	Modified TO-15	6.9 "Hg	5 psi
03B	27-IA-12	Modified TO-15	6.9 "Hg	5 psi
04A	27-IA-13	Modified TO-15	6.5 "Hg	5.2 psi
04B	27-IA-13	Modified TO-15	6.5 "Hg	5.2 psi
05A	27-IA-14	Modified TO-15	6.3 "Hg	5.4 psi
05B	27-IA-14	Modified TO-15	6.3 "Hg	5.4 psi
06A	27-IA-15	Modified TO-15	7.6 "Hg	5 psi
06B	27-IA-15	Modified TO-15	7.6 "Hg	5 psi
07A	27-IA-16	Modified TO-15	6.3 "Hg	4.9 psi
07B	27-IA-16	Modified TO-15	6.3 "Hg	4.9 psi
08A	27-IA-17	Modified TO-15	7.3 "Hg	5.3 psi
08B	27-IA-17	Modified TO-15	7.3 "Hg	5.3 psi
09A	27-IA-18	Modified TO-15	6.9 "Hg	5.2 psi
09B	27-IA-18	Modified TO-15	6.9 "Hg	5.2 psi
10A	DUP-1	Modified TO-15	6.7 "Hg	5.3 psi
10B	DUP-1	Modified TO-15	6.7 "Hg	5.3 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1405485

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	COE IAQ Testing
DATE RECEIVED:	05/27/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	06/09/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 06/10/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1405485

Ten 6 Liter Summa Canister (SIM Certified) samples were received on May 27, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A signature and date were not provided by the sample carrier.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 27-OA-10

Lab ID#: 1405485-01A
No Detections Were Found.

Client Sample ID: 27-OA-10

Lab ID#: 1405485-01B
No Detections Were Found.

Client Sample ID: 27-IA-11

Lab ID#: 1405485-02A
No Detections Were Found.

Client Sample ID: 27-IA-11

Lab ID#: 1405485-02B
No Detections Were Found.

Client Sample ID: 27-IA-12

Lab ID#: 1405485-03A
No Detections Were Found.

Client Sample ID: 27-IA-12

Lab ID#: 1405485-03B
No Detections Were Found.

Client Sample ID: 27-IA-13

Lab ID#: 1405485-04A
No Detections Were Found.

Client Sample ID: 27-IA-13

Lab ID#: 1405485-04B
No Detections Were Found.

Client Sample ID: 27-IA-14

Lab ID#: 1405485-05A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 27-IA-14

Lab ID#: 1405485-05A
No Detections Were Found.

Client Sample ID: 27-IA-14

Lab ID#: 1405485-05B
No Detections Were Found.

Client Sample ID: 27-IA-15

Lab ID#: 1405485-06A
No Detections Were Found.

Client Sample ID: 27-IA-15

Lab ID#: 1405485-06B
No Detections Were Found.

Client Sample ID: 27-IA-16

Lab ID#: 1405485-07A
No Detections Were Found.

Client Sample ID: 27-IA-16

Lab ID#: 1405485-07B
No Detections Were Found.

Client Sample ID: 27-IA-17

Lab ID#: 1405485-08A
No Detections Were Found.

Client Sample ID: 27-IA-17

Lab ID#: 1405485-08B
No Detections Were Found.

Client Sample ID: 27-IA-18

Lab ID#: 1405485-09A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 27-IA-18

Lab ID#: 1405485-09A

No Detections Were Found.

Client Sample ID: 27-IA-18

Lab ID#: 1405485-09B

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1405485-10A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1405485-10B

No Detections Were Found.

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Client Sample ID: 27-OA-10

Lab ID#: 1405485-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060309**	**Date of Collection:**	**5/26/14 7:09:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**6/3/14 02:03 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 27-OA-10

Lab ID#: 1405485-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060309sim**	**Date of Collection:**	**5/26/14 7:09:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**6/3/14 02:03 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 27-IA-11

Lab ID#: 1405485-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060310**	**Date of Collection:**	**5/26/14 7:14:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**6/3/14 02:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: 27-IA-11

Lab ID#: 1405485-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060310sim**	**Date of Collection:**	**5/26/14 7:14:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**6/3/14 02:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 27-IA-12

Lab ID#: 1405485-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060311**	**Date of Collection:**	**5/26/14 7:18:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/3/14 03:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 27-IA-12

Lab ID#: 1405485-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060311sim**	**Date of Collection:**	**5/26/14 7:18:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**6/3/14 03:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 27-IA-13

Lab ID#: 1405485-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060312**	**Date of Collection:**	**5/26/14 7:25:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**6/3/14 04:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	128	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 27-IA-13

Lab ID#: 1405485-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060312sim**	**Date of Collection:**	**5/26/14 7:25:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**6/3/14 04:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.18	Not Detected
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 27-IA-14

Lab ID#: 1405485-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060313**	**Date of Collection:**	**5/26/14 7:27:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**6/3/14 05:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	130	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-14

Lab ID#: 1405485-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060313sim**	**Date of Collection:**	**5/26/14 7:27:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**6/3/14 05:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.18	Not Detected
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-15

Lab ID#: 1405485-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060318**	**Date of Collection:**	**5/26/14 7:33:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**6/3/14 10:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	128	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-15

Lab ID#: 1405485-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060318sim**	**Date of Collection:**	**5/26/14 7:33:00 AM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**6/3/14 10:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-16

Lab ID#: 1405485-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060317**	**Date of Collection:**	**5/26/14 7:36:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**6/3/14 09:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-16

Lab ID#: 1405485-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060317sim**	**Date of Collection:**	**5/26/14 7:36:00 AM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**6/3/14 09:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-17

Lab ID#: 1405485-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060418**	**Date of Collection:**	**5/26/14 7:43:00 AM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**6/4/14 09:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-17

Lab ID#: 1405485-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060418sim**	**Date of Collection:**	**5/26/14 7:43:00 AM**
Dil. Factor:	**1.80**	**Date of Analysis:**	**6/4/14 09:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-18

Lab ID#: 1405485-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060421**	**Date of Collection:**	**5/26/14 7:48:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**6/4/14 11:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: 27-IA-18

Lab ID#: 1405485-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060421sim**	**Date of Collection:**	**5/26/14 7:48:00 AM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**6/4/14 11:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: DUP-1

Lab ID#: 1405485-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060420**	**Date of Collection: 5/26/14**	
Dil. Factor:	**1.75**	**Date of Analysis: 6/4/14 10:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: DUP-1

Lab ID#: 1405485-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060420sim**	**Date of Collection: 5/26/14**	
Dil. Factor:	**1.75**	**Date of Analysis: 6/4/14 10:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1405485-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 11:38 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	127	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405485-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060306sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 11:38 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405485-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 11:12 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405485-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060406sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 11:12 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405485-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 08:30 AM**	

Compound	**%Recovery**
Freon 113	81
Chloroform	85
1,2-Dichlorobenzene	81

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405485-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060302sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 08:30 AM**	

Compound	**%Recovery**
Vinyl Chloride	86
1,1-Dichloroethene	76
1,1-Dichloroethane	87
cis-1,2-Dichloroethene	79
1,1,1-Trichloroethane	91
Trichloroethene	86
Tetrachloroethene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405485-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 08:09 AM**	

Compound	**%Recovery**
Freon 113	79
Chloroform	83
1,2-Dichlorobenzene	88

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1405485-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 08:09 AM**	

Compound	**%Recovery**
Vinyl Chloride	86
1,1-Dichloroethene	76
1,1-Dichloroethane	89
cis-1,2-Dichloroethene	79
1,1,1-Trichloroethane	95
Trichloroethene	88
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405485-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 09:13 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	105	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	90	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405485-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 09:56 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	93	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405485-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 09:13 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	96	70-130
1,1-Dichloroethene	92	70-130
1,1-Dichloroethane	96	70-130
cis-1,2-Dichloroethene	97	70-130
1,1,1-Trichloroethane	99	70-130
Trichloroethene	95	70-130
Tetrachloroethene	106	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405485-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/3/14 09:56 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	95	70-130
1,1-Dichloroethene	92	70-130
1,1-Dichloroethane	96	70-130
cis-1,2-Dichloroethene	97	70-130
1,1,1-Trichloroethane	100	70-130
Trichloroethene	95	70-130
Tetrachloroethene	106	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405485-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 08:50 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	101	70-130
Chloroform	103	70-130
1,2-Dichlorobenzene	96	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405485-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	102	70-130
Chloroform	104	70-130
1,2-Dichlorobenzene	93	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	127	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1405485-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 08:50 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	96	70-130
1,1-Dichloroethene	90	70-130
1,1-Dichloroethane	98	70-130
cis-1,2-Dichloroethene	96	70-130
1,1,1-Trichloroethane	104	70-130
Trichloroethene	95	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1405485-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e060404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/14 09:32 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	97	70-130
1,1-Dichloroethene	91	70-130
1,1-Dichloroethane	97	70-130
cis-1,2-Dichloroethene	96	70-130
1,1,1-Trichloroethane	106	70-130
Trichloroethene	96	70-130
Tetrachloroethene	104	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	111	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Project Manager Mark Becker
Collected by: (Print and Sign) Wendy Chen
Company Stantec Email
Address 1501 Page Mill Rd, MS 1254 City Palo Alto State CA Zip 94304
Phone 831-246-0711 Fax 408-356-6138

Project Info:
P.O. #
Project # 185702836.200.0001
Project Name COE IAQ Testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	27-OA-10	1561	5/26/2014	709	TO-15 *See notes for list	-30	-7		
02A	27-IA-11	33326		714		-30	-6.5		
03A	27-IA-12	34455		718		-30	-8		
04A	27-IA-13	94602		725		-30	-7		
05A	27-IA-14	35289		727		-30	-7		
06A	27-IA-15	6L0024		733		-30	-7.5		
07A	27-IA-16	34024		736		-30	-7.5		
08A	27-IA-17	~~36046~~ 34415		743		-30	-7.5		
09A	27-IA-18	33899		748		-30	-7.5		
10A	DUP-1	36046		—		-30	-7		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Wendy Chen	5/27/2014 12:00	[illegible]	5/27/14 12:00
		EAC	5/27/14 1515

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	HID		NA	Good	Yes No (None)	1405485

Form 1293 rev.11

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7/18/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702836.200.0001
Workorder #: 1407020R1

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 7/1/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1407020R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	07/01/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/16/2014		
DATE REISSUED:	07/18/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	24-OA-1	Modified TO-15	8 "Hg	5.2 psi
01B	24-OA-1	Modified TO-15	8 "Hg	5.2 psi
02A	24-IA-1	Modified TO-15	6.5 "Hg	5 psi
02B	24-IA-1	Modified TO-15	6.5 "Hg	5 psi
03A	24-IA-2	Modified TO-15	6.7 "Hg	5.1 psi
03B	24-IA-2	Modified TO-15	6.7 "Hg	5.1 psi
04A	24-IA-3	Modified TO-15	6.1 "Hg	4.9 psi
04B	24-IA-3	Modified TO-15	6.1 "Hg	4.9 psi
05A	24-IA-4	Modified TO-15	6.9 "Hg	5.3 psi
05B	24-IA-4	Modified TO-15	6.9 "Hg	5.3 psi
06A	24-GR-1	Modified TO-15	0.0 "Hg	4.9 psi
06B	24-GR-1	Modified TO-15	0.0 "Hg	4.9 psi
07A	DUP-1	Modified TO-15	6.5 "Hg	4.9 psi
07B	DUP-1	Modified TO-15	6.5 "Hg	4.9 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
08C	Lab Blank	Modified TO-15	NA	NA
08D	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
09C	CCV	Modified TO-15	NA	NA
09D	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1407020R1

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	07/01/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/16/2014		
DATE REISSUED:	07/18/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA
10C	LCS	Modified TO-15	NA	NA
10CC	LCSD	Modified TO-15	NA	NA
10D	LCS	Modified TO-15	NA	NA
10DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 07/18/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1407020R1

Seven 6 Liter Summa Canister (SIM Certified) samples were received on July 01, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

THE WORKORDER WAS REISSUED ON 7/18/14 TO REMOVE A RECEIVING NOTE THAT DOES NOT APPLY TO THIS REPORT.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a

"sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 24-OA-1

Lab ID#: 1407020R1-01A

No Detections Were Found.

Client Sample ID: 24-OA-1

Lab ID#: 1407020R1-01B

No Detections Were Found.

Client Sample ID: 24-IA-1

Lab ID#: 1407020R1-02A

No Detections Were Found.

Client Sample ID: 24-IA-1

Lab ID#: 1407020R1-02B

No Detections Were Found.

Client Sample ID: 24-IA-2

Lab ID#: 1407020R1-03A

No Detections Were Found.

Client Sample ID: 24-IA-2

Lab ID#: 1407020R1-03B

No Detections Were Found.

Client Sample ID: 24-IA-3

Lab ID#: 1407020R1-04A

No Detections Were Found.

Client Sample ID: 24-IA-3

Lab ID#: 1407020R1-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.18	0.18	0.96

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 24-IA-4

Lab ID#: 1407020R1-05A

No Detections Were Found.

Client Sample ID: 24-IA-4

Lab ID#: 1407020R1-05B

No Detections Were Found.

Client Sample ID: 24-GR-1

Lab ID#: 1407020R1-06A

No Detections Were Found.

Client Sample ID: 24-GR-1

Lab ID#: 1407020R1-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.027	0.66	0.18	4.4

Client Sample ID: DUP-1

Lab ID#: 1407020R1-07A

No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1407020R1-07B

No Detections Were Found.

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Client Sample ID: 24-OA-1

Lab ID#: 1407020R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071220**	**Date of Collection:**	**6/27/14 8:10:00 AM**
Dil. Factor:	**1.84**	**Date of Analysis:**	**7/12/14 09:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 24-OA-1

Lab ID#: 1407020R1-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071220sim**	**Date of Collection:**	**6/27/14 8:10:00 AM**
Dil. Factor:	**1.84**	**Date of Analysis:**	**7/12/14 09:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.073	Not Detected
1,1-Dichloroethane	0.037	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.037	Not Detected	0.20	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 24-IA-1

Lab ID#: 1407020R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071418**	**Date of Collection:**	**6/27/14 8:15:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/14/14 10:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 24-IA-1

Lab ID#: 1407020R1-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071418sim**	**Date of Collection:**	**6/27/14 8:15:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/14/14 10:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 24-IA-2

Lab ID#: 1407020R1-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071419**	**Date of Collection:**	**6/27/14 8:20:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**7/14/14 10:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 24-IA-2

Lab ID#: 1407020R1-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071419sim**	**Date of Collection:**	**6/27/14 8:20:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**7/14/14 10:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 24-IA-3

Lab ID#: 1407020R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071420**	**Date of Collection:**	**6/27/14 8:25:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**7/14/14 11:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 24-IA-3

Lab ID#: 1407020R1-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071420sim**	**Date of Collection:**	**6/27/14 8:25:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**7/14/14 11:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	0.18	0.18	0.96
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: 24-IA-4

Lab ID#: 1407020R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071421**	**Date of Collection:**	**6/27/14 8:30:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**7/14/14 11:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: 24-IA-4

Lab ID#: 1407020R1-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071421sim**	**Date of Collection:**	**6/27/14 8:30:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**7/14/14 11:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: 24-GR-1

Lab ID#: 1407020R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071422**	**Date of Collection:**	**6/27/14 8:35:00 AM**
Dil. Factor:	**1.33**	**Date of Analysis:**	**7/15/14 06:14 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.13	Not Detected	1.0	Not Detected
Chloroform	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 24-GR-1

Lab ID#: 1407020R1-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071422sim**	**Date of Collection:**	**6/27/14 8:35:00 AM**
Dil. Factor:	**1.33**	**Date of Analysis:**	**7/15/14 06:14 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.10	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.14	Not Detected
Trichloroethene	0.027	Not Detected	0.14	Not Detected
Tetrachloroethene	0.027	0.66	0.18	4.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: DUP-1

Lab ID#: 1407020R1-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071423**	**Date of Collection:**	**6/27/14**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/15/14 07:01 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: DUP-1

Lab ID#: 1407020R1-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071423sim**	**Date of Collection:**	**6/27/14**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/15/14 07:01 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407020R1-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 11:47 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407020R1-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071206sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 11:47 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407020R1-08C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 10:47 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407020R1-08D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071405sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 10:47 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1407020R1-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071202**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 08:48 AM**

Compound	**%Recovery**
Freon 113	94
Chloroform	92
1,2-Dichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1407020R1-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071202sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 08:48 AM**	

Compound	**%Recovery**
Vinyl Chloride	82
1,1-Dichloroethene	93
1,1-Dichloroethane	95
cis-1,2-Dichloroethene	93
1,1,1-Trichloroethane	92
Trichloroethene	78
Tetrachloroethene	93

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: CCV

Lab ID#: 1407020R1-09C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071402**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 08:03 AM**

Compound	**%Recovery**
Freon 113	91
Chloroform	88
1,2-Dichlorobenzene	90

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1407020R1-09D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 08:03 AM**	

Compound	**%Recovery**
Vinyl Chloride	80
1,1-Dichloroethene	89
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	88
Trichloroethene	75
Tetrachloroethene	90

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1407020R1-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 09:28 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	117	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	93	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1407020R1-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 10:08 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	117	70-130
Chloroform	102	70-130
1,2-Dichlorobenzene	93	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1407020R1-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071203sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 09:28 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	104	70-130
cis-1,2-Dichloroethene	112	70-130
1,1,1-Trichloroethane	99	70-130
Trichloroethene	84	70-130
Tetrachloroethene	99	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCSD

Lab ID#: 1407020R1-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071204sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/12/14 10:08 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	88	70-130
1,1-Dichloroethene	111	70-130
1,1-Dichloroethane	104	70-130
cis-1,2-Dichloroethene	112	70-130
1,1,1-Trichloroethane	99	70-130
Trichloroethene	84	70-130
Tetrachloroethene	99	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1407020R1-10C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 08:44 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	113	70-130
Chloroform	99	70-130
1,2-Dichlorobenzene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1407020R1-10CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 09:38 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	118	70-130
Chloroform	101	70-130
1,2-Dichlorobenzene	96	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1407020R1-10D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 08:44 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	111	70-130
1,1,1-Trichloroethane	98	70-130
Trichloroethene	84	70-130
Tetrachloroethene	98	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1407020R1-10DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v071404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/14/14 09:38 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	88	70-130
1,1-Dichloroethene	110	70-130
1,1-Dichloroethane	104	70-130
cis-1,2-Dichloroethene	112	70-130
1,1,1-Trichloroethane	99	70-130
Trichloroethene	84	70-130
Tetrachloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	106	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Mark Becker
Collected by: (Print and Sign) Krista Myers
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd MS1254 City Palo Alto State CA Zip 94304
Phone (831) 246 0711 Fax 408356 6138

Project Info:
P.O. #
Project # 185702836.200.0001
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	24-OA-1	4180	6/27/14	0810	TO-15 *see notes for list	-30	-7.5		
02A	24-IA-1	1626		0815		-30	-8.5		
03A	24-IA-2	05358		0820		-30	-6.5		
04A	24-IA-3	4353		0825		-29	-7		
05A	24-IA-4	6L0010		0830		-30	-7		
06A	24-GR-1	12012		0835		-30	0		
07A	DUP-1	9912		—		-30	-7.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Krista Myers	7/1/14 13:39	[signature]	7-1-14 13:39
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
*TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, chloroform.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	HD	NA	NA	Good	Yes No None	1407020

Form 1293 rev.11

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7/24/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA testing
Project #: 185702836-200.0001
Workorder #: 1407272

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 7/14/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1407272

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836-200.0001
FAX:	503-297-5429	**PROJECT #**	185702836-200.0001 COE IA testing
DATE RECEIVED:	07/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/24/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	23-OA-2	Modified TO-15	6.5 "Hg	5.2 psi
01B	23-OA-2	Modified TO-15	6.5 "Hg	5.2 psi
02A	23-IA-4	Modified TO-15	6.3 "Hg	5.3 psi
02B	23-IA-4	Modified TO-15	6.3 "Hg	5.3 psi
03A	23-IA-5	Modified TO-15	6.7 "Hg	5.3 psi
03B	23-IA-5	Modified TO-15	6.7 "Hg	5.3 psi
04A	23-IA-6	Modified TO-15	6.5 "Hg	5.2 psi
04B	23-IA-6	Modified TO-15	6.5 "Hg	5.2 psi
05A	23-IA-7	Modified TO-15	6.9 "Hg	5.3 psi
05B	23-IA-7	Modified TO-15	6.9 "Hg	5.3 psi
06A	23-IA-8	Modified TO-15	6.3 "Hg	5.2 psi
06B	23-IA-8	Modified TO-15	6.3 "Hg	5.2 psi
07A	23-IA-9	Modified TO-15	6.7 "Hg	5.1 psi
07B	23-IA-9	Modified TO-15	6.7 "Hg	5.1 psi
08A	23-IA-10	Modified TO-15	6.5 "Hg	5 psi
08B	23-IA-10	Modified TO-15	6.5 "Hg	5 psi
09A	23-IA-11	Modified TO-15	6.1 "Hg	5.2 psi
09B	23-IA-11	Modified TO-15	6.1 "Hg	5.2 psi
10A	DUP-1	Modified TO-15	5.9 "Hg	5.1 psi
10B	DUP-1	Modified TO-15	5.9 "Hg	5.1 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1407272

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836-200.0001
FAX:	503-297-5429	**PROJECT #**	185702836-200.0001 COE IA testing
DATE RECEIVED:	07/14/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/24/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11D	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA
12D	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA
13D	LCS	Modified TO-15	NA	NA
13DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 07/24/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1407272

Ten 6 Liter Summa Canister (SIM Certified) samples were received on July 14, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 23-OA-2

Lab ID#: 1407272-01A

No Detections Were Found.

Client Sample ID: 23-OA-2

Lab ID#: 1407272-01B

No Detections Were Found.

Client Sample ID: 23-IA-4

Lab ID#: 1407272-02A

No Detections Were Found.

Client Sample ID: 23-IA-4

Lab ID#: 1407272-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.017	0.017	0.068	0.069
cis-1,2-Dichloroethene	0.034	0.11	0.14	0.45
Trichloroethene	0.034	1.7	0.18	9.4

Client Sample ID: 23-IA-5

Lab ID#: 1407272-03A

No Detections Were Found.

Client Sample ID: 23-IA-5

Lab ID#: 1407272-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	0.018	0.20	0.069	0.82
1,1-Dichloroethane	0.035	0.070	0.14	0.28
cis-1,2-Dichloroethene	0.035	1.3	0.14	5.3
1,1,1-Trichloroethane	0.035	0.065	0.19	0.36
Trichloroethene	0.035	24	0.19	130

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 23-IA-6

Lab ID#: 1407272-04A

No Detections Were Found.

Client Sample ID: 23-IA-6

Lab ID#: 1407272-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.049	0.18	0.26

Client Sample ID: 23-IA-7

Lab ID#: 1407272-05A

No Detections Were Found.

Client Sample ID: 23-IA-7

Lab ID#: 1407272-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.047	0.19	0.25

Client Sample ID: 23-IA-8

Lab ID#: 1407272-06A

No Detections Were Found.

Client Sample ID: 23-IA-8

Lab ID#: 1407272-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.066	0.18	0.36

Client Sample ID: 23-IA-9

Lab ID#: 1407272-07A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 23-IA-9

Lab ID#: 1407272-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.049	0.19	0.26

Client Sample ID: 23-IA-10

Lab ID#: 1407272-08A

No Detections Were Found.

Client Sample ID: 23-IA-10

Lab ID#: 1407272-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.046	0.18	0.24

Client Sample ID: 23-IA-11

Lab ID#: 1407272-09A

No Detections Were Found.

Client Sample ID: 23-IA-11

Lab ID#: 1407272-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.048	0.18	0.26

Client Sample ID: DUP-1

Lab ID#: 1407272-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	0.17	0.18	0.82	0.91

Client Sample ID: DUP-1

Lab ID#: 1407272-10B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: DUP-1

Lab ID#: 1407272-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	0.15	0.18	0.82

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Client Sample ID: 23-OA-2

Lab ID#: 1407272-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072216**	**Date of Collection:**	**7/11/14 7:49:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**7/22/14 10:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 23-OA-2

Lab ID#: 1407272-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072216sim**	**Date of Collection:**	**7/11/14 7:49:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**7/22/14 10:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.18	Not Detected
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 23-IA-4

Lab ID#: 1407272-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072217**	**Date of Collection:**	**7/11/14 7:54:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**7/23/14 08:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	75	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 23-IA-4

Lab ID#: 1407272-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072217sim**	**Date of Collection:**	**7/11/14 7:54:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**7/23/14 08:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	0.017	0.068	0.069
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	0.11	0.14	0.45
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	1.7	0.18	9.4
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 23-IA-5

Lab ID#: 1407272-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072218**	**Date of Collection:**	**7/11/14 7:59:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**7/23/14 09:16 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 23-IA-5

Lab ID#: 1407272-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072218sim**	**Date of Collection:**	**7/11/14 7:59:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**7/23/14 09:16 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	0.20	0.069	0.82
1,1-Dichloroethane	0.035	0.070	0.14	0.28
cis-1,2-Dichloroethene	0.035	1.3	0.14	5.3
1,1,1-Trichloroethane	0.035	0.065	0.19	0.36
Trichloroethene	0.035	24	0.19	130
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 23-IA-6

Lab ID#: 1407272-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072308**	**Date of Collection:**	**7/11/14 8:05:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**7/23/14 01:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 23-IA-6

Lab ID#: 1407272-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072308sim**	**Date of Collection:**	**7/11/14 8:05:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**7/23/14 01:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.049	0.18	0.26
Tetrachloroethene	0.035	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 23-IA-7

Lab ID#: 1407272-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072309**	**Date of Collection:**	**7/11/14 8:08:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**7/23/14 02:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.4	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: 23-IA-7

Lab ID#: 1407272-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072309sim**	**Date of Collection:**	**7/11/14 8:08:00 AM**
Dil. Factor:	**1.77**	**Date of Analysis:**	**7/23/14 02:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.070	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.047	0.19	0.25
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 23-IA-8

Lab ID#: 1407272-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072310**	**Date of Collection:**	**7/11/14 8:13:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**7/23/14 02:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 23-IA-8

Lab ID#: 1407272-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072310sim**	**Date of Collection:**	**7/11/14 8:13:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**7/23/14 02:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.066	0.18	0.36
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 23-IA-9

Lab ID#: 1407272-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072311**	**Date of Collection:**	**7/11/14 8:36:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**7/23/14 03:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: 23-IA-9

Lab ID#: 1407272-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072311sim**	**Date of Collection:**	**7/11/14 8:36:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**7/23/14 03:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	0.049	0.19	0.26
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 23-IA-10

Lab ID#: 1407272-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072312**	**Date of Collection:**	**7/11/14 8:39:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/23/14 04:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 23-IA-10

Lab ID#: 1407272-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072312sim**	**Date of Collection:**	**7/11/14 8:39:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/23/14 04:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	0.046	0.18	0.24
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 23-IA-11

Lab ID#: 1407272-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072313**	**Date of Collection:**	**7/11/14 8:41:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/23/14 05:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 23-IA-11

Lab ID#: 1407272-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072313sim**	**Date of Collection:**	**7/11/14 8:41:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/23/14 05:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	0.048	0.18	0.26
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: DUP-1

Lab ID#: 1407272-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072314**	**Date of Collection: 7/11/14**	
Dil. Factor:	**1.68**	**Date of Analysis: 7/23/14 06:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	0.18	0.82	0.91
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: DUP-1

Lab ID#: 1407272-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072314sim**	**Date of Collection: 7/11/14**	
Dil. Factor:	**1.68**	**Date of Analysis: 7/23/14 06:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	0.15	0.18	0.82
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407272-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072213**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 07:54 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407272-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072213sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 07:54 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407272-11C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072307**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 12:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407272-11D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072307sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 12:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: CCV

Lab ID#: 1407272-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 11:26 AM**	

Compound	**%Recovery**
Freon 113	82
Chloroform	78
1,2-Dichlorobenzene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: CCV

Lab ID#: 1407272-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072203sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 11:26 AM**	

Compound	**%Recovery**
Vinyl Chloride	78
1,1-Dichloroethene	82
1,1-Dichloroethane	80
cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane	81
Trichloroethene	80
Tetrachloroethene	88

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: CCV

Lab ID#: 1407272-12C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 09:24 AM**	

Compound	**%Recovery**
Freon 113	102
Chloroform	101
1,2-Dichlorobenzene	91

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: CCV

Lab ID#: 1407272-12D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 09:24 AM**	

Compound	**%Recovery**
Vinyl Chloride	75
1,1-Dichloroethene	96
1,1-Dichloroethane	101
cis-1,2-Dichloroethene	95
1,1,1-Trichloroethane	103
Trichloroethene	86
Tetrachloroethene	96

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1407272-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 12:11 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	85	70-130
1,2-Dichlorobenzene	97	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: LCSD

Lab ID#: 1407272-13AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 12:53 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	98	70-130
Chloroform	83	70-130
1,2-Dichlorobenzene	101	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCS

Lab ID#: 1407272-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072204sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 12:11 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	89	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	85	70-130
cis-1,2-Dichloroethene	106	70-130
1,1,1-Trichloroethane	84	70-130
Trichloroethene	84	70-130
Tetrachloroethene	91	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1407272-13BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e072205sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/22/14 12:53 PM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	88	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	84	70-130
cis-1,2-Dichloroethene	106	70-130
1,1,1-Trichloroethane	83	70-130
Trichloroethene	83	70-130
Tetrachloroethene	91	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCS

Lab ID#: 1407272-13C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 10:13 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	106	70-130
Chloroform	94	70-130
1,2-Dichlorobenzene	79	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 1407272-13CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072305**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 10:54 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	102	70-130
Chloroform	91	70-130
1,2-Dichlorobenzene	85	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1407272-13D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 10:13 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	86	70-130
1,1-Dichloroethene	105	70-130
1,1-Dichloroethane	100	70-130
cis-1,2-Dichloroethene	104	70-130
1,1,1-Trichloroethane	98	70-130
Trichloroethene	82	70-130
Tetrachloroethene	93	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1407272-13DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072305sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/23/14 10:54 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	83	70-130
1,1-Dichloroethene	102	70-130
1,1-Dichloroethane	98	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	96	70-130
Trichloroethene	82	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Mark Becker
Collected by: (Print and Sign) Krista Myers
Company: Stantec Email:
Address: 1501 Page Mill Rd ms 1254 City: Palo Alto State: CA Zip: 94304
Phone: (831) 246 0711 Fax: (408) 356 6138

Project Info:
P.O. #:
Project #: 185702836.200.0001
Project Name: CDE IA testing

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	23-OA-2	5794	7/11/14	0749	TO-15 * see notes for list	-29.5	-7		
02A	23-IA-4	34391		0754		-30	-6		
03A	23-IA-5	34425		0759		-30	-7		
04A	23-IA-6	34339		0805		-30	-6.5		
05A	23-IA-7	5585		0808		-30	-7		
06A	23-IA-8	927		0813		-30	-6.5		
07A	23-IA-9	34351		0836		-29.5	-7		
08A	23-IA-10	34367		0839		-30	-8		
09A	23-IA-11	9423		0841		-30	-6.5		
10A	DUP-1	9414		—		-30	-6.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	7-14-14 1300	[signature]	7-14-14 1300
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	HD		NA	Good	Yes No None	1407272

Form 1293 rev.11

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7/31/2014
Mr. Pat Vaughan
Stantec Consulting Corporation
9400 SW Barnes Road
Suite 200
Portland OR 97225

Project Name: COE IA Testing
Project #: 185702836.200.0001
Workorder #: 1407384

Dear Mr. Pat Vaughan

The following report includes the data for the above referenced project for sample(s) received on 7/22/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1407384

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	07/22/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/29/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	29-OA-1	Modified TO-15	7.1 "Hg	4.8 psi
01B	29-OA-1	Modified TO-15	7.1 "Hg	4.8 psi
02A	29-IA-1	Modified TO-15	6.9 "Hg	5.1 psi
02B	29-IA-1	Modified TO-15	6.9 "Hg	5.1 psi
03A	29-IA-2	Modified TO-15	6.5 "Hg	4.8 psi
03B	29-IA-2	Modified TO-15	6.5 "Hg	4.8 psi
04A	29-IA-3	Modified TO-15	5.9 "Hg	5 psi
04B	29-IA-3	Modified TO-15	5.9 "Hg	5 psi
05A	29-IA-4	Modified TO-15	6.5 "Hg	4.9 psi
05B	29-IA-4	Modified TO-15	6.5 "Hg	4.9 psi
06A	29-IA-5	Modified TO-15	6.3 "Hg	5.1 psi
06B	29-IA-5	Modified TO-15	6.3 "Hg	5.1 psi
07A	DUP-1	Modified TO-15	6.7 "Hg	4.9 psi
07B	DUP-1	Modified TO-15	6.7 "Hg	4.9 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
08C	Lab Blank	Modified TO-15	NA	NA
08D	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
09C	CCV	Modified TO-15	NA	NA
09D	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1407384

Work Order Summary

CLIENT:	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225	**BILL TO:**	Mr. Pat Vaughan Stantec Consulting Corporation 9400 SW Barnes Road Suite 200 Portland, OR 97225
PHONE:	503-297-1631	**P.O. #**	185702836.200.0001
FAX:	503-297-5429	**PROJECT #**	185702836.200.0001 COE IA Testing
DATE RECEIVED:	07/22/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/29/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA
10C	LCS	Modified TO-15	NA	NA
10CC	LCSD	Modified TO-15	NA	NA
10D	LCS	Modified TO-15	NA	NA
10DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 07/29/14

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-13-6, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stantec Consulting Corporation
Workorder# 1407384

Seven 6 Liter Summa Canister (SIM Certified) samples were received on July 22, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 29-OA-1

Lab ID#: 1407384-01A
No Detections Were Found.

Client Sample ID: 29-OA-1

Lab ID#: 1407384-01B
No Detections Were Found.

Client Sample ID: 29-IA-1

Lab ID#: 1407384-02A
No Detections Were Found.

Client Sample ID: 29-IA-1

Lab ID#: 1407384-02B
No Detections Were Found.

Client Sample ID: 29-IA-2

Lab ID#: 1407384-03A
No Detections Were Found.

Client Sample ID: 29-IA-2

Lab ID#: 1407384-03B
No Detections Were Found.

Client Sample ID: 29-IA-3

Lab ID#: 1407384-04A
No Detections Were Found.

Client Sample ID: 29-IA-3

Lab ID#: 1407384-04B
No Detections Were Found.

Client Sample ID: 29-IA-4

Lab ID#: 1407384-05A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: 29-IA-4

Lab ID#: 1407384-05A
No Detections Were Found.

Client Sample ID: 29-IA-4

Lab ID#: 1407384-05B
No Detections Were Found.

Client Sample ID: 29-IA-5

Lab ID#: 1407384-06A
No Detections Were Found.

Client Sample ID: 29-IA-5

Lab ID#: 1407384-06B
No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1407384-07A
No Detections Were Found.

Client Sample ID: DUP-1

Lab ID#: 1407384-07B
No Detections Were Found.

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Client Sample ID: 29-OA-1

Lab ID#: 1407384-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072516**	**Date of Collection:**	**7/18/14 8:06:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**7/25/14 09:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 29-OA-1

Lab ID#: 1407384-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072516sim**	**Date of Collection:**	**7/18/14 8:06:00 AM**
Dil. Factor:	**1.74**	**Date of Analysis:**	**7/25/14 09:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 29-IA-1

Lab ID#: 1407384-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072517**	**Date of Collection:**	**7/18/14 8:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**7/25/14 10:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.18	Not Detected	1.3	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 29-IA-1

Lab ID#: 1407384-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072517sim**	**Date of Collection:**	**7/18/14 8:15:00 AM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**7/25/14 10:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 29-IA-2

Lab ID#: 1407384-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072518**	**Date of Collection:**	**7/18/14 8:20:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/26/14 06:54 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 29-IA-2

Lab ID#: 1407384-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072518sim**	**Date of Collection:**	**7/18/14 8:20:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/26/14 06:54 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 29-IA-3

Lab ID#: 1407384-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072519**	**Date of Collection:**	**7/18/14 8:23:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**7/26/14 07:35 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 29-IA-3

Lab ID#: 1407384-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072519sim**	**Date of Collection:**	**7/18/14 8:23:00 AM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**7/26/14 07:35 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: 29-IA-4

Lab ID#: 1407384-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072520**	**Date of Collection:**	**7/18/14 8:30:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/26/14 08:18 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 29-IA-4

Lab ID#: 1407384-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072520sim**	**Date of Collection:**	**7/18/14 8:30:00 AM**
Dil. Factor:	**1.70**	**Date of Analysis:**	**7/26/14 08:18 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: 29-IA-5

Lab ID#: 1407384-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072809**	**Date of Collection:**	**7/18/14 8:35:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/28/14 03:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: 29-IA-5

Lab ID#: 1407384-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072809sim**	**Date of Collection:**	**7/18/14 8:35:00 AM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/28/14 03:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: DUP-1

Lab ID#: 1407384-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072810**	**Date of Collection: 7/18/14**	
Dil. Factor:	**1.72**	**Date of Analysis: 7/28/14 04:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: DUP-1

Lab ID#: 1407384-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072810sim**	**Date of Collection: 7/18/14**	
Dil. Factor:	**1.72**	**Date of Analysis: 7/28/14 04:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.19	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407384-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072507**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 01:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407384-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072507sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 01:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407384-08C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072808**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 02:21 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407384-08D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072808sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 02:21 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: CCV

Lab ID#: 1407384-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 10:06 AM**	

Compound	**%Recovery**
Freon 113	98
Chloroform	98
1,2-Dichlorobenzene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: CCV

Lab ID#: 1407384-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 10:06 AM**	

Compound	**%Recovery**
Vinyl Chloride	90
1,1-Dichloroethene	93
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	95
1,1,1-Trichloroethane	100
Trichloroethene	85
Tetrachloroethene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: CCV

Lab ID#: 1407384-09C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072803**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 09:57 AM**

Compound	**%Recovery**
Freon 113	98
Chloroform	97
1,2-Dichlorobenzene	84

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: CCV

Lab ID#: 1407384-09D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072803sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 09:57 AM**	

Compound	**%Recovery**
Vinyl Chloride	91
1,1-Dichloroethene	98
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	96
1,1,1-Trichloroethane	105
Trichloroethene	86
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1407384-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 11:02 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	100	70-130
Chloroform	89	70-130
1,2-Dichlorobenzene	87	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCSD

Lab ID#: 1407384-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 11:44 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	109	70-130
Chloroform	93	70-130
1,2-Dichlorobenzene	87	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCS

Lab ID#: 1407384-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 11:02 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	92	70-130
1,1-Dichloroethene	101	70-130
1,1-Dichloroethane	98	70-130
cis-1,2-Dichloroethene	104	70-130
1,1,1-Trichloroethane	94	70-130
Trichloroethene	82	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1407384-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072505sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/25/14 11:44 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	88	70-130
1,1-Dichloroethene	101	70-130
1,1-Dichloroethane	99	70-130
cis-1,2-Dichloroethene	106	70-130
1,1,1-Trichloroethane	94	70-130
Trichloroethene	82	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1407384-10C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 10:41 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	104	70-130
Chloroform	94	70-130
1,2-Dichlorobenzene	84	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1407384-10CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072805**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 11:19 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 113	107	70-130
Chloroform	93	70-130
1,2-Dichlorobenzene	82	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCS

Lab ID#: 1407384-10D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072804sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 10:41 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	90	70-130
1,1-Dichloroethene	105	70-130
1,1-Dichloroethane	101	70-130
cis-1,2-Dichloroethene	105	70-130
1,1,1-Trichloroethane	100	70-130
Trichloroethene	83	70-130
Tetrachloroethene	94	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1407384-10DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**c072805sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/14 11:19 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	86	70-130
1,1-Dichloroethene	104	70-130
1,1-Dichloroethane	100	70-130
cis-1,2-Dichloroethene	105	70-130
1,1,1-Trichloroethane	98	70-130
Trichloroethene	83	70-130
Tetrachloroethene	93	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Project Manager Mark Becker
Collected by: (Print and Sign) Krista Myers
Company Stantec Email mark.becker@stantec.com
Address 1501 Page Mill Rd MS 1254 City Palo Alto State CA Zip 94304
Phone (831) 246 0711 Fax (408) 356 6138

Project Info:
P.O. #
Project # 185702836.200.0001
Project Name COE IA Testing

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	29-OA-1	~~127~~ 12676	7/18/14	0806	TO-15 *see notes for	-29.5	-6		
02A	29-IA-1	34200	↓	0815	list	-29.5	-7		
03A	29-IA-2	5737	↓	0820	↓	-30	-7		
04A	29-IA-3	9583	↓	0823	↓	-30	-7		
05A	29-IA-4	05703	↓	0830	↓	-30	-7		
06A	29-IA-5	34202	↓	0835	↓	-30	-6.5		
07A	DUP-1	1651	↓	—	↓	-30	-8		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Krista Myers	7/22/2014 12:15	[signature]	7-22-14 12:15
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
*TCE, cis-1,2-DCE, VC, PCE, 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,1,1-TCA, Freon 113, Chloroform

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	EAT Dropoff		NA	Good	Yes No None	1407384

Form 1293 rev.11