Technical Memorandum

To:	Ms. Rachel Loftin, Remedial Project Manager, United States Environmental Protection Agency, Region 9		
From:	Ms. Patricia Clymer, Project Manager, ITSI Gilbane Company		
Date:	July 2, 2013		
Subject:	**Indoor Air Sampling, Winter 2013, DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site, Tempe, Arizona**		
Contract/TO:	EP-S9-08-03, TO 0017	**ITSI Gilbane DCN:**	07163.0018.73

INTRODUCTION

This Technical Memorandum presents and discusses the results of the winter 2013 indoor air sampling event for the DCE Circuits Subsite (the Site) of the South Indian Bend Wash (SIBW) Superfund Site located in Tempe, Arizona (Figure 1). The indoor air sampling event was conducted in January 2013 by ITSI Gilbane Company (ITSI Gilbane; formerly Innovative Technical Solutions, Inc. [ITSI]) on behalf of the United States Environmental Protection Agency (EPA), Region 9. ITSI Gilbane completed the indoor air sampling activities as part of a revised scope of work outlined in Task 1.8.1 of the September 9, 2008, Work Plan prepared under EPA RAC II Contract EP-S9-08-03, Task Order 0017.

The findings, interpretations, and recommendations presented in this memorandum are based on the analytical results for previous indoor air and/or soil vapor sampling events (from August 2009 through August 2012) and the current (winter 2013) indoor air sampling event. The buildings at the Site have been designated as historical landmarks limiting activities that could impact them. Contaminants of concern (COCs) concentrations for all monitoring events are presented in Tables 1, 2, and 3 for indoor air, soil vapor, and outdoor air, respectively. The data evaluation and discussion presented herein for the indoor air, soil vapor, and outdoor air concentrations considered all the data in Tables 1, 2, and 3.

In conducting the winter 2013 sampling event and preparing this technical memorandum, ITSI Gilbane reviewed the following documents which are listed in the manner referenced in this memorandum:

- *Indoor Air Sampling Plan, SIBW DCE Circuits, Tempe, AZ (Indoor Air Sampling Plan; CH2M Hill, 2007).*
- *Groundwater Field Sampling Plan Addendum #2, Ambient Air Sampling (CH2M Hill, 2008a).*
- *Summary of Building Ventilation Analysis for South Indian Bend Wash (SIBW) DCE Circuits Subsite (CH2M Hill, 2008b).*
- *Summary of Field Activities at South Indian Bend Wash (SIBW) DCE Circuits Subsite, October 2005 through May 2008, May 21, 2008 (CH2M Hill, 2008c).*

- *Final Field Sampling Plan, South Indian Bend Wash Remedial Action (RA), Tempe, Arizona (ITSI, 2009a).*
- *Technical Memorandum, Site HVAC Inspection and Review of "Summary of Building Ventilation Analysis for South Indian Bend Wash (SIBW) DCE Circuits Subsite," February 26, 2009 (ITSI, 2009b).*
- *Site-Specific Health and Safety Plan, DCE Circuits Subsite of South Indian Bend Wash Long Term Response Action, Tempe, Arizona (Health and Safety Plan; ITSI, 2009c).*
- *ERV Installation Report, DCE Circuits Superfund Site, Tempe, AZ (ITSI, 2009d).*
- *Sampling and Analysis Plan Addendum for DCE Circuits Superfund Site, Tempe, Arizona (ITSI, 2009e).*
- *Revised Summer Soil Vapor and Indoor Air Monitoring, August 2009, South Indian Bend Wash (SIBW) DCE Circuits Subsite, Tempe, Arizona, March 2010 (ITSI, 2010a).*
- *Soil Vapor Monitoring Well Abandonment, South Indian Bend Wash (SIBW) DCE Circuits Subsite, Tempe, Arizona (ITSI, June 24, 2010b).*
- *Indoor Air Monitoring, Summer 2011, South Indian Bend Wash (SIBW) DCE Circuits Subsite, Tempe, Arizona,* (ITSI, March, 2013).
- ITSI Gilbane, 2013a. Indoor Air Sampling, Summer 2012, DCE Circuits Subsite of the South Indian Bend Wash (SIBW) Superfund Site, Tempe, Arizona. March.
- ITSI Gilbane, 2013b. Soil Vapor Extraction Pilot Study Report, South Indian Bend Wash DCE Circuits Subsite, Tempe, Arizona. March.
- *Sampling and Analysis Plan, Ambient Air Monitoring, North Indian Bend Wash Superfund Site* (SAP; Participating Companies [PCs], 2008).

BACKGROUND

The Site includes two single-story buildings, located at 1300 East 8th Street and 1340 East 8th Street in Tempe, Arizona. The buildings were constructed in 1927 as additions to the Creamery/Borden Company facility (built in 1892), and are separated by a common outdoor parking area (see Figure 2 for the building layout). The buildings show a variety of construction techniques using brick, reinforced concrete, concrete block, frame, and metal, with slab-on-grade concrete foundations and high ceilings (17 feet high in Building 1340, Suite 101). The Site and the surrounding areas are characterized by a variety of land uses, including commercial warehouses, businesses (including restaurants), and residences (homes and apartments). The COCs at the Site are the volatile organic compounds (VOCs) 1,1-DCE, cis-1,2-DCE, 1,1,1-TCA, TCE, and PCE in groundwater and soil vapor with TCE and PCE as the primary site COCs. These five compounds are the only VOCs that have been detected in groundwater, soil vapor, or indoor air at the Site. The indoor air site data is compared to the EPA Region 9 Risk Screening Levels (RSLs) or RSL Protective Risk Range for industrial scenarios. The soil vapor monitoring data is compared to the Soil Gas Human Health Screening Levels (SGHHSLs) for industrial scenarios. The SGHHSLs are presented in Appendix A. EPA periodically updates the RSLs and SGHHSLs.

Table 1 presents the analytical results for indoor air data collected at the site from March 2007 through January 2013. Table 2 presents the analytical results for the Site COCs in soil vapor samples collected at the Site from 2005 through summer 2012. Also included in Table 2 are the industrial indoor air EPA risk ranges and SGHHSLs. While soil vapor samples were not collected in winter 2013, historical soil vapor data are provided for reference.

The primary objective of the indoor air monitoring at the Site building is to monitor the indoor air quality for potential vapor intrusion from soil vapors underneath the building. Of the COCs identified above, only PCE and TCE have been detected at concentrations above their industrial RSLs, but within the Industrial RSL Protective Risk Range, in indoor air samples from most prior sampling events.

WINTER 2013 INDOOR AIR SAMPLING EVENT

This section describes and summarizes the analytical results for the indoor air sampling event conducted by ITSI Gilbane on January 30 and 31, 2013. COC concentrations in indoor air for this and prior events are presented in Table 1.

Health and Safety

In accordance with the Health and Safety Plan (ITSI, 2009c), ITSI Gilbane held a daily tailgate health and safety (H&S) meeting before beginning work at the Site. Issues discussed included climbing on ladders to place the ambient air sample collection devices on the roof; and traffic safety, particularly the increased traffic in the parking lot between the buildings related to construction activities in Building 1300.

Quality Control for the Indoor Air Sampling

Note for Clarification: In this discussion, vacuum is expressed as the magnitude of the negative deviation from atmospheric pressure, in units of inches of mercury (in. Hg). For example, a vacuum reading expressed as “6.0 in. Hg” indicates a pressure 6.0 in. Hg *less* than atmospheric pressure (i.e., a gauge pressure of -6.0 in. Hg). A vacuum reading of 0.0 in. Hg indicates equilibrium with atmospheric pressure.

Indoor air samples were collected using six-liter, certified-clean Summa canisters supplied by Airtech Environmental Laboratory (Airtech), Phoenix, Arizona. Certificates are presented in Appendix B. Each canister was provided with a 24-hour flow control regulator. The initial vacuum of each canister was measured in the field prior to sample collection to verify that the canisters had been evacuated properly and had sufficient vacuum for the sample collection. Based on previously established guidelines (CH2M Hill, 2008b), canisters with initial vacuum readings less than 25 in. Hg were rejected. The initial vacuum readings of the canisters for the winter 2013 sampling event ranged from 27.5 in. Hg to 29.0 in. Hg (see Table 4). All supplied canisters were accepted for use.

At the end of each 24-hour sample-collection period, the final vacuum of each canister was measured to verify that the canister had filled adequately. According to the SAP (PCs, 2008), final vacuum readings lower than 1.0 in. Hg indicate that the sample is invalid, and samples

showing a final vacuum reading less than 4.0 in. Hg are not usable for time-weighted average sampling. The Indoor Air Sampling Plan (CH2M Hill, 2007) states that the final vacuums should be between 10.0 in. Hg and 5.0 in. Hg.

The final vacuum readings for the winter 2013 sampling event ranged between 6 and 8.5 in. Hg (see Table 4), and all final vacuum readings were within the desired range.

Pre-Sampling Site Activities

The ITSI Gilbane Project Manager communicated by phone and e-mail with the tenants and with the building manager to discuss scheduling and to ensure that ITSI Gilbane had access to the suites. As part of the sampling event, ITSI Gilbane field personnel gathered pertinent information from the building manager and the tenants in Suites 101 and 117 in Building 1340. Discussions with the tenants and with the building manager were documented in Pre-Sampling Questionnaires and did not identify any recent activities or changes in activities in the suites that would impact the analytical results for the indoor air samples. However, when the canisters were being set, workers were making repairs to the roof of Building 1340. The building manager informed ITSI Gilbane that repairs were being made as a result of leaks from broken water pipes that had frozen earlier in the week. The broken pipes were located between Suite 101 and the suite to the east (Suite 115) that adjoins Suite 117. Suite 115 is not considered part of the DCE Subsite and not included in the DCE site monitoring program. According to the building manager, tar was used to repair the roof. The completed Pre-Sampling Questionnaires are presented in Appendix C.

Air Sampling Activities and Analytical Results

Seven air samples were collected during the winter 2013 sampling event: five indoor air samples, one indoor air duplicate sample, and one outdoor air (ambient or background) sample. As noted above, no soil vapor samples were collected during the winter 2013 sampling event, as VOC concentrations in soil vapor samples collected during the SVE pilot test study (completed in February 2012) indicated that there had been no significant changes in soil vapor concentrations since 2009.

Building 1300: No indoor air samples were collected from Building 1300, suites 100 and 105. COCs in these two suites have remained non-detect since August 2009, and were non-detect in the summer 2012 sampling event.

Building 1340: Two indoor air samples were collected from Suite 101, one from Suite 116, and three from Suite 117. The outdoor air (background) sample was collected on the roof of Building 1340.

All air samples were twenty-four-hour composite samples collected in six-liter Summa canisters. For consistency, ITSI Gilbane placed the canisters as closely as possible to the locations used during previous indoor air sampling events. The approximate locations where the canisters were placed for the January 2013 event are shown on Figure 3. The Photographic Log (Appendix D) includes photographs showing details of the canister locations for indoor air sampling.

ITSI Gilbane personnel set up all of the canisters on the morning of January 30, 2013, and returned to close and collect the canisters on the morning of January 31, 2013. The Summa canisters were submitted to Airtech under chain-of-custody control for analysis by EPA Method

TO-15 with selected ion monitoring (SIM). Indoor air analytical results are presented in Table 1. Copies of the analytical laboratory data are provided as Appendix B, and the Quality Control Summary Report is presented in Appendix E.

In the discussion below, TCE and PCE analytical results are compared to the EPA Region 9 industrial indoor air RSL risk ranges (EPA, 2012).

Outdoor Air (Background) Sample

One six-liter Summa canister was placed on the roof of Building 1340 to collect the outdoor (background) air sample. This outdoor air sample was designated DCE-B1340-Roof-0130. The canister was placed on the roof near the western edge of the building (see Figure 3) to avoid potential interference with exhaust from the heating, ventilation, and air conditioning (HVAC) units that are more centrally located on the roof. PCE was detected in this sample at 0.47 ug/m^3 (see Table 2), while TCE was not detected (< 0.21 ug/m^3). COCs had not been detected in background (outdoor) air samples collected on the roof since the November 2011 sample, which was collected prior to the SVE pilot study.

Building 1340, Suite 101

Two indoor air samples were collected in Suite 101, which is occupied by Espresso Italia, a distributor of commercial espresso machines and accessories. The energy recovery ventilation (ERV) unit was not operating during this sampling event, nor was an evaporative cooler that had been installed prior to the December 2012 sampling event. Samples DCE-B1340-101-H-0130 and DCE-B1340-L-0130 were collected from approximately six feet and three feet, respectively, above the floor level in the center of the main warehouse area.

PCE has been detected in every indoor air sample collected in Suite 101 since August 2009, with the exception of the August 5, 2010, sample. Analytical results for the indoor air samples collected from Building 1340, Suite 101 during the winter 2013 sampling event are as follows:

- 1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA were not detected.
- PCE was detected in indoor air sample DCE-B1340-101-H-0130 at 2.98 ug/m^3, and in sample DCE-B1340-101-L-0130 at 3.05 ug/m^3. Theses concentrations are below the EPA Industrial Risk Range which begins at 47 ug/m^3.

  Note: Prior to the summer 2011 sampling events, the new tenant in Suite 101 acidized and sealed his concrete floors with a product believed to contain PCE. During this floor sealing process and the week following, there was no ventilation in the suite. The anomalous increase in PCE concentrations in samples collected in Suite 101 during summer 2011 is attributed to this floor sealing. PCE was reported at concentrations of 685 ug/m^3 in June of 2011 and 75 ug/m^3 in August of 2011.
- TCE was detected in indoor air sample DCE-B1340-101-H-0130 at 2.09 ug/m^3, and in sample DCE-1340-101-L-0130 at 1.61 ug/m^3. These concentrations are below the EPA Industrial Risk Range which begins at 3.0 ug/m^3.

Building 1340, suite 116

One indoor air sample was collected in Suite 116, which is occupied by Mike Fragale Photography. This is the first time an indoor air sample has been collected in this suite. The decision was made to sample the indoor air in this suite because the suite shares a common wall with Suite 117 which historically has reported indoor air concentrations of COCs that were higher than concentrations in other suites at the Site.

The canister for sample DCE-B1340-116- -0130 was placed on a desk in the tenant's office. Analytical results for the indoor air sample collected from Building 1340, Suite 116 during the winter 2013 sampling event are as follows:

- 1,1-DCE, cis-1,2-DCE, 1,1,1-TCA, and TCE were not detected.
- PCE was reported in sample DCE-B1340-116-0130 at 0.68 ug/m^3, below the PCE EPA Industrial Risk Range which begins at 47 ug/m^3.

Building 1340, Suite 117

Three indoor air samples were collected in Suite 117, which is occupied by Hernandez Creative, a video production company. The suite is used as the company's office. The tenant indicated, in conversations with ITSI Gilbane staff, that the suite generally is occupied only in the mornings. The HVAC system and the ERV unit are in operation when the tenant is in the building, approximately four hours every other day.

The canister for sample DCE-B1340-117-BO-0130 was placed on a box next to the tenant's desk. Samples DCE-B1340-117-FO-0130 and a duplicate, DCE-B1340-117-FOD-0130, were collected from the main meeting room, located immediately inside the front door of the suite. These canisters were placed on a conference table approximately 2.5 feet above the floor level (see Figure 3 for sampling locations).

Analytical results for the indoor air samples collected from Building 1340, Suite 117 during the winter 2013 sampling event are as follows:

- 1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA were not detected.
- TCE was detected in all three samples collected in Suite 117. TCE was reported in DCE-B1340-117-FO-0130 at 6.44 ug/m^3, in sample DCE-B1340-117-FOD-0310 at 6.77 ug/m^3, and in sample DCE-B1340-117-BO-0130 at 6.44 ug/m^3. These concentrations are within the EPA Risk Range of 3.0–8.0 ug/m^3.
- PCE was detected in all three samples collected in Suite 117. PCE was reported in sample DCE-B1340-117-BO-0130 at 1.70 ug/m^3, and at 1.63 ug/m^3 in both samples DCE-B1340-117-FO-0130 and DCE-B1340-117-FOD-0130. Concentrations in all three indoor air samples are below the PCE industrial indoor air RSL Risk Range of 47-180 ug/m^3.

COMPARISON OF SAMPLING RESULTS, AUGUST 2009–JANUARY 2013

ITSI Gilbane reviewed analytical results from the winter 2013 sampling event, in conjunction with historical data (see tables 1, 2, and 3), to evaluate the potential for vapor intrusion and possible human health risk to building occupants. Results and conclusions from this review are presented in the subsections below.

Outdoor Air (Background) Sampling

Historically, outdoor air (background) samples were collected from the roof of Building 1300. However, beginning with the follow-up sampling event on March 31–April 1, 2011, outdoor air samples have been collected from the roof of Building 1340 in an effort to obtain background air samples closer to Suites 101 and 117 of Building 1340 where TCE and PCE indoor air concentrations have been at detectable levels, and sometimes above the industrial indoor air RSL. Table 2 includes the historical and January 2013 outdoor air results.

PCE was detected in the outdoor samples collected during the June, July, August, and November 2011 sampling events at concentrations well below the industrial RSL for PCE (the maximum PCE detection was 0.61 ug/m^3). These were the first detections of any COC in outdoor air samples since the winter 2008 sampling event. The cause of the increase during the summer 2011 sampling events is not known, but may have been a result of vapors from the chemicals used in staining the floors in Suite 101. PCE was detected in the outdoor air sample collected during the winter 2013 event at 0.47 ug/m^3, significantly below the PCE industrial indoor air RSL of 47 ug/m^3.

Indoor Air Sampling

The following paragraphs compare the results for the winter 2013 indoor air sampling event to the events conducted since ITSI Gilbane began sampling in summer 2009, after all of the historical excavations and remediation (through the operation of soil vapor extraction [SVE] systems) had been completed.

Building 1300

No indoor air samples were collected from Building 1300, suites 100 and 105, during the winter 2013 event. COCs in these two suites have remained non-detect since August 2009, and were non-detect in the previous sampling event conducted in summer 2012.

Building 1340, Suite 101

1,1,1-TCA, 1,1-DCE, and cis-1,2-DCE have been non-detect in indoor air samples collected in Suite 101 since the summer 2009 sampling event.

In winter 2013, TCE was detected in both samples collected from Suite 101 at concentrations below the TCE industrial indoor air RSL of 3.0 ug/m^3. Although TCE was not detected in August

2012, TCE had been detected in previous indoor air samples collected in Suite 101 since 2009, at concentrations between 0.27 ug/m^3 (summer 2010) and 4.83 ug/m^3 (winter 2011). Only the winter 2011 TCE concentration exceeded the industrial indoor air RSL, but remained within the EPA Risk Range.

PCE has been detected in all indoor air samples collected in Suite 101 since summer 2009, with the exception of summer 2010. During the winter 2013 event, PCE was detected at 3.05 ug/m^3 and 2.98 mg/m^3, higher than PCE concentrations reported prior to June 2011, which ranged from non-detect (less than 0.27 ug/m^3) to a maximum of 0.81 ug/m$^{3.}$ All concentrations are below the industrial indoor air RSL of 47 ug/m^3.

During 2011, a significant increase in PCE concentrations was observed over several sampling events beginning in June 2011, when PCE was reported in Suite 101 at 685 and 644 ug/m^3, above the industrial indoor air RSL and the EPA Industrial Protective Risk Range. ITSI Gilbane was informed that prior to the summer 2011 sampling events (June, July, and August), the tenant in Suite 101 had acidized and sealed his concrete floor with a product believed to contain PCE. During this sealing process and for the week following, there was no ventilation in the suite. The increase in PCE concentrations during the summer 2011 events is attributed to this sealing process, and not to vapor intrusion.

Indoor air samples collected during the summer 2011 event showed a steady decrease in PCE concentrations, from a high of 685 ug/m^3 in June 2011 to75.3 ug/m^3 in August 2011. The decreases in PCE concentrations continued until the winter 2013 event, when concentrations increased from non-detect to 2.09 ug/m^3 and 1.61 ug/m^3 (below the industrial indoor air RSL Risk Range of 47-180 ug/m^3).

Building 1340, Suite 117

1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA have remained non-detect in indoor air samples collected at Building 1340, Suite 117, since the summer 2009 sampling event. However, both TCE and PCE have been detected in all indoor air samples collected in Suite 117 since this event.

TCE has been reported at concentrations near or above the industrial RSL of 3.0 ug/m^3 in all indoor air samples collected in Suite 117 since the summer 2009 sampling event, including those samples collected during the winter 2013 sampling event. TCE decreased to 1.93 ug/m^3 in February 2010 from 14.39 ug/m^3 in summer 2009. Since that time, concentrations have shown an overall increase, varying from 1.61 ug/m^3 in August 2011 (post-SVE pilot test sampling) to a maximum of 9.83 ug/m^3 during the March 2, 2011, event. During the winter 2013 event, TCE was reported at 6.44 ug/m^3 in both primary samples and at 6.77 ug/m^3 in the duplicate sample. These concentrations remain within the EPA Risk Range of 3.0–8.8 ug/m^3.

Other than in June 2011, PCE concentrations have remained below the industrial indoor air RSL of 47 ug/m^3 since the summer of 2009 event. PCE was detected above the industrial RSL and exceeded the EPA Risk Range in June 2011, but it was determined that this concentration was a result of the floor treatment in Suite 101 (as described above) and was not due to vapor intrusion.

PCE was reported at 1.63 ug/m^3 and 1.70 ug/m^3 in the primary samples and at 1.63 ug/m^3 in the duplicate sample during the winter 2013 sampling event.

Overall Assessment of Site Conditions

Other than concentrations slightly above their respective detection limits in the summer of 2009 in Building 1300, indoor air sampling results for 1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA have remained non-detect. The detected concentrations in 2009 were below the respective industrial RSLs.

TCE has been detected in at least one suite during each of the indoor air sampling events conducted since summer 2009. In addition, TCE has been reported within the industrial RSL risk range of 3.0 ug/m^3 in all indoor air samples collected in Building 1340, Suite 117, since the summer 2009 sampling event, including those samples collected during the winter 2013 sampling event.

PCE has been detected in at least one suite during each of the indoor air sampling events conducted since summer 2009, including the winter 2013 sampling event. However, these concentrations generally have been well below the industrial indoor air RSL risk range of 47-180 mg/m^3 with the exception of the 2011 results for Building 1340, Suite 101, that were influenced by floor-sealing activities.

PCE was detected in the outdoor sample during the winter 2013 sampling event at 0.47 mg/m^3. Outdoor background samples collected during other events since 2009 have been non-detect for Site COCs, with the exception of PCE (also attributed to the floor sealing activities in Suite 101) during the summer 2011 sampling event.

Comparison of the analytical results for the January 2013 sampling event with historical sampling events shows that VOCs identified within the suites in buildings 1300 and 1340 remain within the industrial EPA Protective Risk Ranges for COCs identified at the Site.

Indoor air sampling currently is limited to Building 1340, suites 101, 116, and 117. Building 1300, suites 100 and 105, are not currently sampled because COC concentrations in indoor air were non-detect or slightly above the detection limit from 2009 through 2012 in the two suites in Building 1300, located across the parking lot from the contaminated soil identified at the Site. Concentrations of TCE and PCE remain within the EPA Risk Ranges in Building 1340, suites 101, 116, and 117 including during the January 2013 sampling event.

Excavation/removal activities at the DCE Circuits Subsite have not completely removed COCs above soil cleanup levels in soils underneath the pavement onsite. Residual contamination from the identified source of contamination appears to be located beneath the existing historical structure (Building 1340), at locations from which it cannot be excavated without significant risk to the structure. Because these buildings have been designated as historical landmarks, EPA's abatement activities have been conducted within the parameters of this designation. Nevertheless, there are negligible concentrations of TCE and PCE in indoor air, which are all within EPA's Human Health Based Industrial Air Risk Ranges.

RECOMMENDATIONS

In consideration of the current indoor air quality at the DCE Circuits Subsite, and changes in concentrations of some COCs over time, ITSI Gilbane has the following recommendations:

- Conduct indoor air sampling in Building 1300, suites 100 and 105 once every five years in conjunction with the SIBW 5-Year Review. VOC concentrations in indoor air have remained either non-detect or just above detection limits in these suites since 2009. Indoor air sampling should be resumed at these locations if a notable increase in VOC concentrations is reported in indoor air for Building 1340, suites 101 and/or 117.
- Continue indoor air sampling in Building 1340 at an annual frequency.
- Should the indoor concentration levels increase, appropriate additional steps should be considered to help determine any changes in Site conditions.

Please contact Pat Clymer, ITSI Gilbane Project Manager (520-977-7794; pclymer@itsi.com), with any questions or comments on this Technical Memorandum.

ATTACHMENTS

Tables

Table 1 VOCs in Indoor Air, 2005-2013
Table 2 VOCs in Soil Vapor Monitor Wells, 2005-2013
Table 3 VOCs in Outdoor Air, 2005-2013
Table 4 Summary of Pressures for 6-Liter Summa Canisters, Indoor Air Sampling, January 2013

Figures

Figure 1 Site Location Map
Figure 2 Soil Vapor Extraction and Monitor Well Locations
Figure 3 Approximate Canister Locations, Indoor and Outdoor Air, January 2013

Appendices

Appendix A U.S. EPA Soil Vapor Human Health Screening Levels, June 2012
Appendix B Laboratory Analytical Reports
Appendix C Pre-Sampling Questionnaire
Appendix D Photographic Log
Appendix E Quality Control Summary Report

TABLES

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1300, Suite 100							
DCE-B1300-100-0130[C]	1/30/2013	NS	NS	NS	NS	NS	Suite was not sampled for this sampling event
DCE-B1300-100-BO-0712	8/1/2012	<0.16	<0.16	<0.27	<0.22	<0.21	Back Office: Vacant; sample collected approximately two feet above the floor level; remodeling in progress, doors open to accommodate construction workers. Indoor temp 93 ºF.
DCE-B1300-100-FO-0712	8/1/2012	<0.16	<0.16	<0.27	<0.22	<0.21	Front Office: Vacant; remodeling in progress, doors open to accommodate construction workers. Indoor temp 93 ºF.
DCE-B1300-100-FO-0811	8/30/2011	<0.16	<0.16	<0.27	<0.22	0.21	Back Office: Vacant. Indoor temp 95 ºF.
DCE-B1300-100-BO-0811	8/30/2011	<0.16	<0.16	<0.27	<0.22	0.21	Front Office: Vacant. New tenant remodeling. HVAC system has been modified for what appears to be dust collection for construction activities. AC/ERV not in use. Temp not collected.
DCE-B1300-100-FO	3/2/2011	<0.16	<0.16	0.27	<0.22	<0.21	Front Office: Suite has been vacant since the Aug 09 sampling event. Temp not collected.
DCE-B1300-100-BO	3/2/2011	<0.16	<0.16	0.27	<0.22	<0.21	Back Office: Suite has been vacant since the Aug 09 sampling event. Temp not collected.
DCE-B1300-100-FO	8/5/2010	<0.16	<0.16	0.34	<0.22	0.32	Front Office: Suite has been vacant since the Aug 09 sampling event. Outdoor temp 86-99 °F.
DCE-B1300-100-BO	8/5/2010	<0.16	<0.16	0.34	<0.22	0.38	Back Office: Suite has been vacant since the Aug 09 sampling event. Outdoor temp 86 °F.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1300, Suite 100 Continued							
B1300-100-FO	2/18/2010	<0.16	<0.16	0.47	<0.22	0.32	Front Office: Suite has been vacant since the Aug 09 sampling event. ERV has never been operated. Outdoor temp 72 °F.
B1300-100-BO	2/18/2010	<0.16	<0.16	0.41	<0.22	0.21	Back Office: Suite has been vacant since the Aug 09 sampling event. ERV has never been operated. Outdoor temp 72 °F.
B1300-100-10	8/13/2009	<0.16	<0.16	0.54	0.22	0.21	First sampling event conducted by ITSI. Suite used as an artist studio; art supplies (paint thinners, oil paints, etc.) kept in suite. Outdoor temp 75-89 °F.
B1300-100-20	8/13/2009 (dup)	<0.16	<0.16	0.54	0.27	0.21	First sampling event conducted by ITSI. Suite used as an artist studio; art supplies (paint thinners, oil paints, etc.) kept in suite. Outdoor temp 75 °F.
STU[D]	Winter 2008	ND	ND	2.17	ND	0.50	CH2M Hill Sample
STU[D]	June 2007	ND	ND	0.88	0.26	0.14	CH2M Hill Sample
STU[D]	June 2007 (dup)	ND	ND	0.88	0.32	0.18	CH2M Hill Sample
STU[D]	March 2007	ND	ND	1.83	0.31	0.48	CH2M Hill Sample
Building 1300, Suite 105							
DCE-B1300-105-0712	8/1/2012	<0.16	<0.16	<0.27	<0.22	<0.21	Front Office: Vacant; Sample collected from approximately five feet above the floor level; remodeling in progress, doors open to accommodate construction workers. Indoor temp 94 ºF.
DCE-B1300-105-0811-Dup	8/30/2011	<0.16	<0.16	<0.27	<0.22	<0.21	Vacant; used to store paint, tools, etc. for use at the property. Indoor temp 99 ºF.
DCE-B1300-105-0811	8/30/2011	<0.16	<0.16	<0.27	<0.22	<0.21	Vacant; used to store paint, tools, etc. for use at the property. Indoor temp 99 ºF.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1300, Suite 105 Continued							
DCE-B1300-105-0130[C]	1/30/2013	NS	NS	NS	NS	NS	Suite was not sampled for this sampling event
DCE-B1300-105	3/2/2011	<0.16	<0.16	0.27	<0.22	<0.21	Vacant; used to store paint, tools, etc. for use at the property. No temp collected.
DCE-B1300-105	8/5/2010	<0.16	<0.16	0.27	<0.22	0.27	Vacant; used to store paint, tools, etc. for use at the property. Outdoor temp 86 °F.
B1300-105	2/18/2010	<0.16	<0.16	0.47	<0.22	<0.21	Vacant; used to store paint, tools, etc. for use at the property. Outdoor temp 72 °F.
B1300-105	8/13/2009	<0.16	<0.16	0.27	<0.22	<0.21	Vacant; used to store paint, tools, etc. for use at the property. Outdoor temp 75 °F.
EMO[D]	Winter 2008	ND	ND	ND	ND	10.73	CH2M Hill Sample
EMO[D]	June 2007	ND	ND	0.95	0.33	0.19	CH2M Hill Sample
EMO[D]	March 2007	ND	ND	ND	ND	ND	CH2M Hill Sample
Building 1340, Suite 101							
DCE-B1340-101-H-0130	1/31/2013	<0.16	<0.16	2.98	<0.22	2.09	Canister placed on shelving near the center of the suite, approximately six feet above floor level. AC/ERV not in use.
DCE-B1340-101-L-0130	1/31/2013	<0.16	<0.16	3.05	<0.22	1.61	Canister placed on shelving approximately four feet above floor level on the west side of the suite. AC/ERV not in use.
DCE-B1340-101-L-0712	8/1/2012	<0.16	<0.16	0.27	<0.22	<0.21	Placed on shelving approximately four feet above floor level on the west side of the suite. Indoor temp 82 ºF. AC/ERV not in use.
DCE-B1340-101-H-0712	8/1/2012	<0.16	<0.16	0.34	<0.22	<0.21	Canister placed on shelving near the center of the suite approximately six feet above floor level. Indoor temp 82 ºF. AC/ERV not in use.
DCE-B1340-101-0212	2/2/2012	<0.16	<0.16	5.42	<0.22	1.72	Sampled after the SVE Pilot Test. Temp not collected.
DCE-B1340-101-112211	11/23/2011	<0.16	<0.16	13.1	<0.22	4.83	Sampled prior to SVE Pilot Test. Temp not collected.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 101 Continued							
DCE-B1340-101-H-0811	8/30/2011	<0.32	<0.32	75.3	<0.44	2.39	Sample height: low. Canister placed on shelving approximately four feet above floor level on the west side of the suite. Indoor temp 95 ºF. AC/ERV not in use.
DCE-B1340-101-L-0811	8/30/2011	<0.32	<0.32	92.2	<0.44	2.47	Sample height: high. Canister placed on shelving near the center of the suite approximately five feet above floor level. Indoor temp 95 ºF. AC/ERV not in use.
DCE-B1340-101-H-0711	7/25/2011	<0.79	<0.79	229	<1.09	2.69	Sample height: high. Canister placed on shelving near the center of the suite approximately six feet above floor level. Indoor Temp 95 ºF. AC/ERV not in use.
DCE-B1340-101-L-0711	7/25/2011	<0.79	<0.79	201	<1.09	2.95	Sample height: low. Placed on shelving approximately four feet above floor level on the west side of the suite. Indoor temp 95 ºF. AC/ERV not in use.
DCE-B1340-101-H	6/23/2011	<0.16	<0.16	685	<0.22	1.72	Sample height: high. New tenant. In late May/early June, tenant acidized/sealed concrete floors with a product believed to contain PCE; painting was also done in the suite. There was no proper ventilation during the process. This is believed to have caused the increase in PCE and TCE concentrations reported here. AC in use; not ERV. Indoor temp 88 ºF.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 101 Continued							
DCE-B1340-101-L	6/23/2011	<0.16	<0.16	644	<0.22	0.48	Sample height: low. New tenant. In late May/early June, tenant acidized/sealed concrete floors with a product believed to contain PCE; painting was also done in the suite. There was no proper ventilation during the process. This is believed to have caused the increase in PCE and TCE concentrations reported here. AC in use; not ERV. Indoor temp 88 ºF.
DCE-B1340-101-H	3/31/2011	<0.16	<0.16	0.68	<0.22	2.42	Sample height: high. Vacant since 01-01-11; AC and ERVs not in use since 01-01-11. Canister placed approximately 5 feet from the floor in the center of the main office space. No temp collected.
DCE-B1340-101-L	3/31/2011	<0.16	<0.16	0.68	<0.22	2.47	Sample height: low. Vacant since 01-01-11; AC and ERVs not in use since 01-01-11. Canister placed at desktop level in main office space. No temp collected.
DCE-B1340-101-H	3/2/2011	<0.16	<0.16	0.61	<0.22	1.56	Sample height: high. Vacant since 01-01-11; AC and ERVs not in use since 01-01-11. Canister placed approximately 5 feet from the floor in the center of the main office space. No temp collected.
DCE-B1340-101-L	3/2/2011	<0.16	<0.16	0.68	<0.22	1.61	Sample height: low. Vacant since 01-01-11; AC and ERVs not in use since 01-01-11. Canister placed at desktop level in the main office space. No temp collected.
DCE-B1340-101	8/5/2010	<0.16	<0.16	<0.27	<0.22	0.27	Canister placed approximately 5 feet above floor level in the center of the main office space. This sample is from Suite 101. Outdoor temp 86 °F.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 101 Continued							
DCE-B1340-101D	8/5/2010	<0.16	<0.16	<0.27	<0.22	0.27	Canister placed on desktop in the main office space. Outdoor temp 86-99 °F.
B1340-101-D	2/18/2010	<0.16	<0.16	0.81	<0.22	2.47	Canister placed on desktop in the main office space. No temp collected.
B1340-101-D-Dup	2/18/2010	<0.16	<0.16	0.75	<0.22	2.36	Canister placed on desktop in the main office space. No temp collected.
B1340-101-H	2/18/2010	<0.16	<0.16	0.68	<0.22	2.26	Sample height: high. Canister placed approximately 5 feet from the floor in the center of the main office space. Outdoor temp 72 °F.
B1340-107*-1A	8/13/2009	<0.16	<0.16	0.27	<0.22	0.97	Canister placed approximately 5 feet from the floor in the center of the main office space. *(This sample is from Suite 101, not 107 as the sample designation would indicate.) Outdoor temp 75 °F.
B1340-107*-2D	8/13/2009	<0.16	<0.16	0.27	<0.22	0.97	Canister placed on a desktop in the main office space. (This sample is from Suite 101, not 107 as sample designation would indicate.) Outdoor temp 75 °F.
ARF[D]	Winter 2008	ND	ND	0.64	0.98	3.16	CH2M Hill Sample
ARF DUP[D]	Winter 2008	ND	ND	0.68	ND	3.16	CH2M Hill Sample
ARN[D]	June 2007	ND	ND	0.21	0.93	0.54	CH2M Hill Sample
ARW[D]	June 2007	ND	ND	0.24	1.03	0.53	CH2M Hill Sample
ARN[D]	March 2007	ND	ND	0.24	0.44	2.74	CH2M Hill Sample
ARN DUP[D]	March 2007	ND	ND	0.29	0.46	2.74	CH2M Hill Sample
ARW[D]	March 2007	ND	ND	0.30	0.52	2.57	CH2M Hill Sample
Building 1340, Suite 116							
DCE-B1340-116-0130	1/31/2013	<0.16	<0.16	0.68	<0.22	<0.21	First time to sample this suite. This suite shares a common wall with Suite 117.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 117							
DCE-B1340-117-FO-0130	1/31/2013	<0.16	<0.16	1.63	<0.22	6.44	Front Office: Canister was placed in the main meeting room, immediately inside the front door of the suite, on a conference table approximately 2.5 feet above floor level. AC/ERV in use.
DCE-B1340-117-FOD-0130	1/31/2013	<0.16	<0.16	1.63	<0.22	6.77	Front Office: Canister was placed in the main meeting room, immediately inside the front door of the suite, on a conference table approximately 2.5 feet above floor level. AC/ERV in use.
DCE-B1340-117-BO-0130	1/31/2013	<0.16	<0.16	1.70	<0.22	6.44	Back Office: Canister was placed on a box next to the tenant's desk. AC/ERV in use.
DCE-B1340-117-BO-0712	8/1/2012	<0.16	<0.16	0.47	<0.22	5.32	Back Office: Canister was placed on a box next to the tenant's desk. Indoor temperature 81 ºF. AC/ERV in use.
DCE-B1340-117-FO-0712-Dup	8/1/2012	<0.16	<0.16	0.54	<0.22	5.96	Front Office: Canister was placed in the main meeting room, immediately inside the front door of the suite, on a conference table approximately 2.5 feet above floor level. Indoor temp 81 ºF. AC/ERV in use.
DCE-B1340-117-FO-0712	8/1/2012	<0.16	<0.16	0.47	<0.22	5.85	Front Office: Canister was placed in the main meeting room, immediately inside the front door of the suite, on a conference table approximately 2.5 feet above floor level. Indoor temp 81 ºF. AC/ERV in use.
DCE-B1340-117-FO-0212	2/2/2012	<0.16	<0.16	0.95	<0.22	2.85	Front Office: Sampled after the SVE Pilot Test. No temp collected.
DCE-B1340-117-FO-112211	11/23/2011	<0.16	<0.16	1.29	<0.22	2.95	Front Office: Sampled prior to SVE Pilot Test. No temp collected.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 117 Continued							
DCE-B1340-117-BO-0811	8/30/2011	<0.32	<0.32	11.9	<0.44	1.61	Back Office: Canister placed on a box next to the tenant's desk. Indoor temp 85 ºF. AC/ERV in use.
DCE-B1340-117-FO-0811	8/30/2011	<0.32	<0.32	11.5	<0.44	1.72	Front Office: Canister was placed in the main meeting room, immediately inside the front door of the suite, on a conference table approximately 2.5 feet above floor level. Indoor temp 85 ºF. AC/ERV in use.
DCE-B1340-117-RR-0711	7/25/2011	<0.16	<0.16	39.3	<0.22	6.77	Rest Room: Canister placed inside the restroom. Indoor temp 84 ºF. AC/ERV in use.
DCE-B1340-117-BO-0711	7/25/2011	<0.16	<0.16	40	<0.22	5.26	Back Office: Canister placed on box next to tenant's desk. Indoor temp 84 ºF. AC/ERV in use.
DCE-B1340-117-FODup-0711	7/25/2011	<0.16	<0.16	38	<0.22	7.14	Front Office: Canister was placed in the main meeting room, located immediately inside the front door of the suite on a conference table approximately 2.5 feet above floor level. Indoor temp 84 ºF. AC/ERV in use.
DCE-B1340-117-FO-0711	7/25/2011	<0.16	<0.16	38	<0.22	7.20	Front Office: Canister was placed in the main meeting room, located immediately inside the front door of the suite on a conference table approximately 2.5 feet above floor level. Indoor temp 84 ºF. AC/ERV in use.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 117 Continued							
DCE-B1340-117-FO	6/23/2011	<0.16	<0.16	170	<0.22	7.30	Front Office: Vapors from Suite 101 resulting from floor treatment may have seeped into Suite 117 and caused the increase in PCE and TCE concentrations. The tenant in Suite 117 did smell the vapors from Suite 101. Canister was placed in the front meeting room approximately 2.5 feet above the floor. ERV was operating. Suite had been vacant for a week prior to sampling with the AC/ERV off. Indoor temp 80.5 º F on June 24 when samples were picked up. AC in use; ERV off.
DCE-B1340-117-FO Dup	6/23/2011	<0.16	<0.16	224	<0.22	7.41	Front Office: Vapors from Suite 101 resulting from floor treatment may have seeped into Suite 117 and caused the increase in PCE and TCE concentrations. The tenant in Suite 117 did smell the vapors from Suite 101. Canister was placed in the front meeting room approximately 2.5 feet above the floor. ERV was operating. Suite had been vacant for a week prior to sampling with the AC/ERV off. Indoor temp 81 º F on June 24 when samples were picked up. AC in use; ERV off.
DCE-B1340-117-BO	6/23/2011	<0.16	<0.16	217	<0.22	6.93	Back Office: Canister was placed in the back office. AC/ERV in use on June 24 only. No temp collected.
DCE-B1340-117-RR	6/23/2011	<0.16	<0.16	197	<0.22	6.93	Rest Room: AC/ERV in use on June 24 only. No temp collected.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 117 Continued							
DCE-B1340-117-FO	3/31/2011	<0.16	<0.16	0.27	<0.22	2.95	Front Office: Canister placed on a desktop in the front meeting room. ERV was operating. No temp collected.
DCE-B1340-117-FO Dup	3/31/2011	<0.16	<0.16	0.34	<0.22	2.95	Front Office: Canister placed on a desktop in the front meeting room. ERV was operating. No temp collected.
DCE-B1340-117-BO	3/31/2011	<0.16	<0.16	0.34	<0.22	2.85	Back Office: Canister placed in the back office next to tenant's desk at desk height. ERV was operating. No temp collected.
DCE-B1340-117-FO	3/2/2011	<0.16	<0.16	0.68	<0.22	9.83	Front Office: Canister placed on a desktop in the front meeting room. ERV was not operating. Temp not collected.
DCE-B1340-117-BO	3/2/2011	<0.16	<0.16	0.61	<0.22	9.34	Back Office: Canister placed in back office next to tenant's desk at desk height. ERV was not operating. Temp not collected.
DCE-B1340-117-BOD	3/2/2011	<0.16	<0.16	0.61	<0.22	9.3	Back Office: Canister placed in back office next to tenant's desk at desk height. ERV was not operating. Temp not collected.
DCE-B1340-117 FO	8/19/2010	<0.16	<0.16	0.47	<0.22	9.77	Front Office: Canister placed on a desktop in the front meeting room. (This location was re-sampled because the valve on the canister placed on August 5, 2010, did not open properly.) No temp collected.
DCE-B1340-117	8/5/2010	<0.16	<0.16	0.34	<0.22	5.96	Canister placed in the back office next to tenant's desk at desk height. Outdoor temp 86-99 °F.
DCE-B1340-117Dup	8/5/2010	<0.16	<0.16	0.34	<0.22	5.69	Canister placed in the back office next to tenant's desk at desk height. Outdoor temp 86 °F.

Table 1
VOCs in Indoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[B]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial RSL or Indoor Air Protective Risk Range[A]		880	NL	47-180	22,000	3.0-8.8	
Building 1340, Suite 117 Continued							
B1340-117-BO	2/18/2010	<0.16	<0.16	0.47	<0.22	2.04	Back Office: Canister placed in the back office next to tenant's desk at desk height. Outdoor temp 72 °F.
B1340-117D	2/18/2010	<0.16	<0.16	0.41	<0.22	1.93	Canister placed on a desktop in the front meeting room. Outdoor temp 72 °F.
B1340-117D-DUP	2/18/2010	<0.16	<0.16	0.47	<0.22	1.88	Canister placed on a desktop in the front meeting room. Outdoor temp 72 °F.
B1340-117	8/13/2009	<0.16	<0.16	0.54	<0.22	14.28	Canister placed on a desktop in the front meeting room. Outdoor temp 75 °F.
B1340-117-Dup	8/13/2009 (dup)	<0.16	<0.16	0.54	<0.22	14.39	Canister placed on a desktop in the front meeting room. Outdoor temp 75 °F.
GUS[D]	Winter 2008	ND	ND	ND	ND	0.91	CH2M Hill Sample
GUS[D]	June 2007	ND	ND	0.26	0.30	5.90	CH2M Hill Sample
GUS[D]	June 2007 (dup)	ND	ND	0.26	0.31	6.44	CH2M Hill Sample
GUS[D]	March 2007	ND	ND	ND	ND	4.08	CH2M Hill Sample

NOTES

A. Values highlighted exceed the EPA Industrial RSL or Indoor Air Protective Risk Range

B. Indicated temperatures were collected at the time sample canisters were set unless otherwise indicated in the comments

C. Suite was not sampled for the January 2013 sampling event

D. Locations of CH2M Hill samples were identified as follows:
- Bldg. 1300, Suite 100 = Art Studio (STU)
- Bldg. 1300, Suite 105 = Empty Office (EMO)
- Bldg. 1300, Background = Background (BDG)
- Bldg. 1340, Suite 101 (=Ste 107 on ITSI Aug 09 event; also referenced as ARF, ARN and AWR)
- Bldg. 1340, Suite 117= Guitar Studio (GUS)

ACRONYMNS AND ABBREVIATIONS

°F = degrees Fahrenheit
1,1-DCE = 1,1-dichloroethene
1,1,1-TCA = 1,1,1-trichloroethane
AC/ERV = air conditioning/energy recovery ventilation system
cis-1,2 DCE = cis-1,2-dichloroethene
Dup = duplicate sample
EPA = Environmental Protection Agency
ND = not detected above the quantitation (reporting) limit
NL = not listed
NS = not sampled
PCE = tetrachloroethene (RSLs reflect May 2012 revisions)
RSL = Regional Screening Level
TCE = trichloroethene
temp = temperature
ug/m^3 = micrograms per cubic meter

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-B117							
DCE-B117	4/1/2010	<160	<160	<272	<220	1,890	Abandoned on April 1, 2010. See Soil Vapor Monitoring Well Abandonment, South Indian Bend Wash (SIBW) DCE Circuits Subsite, Tempe, Arizona (ITSI, 2010). No temperature collected.
DCE-B117	2/18/2010	<7.92	<7.92	137	<10.9	2,990	First sample (grab sample) collected at DCE-B117 located inside Suite 117 (no historical records found regarding details on the well). ITSI designated the well name for sampling purposes. No temperature collected.
DCE-1-10							
DCE-1-5-0811	8/30/2011	<0.40	<0.40	51.5	<0.55	143	The depth of the sample interval remains at 5 feet (see 8/13/2009 comment). Temperature 108º F
DCE-1-5	2/18/2010	<0.40	<0.40	13.1	<0.55	57.9	The depth of the sample interval remains at 5 feet (see 8/13/2009 comment). Weather: 70-75 °F with light rain.
DCE-1-5	8/13/2009	<0.40	<0.40	33.9	0.55	142	The depth of the top of the sample interval (5 feet) is approximately 5 feet above the top of the screened interval (10 feet) due to sand accumulation at the bottom of the well. No temperature collected.
	6/18/2007	ND	ND	18.3	ND	48.3	Sampled after 1 month of SVE operation and 1 month rebound. (CH2M Hill)
	3/14/2007	ND	ND	19.6	ND	37.5	Sampled after 1 month of SVE operation and 1 month rebound. (CH2M Hill)
	8/3/2006	ND	ND	42	ND	123.3	Sampled after 4 months of SVE operation and one month rebound. (CH2M Hill)
	1/18/2006	ND	ND	17.6	ND	107	Sampled after one month rebound. (CH2M Hill)
	12/17/2005	ND	ND	ND	ND	32.2	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	38.6	ND	252	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	102	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	74.5	ND	536	Sampled after 2-week rebound. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-1-10 Continued							
	8/10/2005	ND	ND	31.1	ND	241	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	1,394	NA	36,938	Sampled after excavation. (CH2M Hill)
DCE-1-25							
DCE-1-23-0811	8/30/2011	<0.40	<0.40	36.6	<0.55	63.4	Temperature 105 ºF.
DCE-1-23	2/18/2010	<0.40	<0.40	10.2	<0.55	36.1	The depth of the top of the sample interval remains at 23 feet (see comment 8/13/2009). Weather: 70 °F with light rain.
DCE-1-23	8/13/2009	<0.40	<0.40	22.9	<0.55	92	ITSI began oversight; the depth of the top of the sample interval 23 feet) is approximately 2 feet above the top of the screened interval (25 feet) due to sand accumulation at the bottom of the well. No temperature collected.
	6/18/2007	ND	ND	ND	ND	21.5	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	10.8	ND	26.8	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/3/2006	ND	ND	15.6	ND	42.9	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/18/2006	ND	ND	ND	ND	75.1	Duplicate sample. (CH2M Hill)
	1/18/2006	ND	ND	ND	ND	26.8	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	ND	ND	21.5	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	24.4	ND	102	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	19.6	ND	96.5	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	42	ND	274	Sampled after 2-week rebound. (CH2M Hill)
	8/10/2005	ND	ND	35.2	ND	225	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	548	NA	12,313	Sampled after excavation. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-1-40							
DCE-1-40-0811	8/30/2011	<0.40	0.79	111	<0.55	249	Temperature 105 ºF.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight. This depth was not sampled. No temperature collected.
	6/18/2007	ND	ND	17.6	ND	59	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	21.0	ND	69.7	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/3/2006	ND	ND	39.9	ND	252	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/18/2006	ND	ND	81.2	ND	1,448	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	ND	ND	450	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	149	ND	3,373	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	210	ND	1,448	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	210	ND	3,480	Sampled after - week rebound. (CH2M Hill)
	8/10/2005	ND	ND	278	ND	3,105	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	2,911	NA	64,246	Sampled after excavation. (CH2M Hill)
DCE-1-60 (DCE 1-55)							
DCE-1-55-0811	8/30/2011	<1.98	<1.98	52.2	<2.73	137	Temperature 108 ºF.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight. This depth was not sampled.
	6/18/2007	4.4	71.2	230	ND	3,861	Sampled after 1 month of SVE operation and 1-month rebound. Based on the analytical results obtained after previous rebound events, the mass removal appears to be observed on 9/21/05; nearly the same rebound concentration was realized on 1/18/06. These suggest potential adjacent contamination in slower mass-releasing zones, or a form of mineral adsorption causing a similar effect. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-1-60 (DCE 1-55) Continued							
	3/14/2007	ND	ND	ND	ND	75	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/3/2006	ND	ND	30.5	ND	129	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/18/2006	ND	ND	230	ND	4,344	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	59.4	230	ND	3,486	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	11,777	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	47.4	ND	327	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	149	ND	2,622	Sampled after 2-week rebound. (CH2M Hill)
	8/10/2005	ND	ND	278	ND	3,320	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	1,143	NA	24,626	Sampled after excavation. (CH2M Hill)
DCE-2-9							
DCE-2-9-0212	2/1/2012	< 1.98	< 1.98	217	5.45	806	Temperature not collected.
DCE-2-9-0811	8/30/2011	<3.96	<3.96	983	15.3	2,660	Temperature 96 ºF.
DCE-2-9	2/18/2010	<1.98	<1.98	105	7.9	1,010	Weather: 70°F with light rain.
DCE-2-9	8/13/2009	<7.9	<7.9	492	29.4	5,040	ITSI began oversight. No temperature collected.
	6/18/2007	ND	ND	284	5.1	2,896	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	1083	ND	7,508	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/2/2006	ND	ND	745	ND	3,915	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/17/2006	ND	ND	162	ND	2,199	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	122	ND	1,609	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	12/1/2005	ND	ND	115	ND	1,609	Sampled before restart of SVE. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	14,989	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	16,061	Sampled after 2 weeks of SVE operation. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-2-9 Continued							
	8/23/2005	ND	ND	2,565	ND	36,402	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	ND	ND	4,054	ND	29,977	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	10,397	NA	187,369	Sampled after excavation. (CH2M Hill)
DCE-2-25							
DCE-2-14-0212	2/1/2012	< 1.98	3.17	190	3.27	591	No temperature collected.
DCE-2-14-0811	8/30/2011	<1.98	4.36	705	16.9	1,730	Temperature 96 ºF.
DCE-2-14	2/18/2010	<1.98	<1.98	154	4.63	865	The depth of the top of the sample interval remains at 14 feet (see comment 8/13/2009) . Weather: 70 °F with light rain. (DCE-2-14)
DCE-2-14	8/13/2009	<7.92	<7.92	377	24	1,950	ITSI began oversight. The depth of the top of the sample interval (14 feet) is approximately 11 feet above the top of the screened interval (25 feet) due to sand accumulation at the bottom of the well. Weather: 70 °F with light rain.
DCE-2-14-Dup	8/13/2009	<7.92	7.92	395	27.3	2,050	ITSI began oversight. Duplicate.
	6/18/2007	ND	ND	74.5	ND	644	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	51.4	ND	418	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/2/2006	ND	ND	149	ND	1,126	Sampled after 4 months of SVE operation and one - month rebound. (CH2M Hill)
	1/17/2006	ND	ND	122	ND	1,555	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	ND	ND	1,180	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	3,784	ND	5,352	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	8,028	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	745	ND	12,313	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	ND	7.91	1,151	21.8	6,425	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	10,140	NA	337,258	Sampled after excavation. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-2-44							
DCE-2-44-0811	8/30/2011	<0.79	7.92	217	2.40	316	Temperature 92 ºF.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight. This depth was not sampled. Temperature not collected.
	6/18/2007	ND	8.31	36.6	ND	123	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	54.8	ND	177	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/2/2006	ND	10.68	102	ND	349	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/17/2006	ND	ND	94.8	ND	751	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	94.8	ND	644	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	217	ND	2,032	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	156	ND	1,657	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	129	ND	2,086	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	ND	ND	257	ND	2,622	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	7,432	NA	203,430	Sampled after excavation. (CH2M Hill)
DCE-2-67							
DCE-2-67-0811	8/30/2011	<1.98	<1.98	14.9	<2.73	67.7	Temperature 87 ºF.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight. This depth was not sampled. Temperature not collected
	6/18/2007	ND	35.2	318	ND	7,508	Sampled after 1 month of SVE operation and 1-month rebound. Latest rebound is similar to previous rebound events, but different than most recent (3/14/07). There may be a seasonality to the release of TCE into vapor phase at this depth. The most similar rebound result was observed on 9/21/05. The vacuum test conducted in October 2005 indicates that there is sufficient vacuum to extract soil vapor from that depth. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-2-67 Continued							
	3/14/2007	ND	ND	88.0	ND	858	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/2/2006	ND	75.2	135	ND	2,145	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/17/2006	ND	99	203	ND	4,236	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	123	176	ND	3,271	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	7,497	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	149	ND	2,086	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	166	521	ND	13,385	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	ND	59.4	366	ND	3,266	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	5,977	NA	224,844	Sampled after excavation. (CH2M Hill)
DCE-3-9							
DCE-3-4-0212	2/1/2012	< 7.92	< 7.92	2,030	153	1,880	Temperature not collected
DCE-3-4-0811-Dup	8/30/2011 (Dup)	<7.92	<7.92	6,570	236	4,100	Temperature 97.0 ºF. Duplicate.
DCE-3-4-0811	8/30/2011	<7.92	<7.92	6,050	247	4,410	Temperature 97.0 ºF.
DCE-3-4	2/18/2010	<7.92	<7.9	842	167	1,970	The depth of the top of the sample interval remains at 4 feet (see 8/13/2009 comment). The well vault was full of water, covering the sampling port valves. Water was bailed out prior to sampling. Weather: 70 °F with light rain. (DCE-3-4)
DCE-3-4	8/13/2009	<15.8	<15.8	1,900	172	4,470	ITSI began oversight. The depth of top of the sample interval (4 feet) is approximately 6 feet above the top of the screened interval (10 feet) due to sand accumulation at the bottom of the well. No temperature collected.
	6/18/2007	ND	ND	ND	ND	ND	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	2,166	240	3,164	Duplicate sample. (CH2M Hill)

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VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-3-9 Continued							
	3/14/2007	ND	ND	2,166	240	2,735	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	2/12/2007	ND	ND	115	ND	1,126	Duplicate sample. (CH2M Hill)
	2/12/2007	ND	ND	102	ND	1,126	Sampled after one month of SVE operation. (CH2M Hill)
	8/3/2006	ND	ND	6,295	599	26,814	Duplicate sample. (CH2M Hill)
	8/3/2006	ND	ND	6,769	599	26,814	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	6/30/2006	ND	22.6	48.7	ND	284	Monthly sampling with SVE operation. (CH2M Hill)
	5/31/2006	ND	51.4	88.0	ND	858	Monthly sampling with SVE operation. (CH2M Hill)
	5/4/2006	ND	ND	ND	ND	644	Sampled after one month of SVE operation and one month of rebound. (CH2M Hill)
	1/17/2006	ND	ND	3,587	653	17,161	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	1,218	343	11,262	Duplicate sample. (CH2M Hill)
	12/17/2005	ND	ND	311	343	10,726	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	12/1/2005	ND	269	311	ND	4,612	Sampled before start of SVE system. (CH2M Hill)
	9/21/2005	ND	ND	5,882	ND	44,430	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	5,611	ND	39,615	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	10,139	1144	64,240	Sampled after 2-week rebound. (CH2M Hill)
	8/10/2005	ND	ND	10,139	ND	64,240	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	4,379	NA	49,965	Sampled after excavation. (CH2M Hill)
DCE-3-25							
DCE-3-25-0212	2/1/2012	< 7.92	< 7.92	2,170	52.3	1,070	Temperature not collected.
DCE-3-25-0811	8/30/2011	<7.92	<7.92	2,810	72.1	1,760	Temperature 97 ºF.
DCE-3-25	2/18/2010	<7.9	8.7	2,060	95.9	2,230	Weather: 70 °F with light rain.
DCE-3-25	8/13/2009	<7.92	15.8	1,850	121	2,410	ITSI began oversight. Temperature not collected.
	6/18/2007	ND	3.3	366	39.2	858	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	399	ND	858	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)

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VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-3-25 Continued							
	8/3/2006	ND	ND	880	ND	2,092	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/17/2006	ND	ND	2,031	180	7,508	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	1,828	142	3,271	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	21,897	ND	8,028	Sampled after 2 -eek rebound. (CH2M Hill)
	9/7/2005	ND	ND	3,175	ND	8,028	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	2,775	136	14,989	Sampled after 2-week rebound. (CH2M Hill)
	8/10/2005	ND	ND	4,528	ND	14,453	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	13,937	NA	299,783	Sampled after excavation. (CH2M Hill)
DCE-3-44							
DCE-3-44-0811	8/30/2011	<1.98	141	477	5.19	677	Temperature 97 ºF.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight. This depth not sampled. Temperature not collected
	6/18/2007	ND	ND	20.3	ND	59.0	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	6/18/2007	ND	7.5	ND	ND	52.0	Duplicate sample. (CH2M Hill)
	3/14/2007	ND	ND	ND	ND	69.7	Duplicate sample. (CH2M Hill)
	3/14/2007	ND	ND	33.8	ND	69.7	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/3/2006	ND	ND	56.9	ND	193	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/17/2006	ND	10.7	67.7	ND	349	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	ND	65.7	ND	91.2	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	162	ND	590	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	53.6	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	284	ND	1,550	Sampled after 2-week rebound. (CH2M Hill)
	8/10/2005	ND	ND	122	ND	912	Sampled after 2 weeks of SVE operation. (CH2M Hill)

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VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-3-44 Continued							
	2/23/2005	NA	NA	5,977	NA	160,598	Sampled after excavation. (CH2M Hill)
DCE-3-67							
DCE-3-67-0811	8/30/2011	<3.96	11.9	1,750	39.9	1,050	Temperature 94 ºF.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight; This depth not sampled. Temperature not collected
	6/18/2007	ND	673	589	ND	8,580	Sampled after 1 month of SVE operation and 1-month rebound. The mass removal appears diffusion-limited, with some variation in pattern between 3/14/07 and sample dates at other months of the year. Similar concentrations were observed on 8/10/05. This may indicate potential contamination in constrained release mode, possibly due to presence in fine-grained units or in mineral phase. The vacuum test conducted in October 2005 indicates that there is sufficient vacuum to extract soil vapor from that depth. (CH2M Hill)
	6/18/2007	9.9	712	548	ND	9,653	Duplicate sample. (CH2M Hill)
	3/14/2007	ND	117	237	ND	3,110	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	115	210	ND	3,169	Duplicate sample. (CH2M Hill)
	8/3/2006	ND	178	176	ND	1,502	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/17/2006	ND	673	636	ND	8,044	Sampled after one-month rebound. (CH2M Hill)
	12/17/2005	ND	396	257	ND	1,984	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	8,028	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	5,888	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	15.8	910	948	10.9	18,201	Sampled after 2-week rebound. (CH2M Hill)
	8/10/2005	ND	633	812	70.8	9,637	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	7,432	NA	176,660	Sampled after excavation. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-4-9							
DCE-4-9-0212	2/1/2012	< 7.92	< 7.92	549	16.4	4,130	Temperature not collected
DCE-4-9-0212D	2/1/2012 (Dup)	< 7.92	< 7.92	583	19.6	4,400	Temperature not collected. Duplicate
DCE-4-9-Inf5	12/2/2011	<7.92	<19.8	475	<27.3	3,990	Fifth Influent Sample from SVE Pilot Test. Temperature not collected
DCE-4-9-Inf4	12/1/2011	<7.92	<19.8	539	<27.3	4,780	Fourth Influent Sample from SVE Pilot Test. Temperature not collected
DCE-4-9-Inf3	11/30/2011	<7.92	<19.8	576	<27.3	5,330	Third Influent Sample from SVE Pilot Test. Temperature not collected
DCE-4-9-Inf2	11/29/2011	<7.92	<7.92	1,110	30.5	7,518	Second Influent Sample from SVE Pilot Test. Temperature not collected
DCE-4-9-Inf1	11/28/2011	<7.92	<7.92	1,250	61	8,110	First Influent Sample from SVE Pilot Test. Temperature not collected
DCE-4-9-112811	11/28/2011	<7.92	<7.92	983	10.9	9,670	Temperature not collected. Duplicate
DCE-4-9-0811-Dup	8/30/2011 (Dup)	<7.92	<7.92	2,100	90.6	12,800	Temperature 108 ºF. Duplicate.
DCE-4-9-0811	8/30/2011	<7.92	<7.92	2,100	87.4	12,700	Temperature 108 ºF.
DCE-4-9-Dup-0711	7/26/2011 (Dup)	<7.94	<7.94	1,590	79.6	9,990	Temperature 86 ºF. Duplicate.
DCE-4-9-0711	7/26/2011	<7.94	<7.94	1,420	76.3	9,670	Temperature 86 ºF. Duplicate.
DCE-4-64	6/23/2011	<7.94	<7.92	1,160	62.2	8,860	Temperature 89 ºF.
DCE-4-9	2/18/2010	<7.9	<7.9	483	32.7	4,710	Weather: 70 °F with light rain.
DCE-4-9-Dup	2/18/2010	<7.92	<7.92	572	36.0	4,800	Weather: 70 °F with light rain. Field duplicate sample.
DCE-4-9	8/13/2009	<39.6	<39.6	725	81.8	11,100	ITSI began oversight. Temperature not collected.
	6/18/2007	ND	3.8	338	16.3	5,095	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	169	ND	1,931	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	2/12/2007	ND	ND	1,083	98.0	2,038	Sampled after one month of SVE operation. (CH2M Hill)
	8/3/2006	ND	ND	677	ND	8,580	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	6/30/2006	ND	ND	115	ND	1,770	Monthly sampling with SVE operation. (CH2M Hill)
	5/31/2006	ND	ND	250	ND	3,915	Monthly sampling with SVE operation. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-4-9 Continued							
	5/4/2006	ND	ND	433	ND	8,580	Sampled after one month of SVE operation and one month of rebound. (CH2M Hill)
	1/18/2006	ND	ND	555	ND	7,508	Sample after one-month rebound. (CH2M Hill)
	12/18/2005	ND	ND	ND	ND	2,521	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	21,950	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	8,028	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	2,768	ND	26,299	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	ND	ND	3,107	ND	39,615	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	26,357	NA	695,945	Sampled after excavation. (CH2M Hill)
DCE-4-25							
DCE-4-24-0212	2/1/2012	< 1.98	17.8	552	7.63	2,470	Temperature not collected.
DCE-4-24-Inf5	12/2/2011	<7.92	24.6	1,440	<10.9	1,560	Fifth Influent Sample from SVE Pilot Test. Temperature not collected.
DCE-4-24-Inf4	12/1/2011	<7.92	25.3	1,360	<10.9	1,620	Fourth Influent Sample from SVE Pilot Test. Temperature not collected.
DCE-4-24-Inf3	11/30/2011	<7.92	30.1	1,550	12	2,010	Third Influent Sample from SVE Pilot Test. Temperature not collected.
DCE-4-24-Inf2	11/29/2011	<7.92	37.2	1,360	12	2,240	Second Influent Sample from SVE Pilot Test. Temperature not collected.
DCE-4-24-Inf1	11/28/2011	<7.92	44.4	1,620	22.9	4,370	First Influent Sample from SVE Pilot Test. Temperature not collected.
DCE-4-24-112811	11/28/2011	<7.92	26.9	1,020	22.9	4,670	Temperature not collected. Duplicate.
DCE-4-24-0811	8/30/2011	<7.92	20.6	942	<10.9	4,760	Temperature 108 ºF.
DCE-4-24-0711	7/26/2011	<7.94	18.3	732	15.3	3,150	Temperature 86 ºF.
DCE-4-24-Dup	6/23/2011	<7.94	21.4	938	18.7	3,710	Temperature 89 ºF. Duplicate.
DCE-4-24	6/23/2011	<7.94	20.6	993	18.7	3,730	Temperature 89 ºF.
DCE-4-24	2/18/2010	<7.9	26.1	640	16.4	4,060	The depth of top of the sample interval remains at 24 feet (see comment 8/13/2009). Weather: 70° F with light rain. (DCE-4-24)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-4-25 Continued							
DCE-4-24	8/13/2009	<7.92	26.1	542	21.8	3,580	ITSI began oversight; The depth of the sample interval (24 feet) is approximately1 foot above the top of the screened interval (10 feet) due to sand accumulation at the bottom of the well. Temperature not collected.
	6/18/2007	ND	15.0	264	7.1	2,252	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	298	ND	1,823	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	3/14/2007	ND	ND	284	ND	1,823	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/3/2006	ND	ND	514	ND	3,110	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/18/2006	ND	43.5	745	ND	5,899	Sampled after one-month rebound. (CH2M Hill)
	1/18/2006	ND	63.3	657	ND	6,435	Sampled after one-month rebound. (CH2M Hill)
	12/18/2005	ND	ND	575	ND	2,950	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	12,849	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	5,084	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	1,218	ND	9,637	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	ND	ND	2,098	174	11,777	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	19,602	NA	471,102	Sampled after excavation. (CH2M Hill)
DCE-4-44							
DCE-4-43-0811	8/30/2011	<3.96	189	739	<5.46	2,270	Temperature 108 ºF. Ball valve and sampling port installed.
	7/26/2011	NA	NA	NA	NA	NA	Ball valve/sampling port missing. Could not sample.
	6/23/2011	NA	NA	NA	NA	NA	Ball valve/sampling port missing. Could not sample.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight. This depth not sampled. Temperature not collected.

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-4-44 Continued							
	3/14/2007	ND	ND	217	ND	1,716	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)
	8/3/2006	ND	ND	616	ND	2,950	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/18/2006	ND	134	311	ND	2,681	Sampled after one-month rebound. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	3,051	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	366	ND	2,890	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	2,295	ND	21,950	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	27.7	ND	880	ND	4,124	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	6,220	NA	144,542	Sampled after excavation. (CH2M Hill)
DCE-4-67							
DCE-4-67-0811	8/30/2011	<0.40	<0.40	1.56	<0.55	10.7	Temperature 102 ºF.
DCE-4-64-0711	7/26/2011	<0.40	<0.40	5.76	<0.55	24.9	Temperature 88 ºF.
DCE-4-64	6/23/2011	<0.40	<0.40	249	<0.55	29.7	Temperature 92 ºF. First sample collected from this depth since June 18, 2007.
	8/13/2009	NA	NA	NA	NA	NA	ITSI began oversight. This depth not sampled. Temperature not collected.
	6/18/2007	ND	1068	880	ND	17,161	Sampled after 1 month of SVE operation and 1-month rebound. Latest rebound is similar to previous rebound events, but different than most recent (3/14/07). As with DCE2-67, there may be a seasonality to the release of TCE into the vapor phase at this depth. The most similar rebound result was observed on 9/21/05. The vacuum test conducted in October 2005 indicates that there is sufficient vacuum to extract soil vapor from that depth. (CH2M Hill)
	3/14/2007	ND	ND	12.2	ND	75.1	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)

Table 2
VOCs in Soil Vapor from Vapor Monitor Wells, 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Industrial SGHHSLs		730,000	220,000	39,000	18,000,000	2,500	
DCE-4-67 Continued							
	8/3/2006	ND	186	278	ND	2,628	Sampled after 4 months of SVE operation and one-month rebound. (CH2M Hill)
	1/18/2006	ND	514	663	ND	5,363	Sampled after one-month rebound. (CH2M Hill)
	12/18/2005	ND	245	230	ND	5,256	Sampled after 3 weeks of SVE operation. (CH2M Hill)
	9/21/2005	ND	ND	ND	ND	7,497	Sampled after 2-week rebound. (CH2M Hill)
	9/7/2005	ND	ND	ND	ND	3,153	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	8/23/2005	ND	ND	1,760	ND	11,240	Sampled after 2-week rebound. (CH2M Hill)
	8/9/2005	79.1	79.1	2,227	ND	17,129	Sampled after 2 weeks of SVE operation. (CH2M Hill)
	2/23/2005	NA	NA	17,571	NA	385,442	Sampled after 1 month of SVE operation and 1-month rebound. (CH2M Hill)

NOTES

Highlighted values indicate exceedance of the corresponding SGHHSL

Soil Vapor Monitor Wells were not sampled in August 2012

Sample IDs were not available prior to 2009

ACRONYMNS AND ABBREVIATIONS

°F = degrees Fahrenheit
1,1-DCE = 1,1-dichloroethene
1,1,1-TCA = 1,1,1-trichloroethane
cis-1,2-DCE = cis-1,2-dichloroethene
J = estimated value
NA = not analyzed
ND = not detected above the quantitation (reporting) limit
NL = not listed
PCE = tetrachloroethene (RSLs reflect May 2012 revisions)
RSL = Regional Screening Level (U.S. EPA, November 2011)
SGHHSLS = EPA Region 9 industrial soil gas human health screening levels; personal communication from EPA RPM to ITSI Gilbane Project Manager, November 2012
SVE = soil vapor extraction
TCE = trichloroethene
ug/m^3 = micrograms per cubic meter

Table 3
VOCs in Outdoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[A]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	
Building 1300, Outdoor (Background)							
DCE-B1300-Roof	3/2/2011	<0.16	<0.16	<0.27	<0.22	<0.21	Collected from roof of Building 1340.
DCE-B1300-Roof	8/5/2010	<0.16	<0.16	<0.27	<0.22	<0.21	Collected from roof of Building 1340.
B1300-Roof	2/18/2010	<0.16	<0.16	<0.27	<0.22	<0.21	Collected from roof of Building 1340.
B1300-R-BG	8/13/2009	<0.16	<0.16	<0.27	<0.22	<0.21	Collected from roof of Building 1340.
BDG[B]	Winter 2008	ND	ND	0.42	ND	ND	CH2M Hill Sample
BDG[B]	June 2007	ND	ND	ND		ND	CH2M Hill Sample
BDG[B]	March 2007	ND	ND	ND	ND	ND	CH2M Hill Sample
Building 1340, Outdoor (Background)							
DCE-B1340-Roof-0130	1/31/2013	<0.16	<0.16	0.47	<0.22	<0.21	Roof of Building 1340. Temp not recorded.
DCE-B1340-117-Roof-0712	8/1/2012	<0.16	<0.16	<0.27	<0.22	<0.21	Roof of Building 1340. Outdoor temp 98 ºF.
DCE-B1340-Roof-112211	11/23/2011	<0.16	<0.16	0.61	<0.22	<0.21	Sampled prior to SVE Pilot Test. Temp not collected.
DCE-B1340-Roof-0811	8/30/2011	<16	<16	0.27	<22	<0.21	Roof of Building 1340. Outdoor temp 110 F.
DCE-B1340-Roof-0711	7/25/2011	<16	<16	0.61	<0.22	<0.21	Roof of Building 1340. Outdoor temp 104 F.
DCE-B1340-Roof	6/23/2011	<0.16	<0.16	0.34	<0.22	<0.21	This is the first outdoor ambient air sample to report a hit since winter 2008. Outdoor temp 96 ºF.
DCE-B1340-Roof	3/31/2011	<0.16	<0.16	<0.27	<0.22	<0.21	Collected from roof of Building 1340. Moved from Building 1300 for this event as the concentrations in the suites of Building 1340 showed an increase since the previous event. No temp collected.

Table 3
VOCs in Outdoor Air 2005-2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Sample ID	Date Collected	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Comments[A]
		ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	

NOTES

A. Indicated temperatures were collected at the time sample canisters were set unless otherwise indicated in the comments

B. Locations of CH2M Hill samples were identified as follows:

Bldg. 1300, Suite 100 = Art Studio (STU)
Bldg. 1300, Suite 105 = Empty Office (EMO)
Bldg. 1300, Background = Background (BDG)
Bldg. 1340, Suite 101 (=Ste 107 on ITSI Aug 09 event; also referenced as ARF, ARN and AWR)
Bldg. 1340, Suite 117= Guitar Studio (GUS)

ACRONYMNS AND ABBREVIATIONS

°F = degrees Fahrenheit
1,1-DCE = 1,1-dichloroethene
1,1,1-TCA = 1,1,1-trichloroethane
AC/ERV = air conditioning/energy recovery ventilation system
cis-1,2-DCE = cis-1,2-dichloroethene
Dup = duplicate sample
ND = not detected above the quantitation (reporting) limit
NL = not listed
PCE = tetrachloroethene (RSLs reflect May 2012 revisions)
TCE = trichloroethene
temp = temperature
ug/m^3 = micrograms per cubic meter

Table 4
Summary of Pressures for 6-Liter Summa Canisters
Indoor Air Sampling, January, 2013
DCE Circuits Subsite, South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

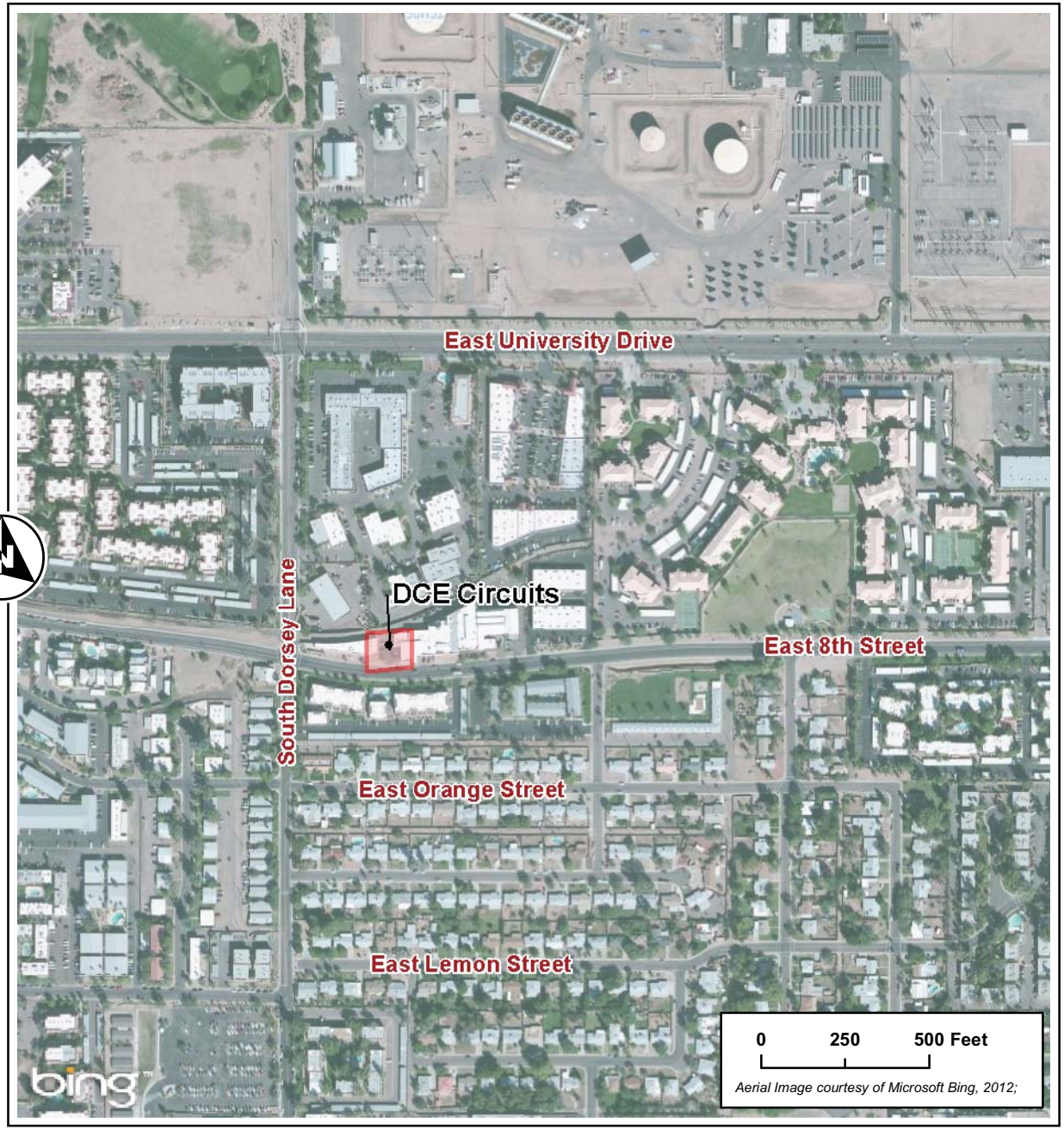
Sample ID	Location	Vacuum	
		Initial Reading (in. Hg)	Final Reading (in. Hg)
DCE-B1340-101-H-0130	Building 1340, Suite 101 ~5 feet above floor	29	8
DCE-B1340-101-L-0130	Building 1340, Suite 101 ~3 feet above floor	28	7
DCE-B1340-117-FO-0130	Building 1340, Suite 117, Front Office	29	8.5
DCE-B1340-117-FOD-0130	Building 1340, Suite 117, Front Office Duplicate	29	7.5
DCE-B1340-117-BO-0130	Building 1340, Suite 117, Back Office	28	7
DCE-B1340-Roof-0130	Roof of Building 1340	29	7
DCE-B1340-116-0130	Building 1340, Suite 116	27.5	6

NOTES:

in. Hg = inches of mercury

Vacuum is measured as negative difference from atmospheric pressure, in units of inches of mercury (in. Hg). A vacuum reading of 6 in. Hg indicates the pressure inside the canister is 6 inches less than atmospheric pressure; expressed alternately as a pressure of -6 in. Hg. A vacuum reading of 0.0 indicates equilibrium with atmospheric pressure.

FIGURES

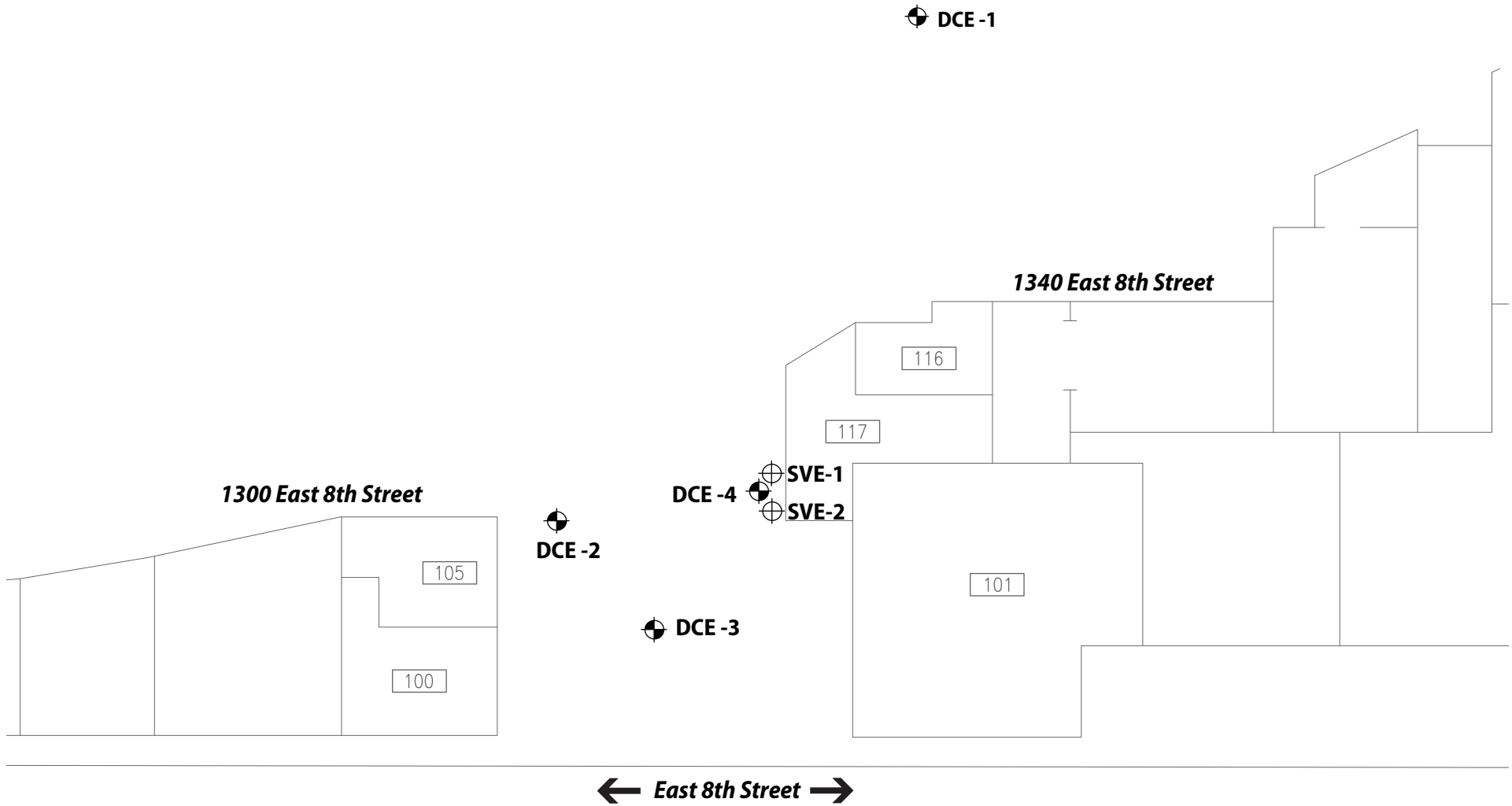


ITSI Gilbane

January 2013 Sampling Event
DCE Circuits Subsite
South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Figure 1
Site Location Map

G:\ArcGIS\EPA\SIBW\PROJECTS\DCE_Circuits\DCE_Locs.mxd 4/24/2013 [16:31 PM]



LEGEND

- Soil Vapor Extraction Well
- Soil Vapor Monitoring Well
- 100 Suite Number

N

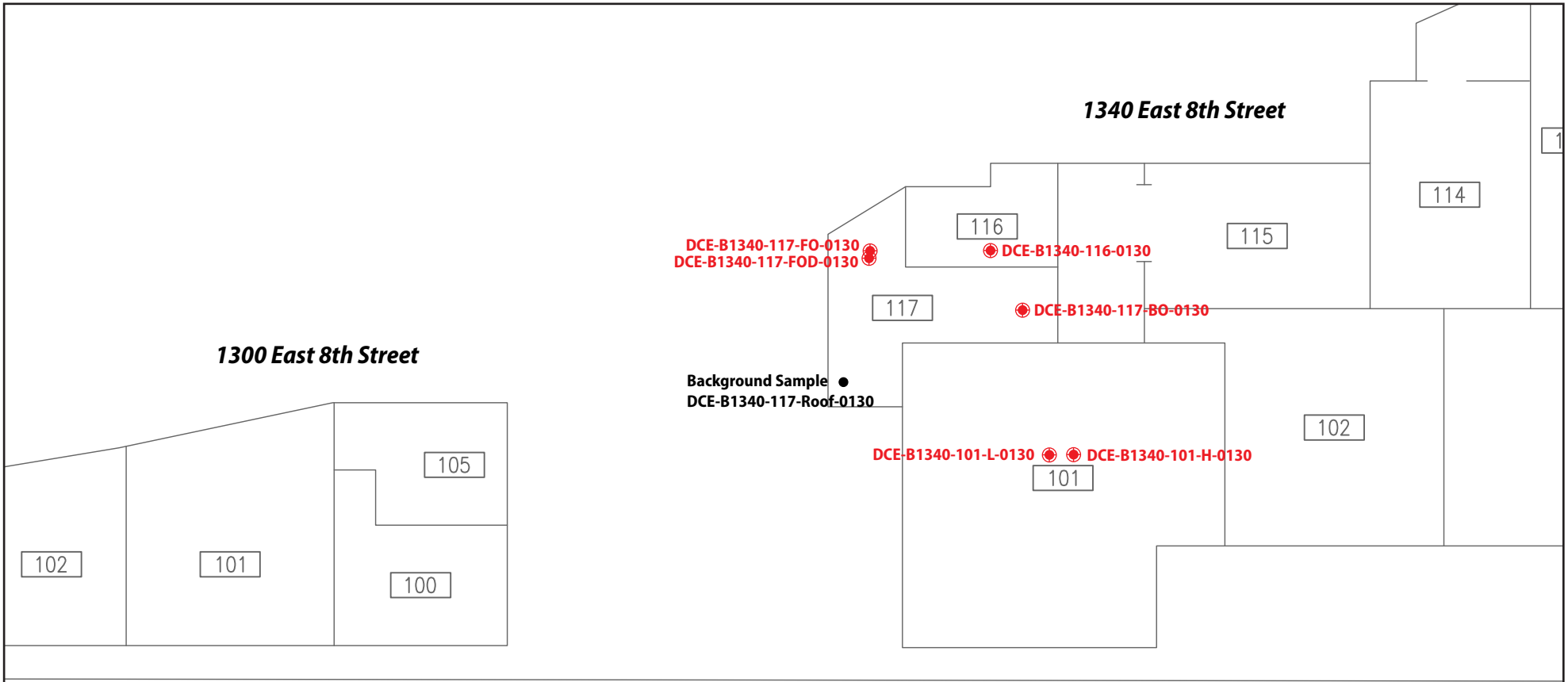
NOT TO SCALE

ITSI Gilbane

January 2013 Sampling Event
DCE Circuits Subsite
South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Figure 2
Soil Vapor Extraction and Monitor Well Locations

T:\07163.0018 DCE Circuits\Sampling Jan 2013\Figures\Fig 2 - SVM Wells



LEGEND

B1300-10 — Approximate canister sample location and sample identification number for indoor air samples

● — Background sample collected on the building roof (outdoor air sample)

100 — Suite number

N

NOT TO SCALE

ITSI Gilbane

January 2013 Sampling Event
DCE Circuits Subsite
South Indian Bend Wash (SIBW) Superfund Site
Tempe, Arizona

Figure 3
Approximate Canister Locations
Indoor and Outdoor Air
January 2013

T:\07163.0018 DCE Circuits\Tech Memos\Sampling Jan 2013\Figures\Fig 3 - Canister Locations

APPENDIX A
U.S. EPA SOIL VAPOR HUMAN HEALTH SCREENING LEVELS, JUNE 2012

U.S. Environmental Protection Agency
Soil Gas Human Health Screening Levels
(SGHHSLs) for Arizona Superfund Sites

June 2012

	USEPA Indoor Air RSLs[2], April 2012		Attenuation Factors (alpha) Cal/EPA CHHSL[3]		Soil Gas Human Health Screening Levels ("SGHHSLs")	
Soil Vapor Chemicals	Residential (A) (ug/m^3)	Industrial (B) (ug/m^3)	Residential (C) (unitless)	Industrial (D) (unitless)	Residential (A/C) (ug/m^3)	Industrial (B/D) (ug/m3)
Benzene	3.1E-01	1.6E+00	2.3E-03	1.2E-03	1.3E+02	1.3E+03
Bromodichloromethane	6.6E-02	3.3E-01	2.3E-03	1.2E-03	2.9E+01	2.8E+02
Carbon Tetrachloride	1.6E-01	8.2E-01	2.3E-03	1.2E-03	7.0E+01	6.8E+02
Chlorobenzene	5.2E+01	2.2E+02	2.3E-03	1.2E-03	2.3E+04	1.8E+05
Chloroform	1.1E-01	5.3E-01	2.3E-03	1.2E-03	4.8E+01	4.4E+02
1,1-Dichloroethane	1.5E+00	7.7E+00	2.3E-03	1.2E-03	6.5E+02	6.4E+03
1,2-Dichloroethane	9.4E-02	4.7E-01	2.3E-03	1.2E-03	4.1E+01	3.9E+02
1,1-Dichloroethene	2.1E+02	8.8E+02	2.3E-03	1.2E-03	9.1E+04	7.3E+05
Cis-1,2-Dichloroethene[1]	6.3E+01	2.6E+02	2.3E-03	1.2E-03	2.7E+04	2.2E+05
Trans-1,2-Dichloroethene	6.3E+01	2.6E+02	2.3E-03	1.2E-03	2.7E+04	2.2E+05
1,4-Dioxane	NA	NA	NA	NA	NA	NA
Ethylbenzene	9.7E-01	4.9E+00	2.3E-03	1.2E-03	4.2E+02	4.1E+03
Methylene Chloride	5.2E+00	2.6E+01	2.3E-03	1.2E-03	2.3E+03	2.2E+04
1,1,2,2-Tetrachloroethane	4.2E-02	2.1E-01	2.3E-03	1.2E-03	1.8E+01	1.8E+02
Tetrachloroethene (PCE)	9.4E+00	4.7E+01	2.3E-03	1.2E-03	4.1E+03	3.9E+04
Toluene	5.2E+03	2.2E+04	2.3E-03	1.2E-03	2.3E+06	1.8E+07
1,1,1-Trichloroethane	5.2E+03	2.2E+04	2.3E-03	1.2E-03	2.3E+06	1.8E+07
1,1,2-Trichloroethane	1.5E-01	7.7E-01	2.3E-03	1.2E-03	6.5E+01	6.4E+02
Trichloroethene (TCE)	4.3E-01	3.0E+00	2.3E-03	1.2E-03	1.9E+02	2.5E+03
Trichlorotrifluorethane (F-113)	3.1E+04	1.3E+05	2.3E-03	1.2E-03	1.3E+07	1.1E+08
Vinyl Chloride	1.6E-01	2.8E+00	2.3E-03	1.2E-03	7.0E+01	2.3E+03

Footnotes:
[1]At this time, indoor air RSLs are not available for this compound, so the trans-1,2-DCE isomer was used as a surrogate value for cis-1,2-DCE.

[2]USEPA Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites. May 2012. http://www.epa.gov/region09/waste/sfund/prg/index.html

[3]California Human Health Screening Levels (CHHSLs), January 2005. Attenuation Factors are estimated for a building constructed without engineered fill below sub-slab. For more information please see: http://oehha.ca.gov/risk/pdf/screenreport010405.pdf

Methodology for Deriving New SGHHSLs:
New soil gas screening values (SGHHSLs) can be derived for chemicals not included in the above table by selecting the air Regional Screening Level (from the most recent RSL table) and dividing it by the appropriate attenuation factor (AF). In other words, the chemical-specific RSLs (residential or industrial) shown in column 1 divided by the generic AFs (0.0023 or 0.0012) shown in column 2 = SGHHSLs.

A generic AF for all VOCs is used because there is little difference in the values from one chemical to the next when the AFs were modeled for the chemicals shown in the table. When modeled, the AFs rounded to the same number (0.0023 for residential building and 0.0012 for industrial building).

Updates:
Please note that the RSLs and Cal/EPA CHHSLs are updated periodically. Therefore, the derived SGHHSLs may also need to be updated as appropriate.

APPENDIX B
LABORATORY ANALYTICAL REPORTS

Airtech Environmental Laboratories (AEL)
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: February 15, 2013

Client:	Patricia Clymer	Work Order #:	13A029
Company:	ITSI Gilbane Company	Project Name:	DCE Circuits
Address:	1501 W. Fountainhead Pkwy, Ste 350	Project Number:	07163.0018
	Tempe, AZ 85282	Received Date:	1/31/2013

Dear Client:

Airtech Environmental Laboratories received seven (7) samples for analysis.

All analyses met laboratory QA/QC with any exceptions addressed in the Case Narrative.

If you have any questions or concerns regarding your samples analysis, please contact the laboratory at 480-968-5888

Sincerely,

Yu Min Shi
Technical Director
Airtech Environmental Labs

Arizona ADHS License No. AZ0740

Preliminary Results

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-101-H-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	01	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.44**	**0.04**	**2.98**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**0.39**	**0.04**	**2.09**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	90.0	70-130	%REC					

Preliminary Results

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-101-L-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	02	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.45**	**0.04**	**3.05**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**0.30**	**0.04**	**1.61**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	92.0	70-130	%REC					

Preliminary Results

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-FO-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	03	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.24**	**0.04**	**1.63**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.20**	**0.04**	**6.44**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	84.0	70-130	%REC					

Preliminary Results

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-FOD-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	04	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.24**	**0.04**	**1.63**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.26**	**0.04**	**6.77**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	86.0	70-130	%REC					

Preliminary Results

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-BO-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	05	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.25**	**0.04**	**1.70**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.20**	**0.04**	**6.44**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	86.0	70-130	%REC					

Preliminary Results

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-Roof-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	06	**Matrix:**	Ambient Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.07**	**0.04**	**0.47**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	84.0	70-130	%REC					

Preliminary Results

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-116-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	07	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.10**	**0.04**	**0.68**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	106	70-130	%REC					

Preliminary Results

Airtech Environmental Laboratories (AEL)

Chain of Custody

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

Customer: ITSI Gilbane Company
Address: 1501 W Fountainhead Pkwy Ste.350
City, State, Zip: Tempe, AZ, 85282
Contact: Patricia Clymer
Phone: 480-706-6488 Fax: 480-701
E-Mail Address: pclymer@itsi.com

Page 1 of 1
Sampler: Stephanie Archabal Phone: 480-706-6488
Project Name: DCE Circuits Project Number: D7163.0018
Project location: Tempe, AZ
P.O. Number:
Fax Results: Y (N)
E-Mail Results: (Y) N

AEL Lab # 13A029

Sample Receipt
Temperature _____ °C
Custody Seals: Yes ____ No ____
Custody Seals Intact: Yes ____ No ____
Total # of Containers: 7

Turn Around Request
____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 working Day
✓ Standard 10 Working Days

Sample Type
A: ambient air
I: indoor air
S: soil extraction vapor
O: other

117-63F
101- no AC/heater on in warehouse

Analysis

Sample information

AEL Lab #	Serial # Canister	Serial # Grab/TIS	Canister (L)	Client's Sample Identification	Start sampled Date	Start sampled Time	End sampled Date	End sampled Time	Gauge read, inch Hg Start	Gauge read, inch Hg End	Description Sample Type	TO-15 full list	TO-15 BTEX only	TO-15 SIM	(Other) TO-15 EPA
01	~~7341713~~	~~1455~~	6 1	DCE-B1340-101-H-0130	1/30/13	1037	1/31/13	1055	29	8	A (I) S O				X
02	~~7331030~~ 7331020	~~1440~~ 1557	6 1	DCE-B1340-101-L-0130	1/30/13	1038	1/31/13	1055	28	7	A (I) S O				X
03	7339733	1404	6 1	DCE-B1340-117-FO-0130	1/30/13	1032	1/31/13	1041	29	8.5	A (I) S O				X
04	7339730	1505	6 1	DCE-B1340-117-FOD-0130	1/30/13	1033	1/31/13	1042	29	7.5	A (I) S O				X
05	7341207	1458	6 1	DCE-B1340-117-BO-0130	1/30/13	1034	1/31/13	1042	28	7	A (I) S O				X
06	7339830	1448	6 1	DCE-B1340-ROOF-0130	1/30/13	1028	1/31/13	1043	29	7	(A) I S O				X
07	7339899	1470	6 1	DCE-B1340-116-0130	1/30/13	1053	1/31/13	1106	27.5	6	A (I) S O				X
			6 1								A I S O				
			6 1								A I S O				
			6 1								A I S O				

Instructions / Special Requirements: TO-15 EPA: include 1,-1-DCE; cis-1,2-DCE; 1,1,1-TCA; TCE; PCE report in ug/m³ and ppb

Date:	Time:	Samples Relinquished By:	Received By:
1/31/13	11:30	Stephanie P Archabal / ITSI Gilbane Company	James Jones - Airtech

Airtech Environmental Laboratories (AEL)
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: February 18, 2013

Client:	Patricia Clymer	Work Order #:	13A029
Company:	ITSI Gilbane Company	Project Name:	DCE Circuits
Address:	1501 W. Fountainhead Pkwy, Ste 350	Project Number:	07163.0018
	Tempe, AZ 85282	Received Date:	1/31/2013

Dear Client:

Airtech Environmental Laboratories received seven (7) samples for analysis.

All analyses met laboratory QA/QC with any exceptions addressed in the Case Narrative.

If you have any questions or concerns regarding your samples analysis, please contact the laboratory at 480-968-5888

Sincerely,

Yu Min Shi
Technical Director
Airtech Environmental Labs

Arizona ADHS License No. AZ0740

Airtech Environmental Laboratories (AEL) - AZ 0740
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: February 18, 2013

Client:	Patricia Clymer	Work Order #:	13A029
Company:	ITSI Gilbane Company	Project Name:	DCE Circuits
Address:	1501 W. Fountainhead Pkwy, Ste 350	Project Number:	07163.0018
	Tempe, AZ 85282	Received Date:	01/31/13

SAMPLE SUMMARY

			24 Hour Sampling Start		24 Hour Sampling Stop		Gauge Reading (in Hg.)	
LAB ID	**CLIENT ID**	**METHOD**	**DATE**	**TIME**	**DATE**	**TIME**	**Start**	**Stop**
13A029-01	DCE-B1340-101-H-0130	TO-15_SIM EPA-5	1/30/2013	1037	1/31/2013	1055	29	8
13A029-02	DCE-B1340-101-L-0130	TO-15_SIM EPA-5	1/30/2013	038	1/31/2013	1055	28	7
13A029-03	DCE-B1340-117-FO-0130	TO-15_SIM EPA-5	1/30/2013	1032	1/31/2013	1041	29	8.5
13A029-04	DCE-B1340-117-FOD-0130	TO-15_SIM EPA-5	1/30/2013	1033	1/31/2013	1042	29	7.5
13A029-05	DCE-B1340-117-BO-0130	TO-15_SIM EPA-5	1/30/2013	1034	1/31/2013	1042	28	7
13A029-06	DCE-B1340-Roof-0130	TO-15_SIM EPA-5	1/30/2013	1028	1/31/2013	1043	29	7
13A029-07	DCE-B1340-116-0130	TO-15_SIM EPA-5	1/30/2013	1053	1/31/2013	1106	27.5	6

Airtech Environmental Laboratories (AEL)
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: February 18, 2013

Client:	Patricia Clymer	Work Order #:	13A029
Company:	ITSI Gilbane Company	Project Name:	DCE Circuits
Address:	1501 W. Fountainhead Pkwy, Ste 350	Project Number:	07163.0018
	Tempe, AZ 85282	Received Date:	01/31/13

Case Narrative

All samples and QC associated with your samples met the quality control objectives.
Data qualifiers in this report are in accordance with ADEQ Data Qualifiers.

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-101-H-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	01	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
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Tetrachloroethene	**0.44**	**0.04**	**2.98**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**0.39**	**0.04**	**2.09**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	90.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-101-L-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	02	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
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Tetrachloroethene	**0.45**	**0.04**	**3.05**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**0.30**	**0.04**	**1.61**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	92.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-FO-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	03	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
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1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.24**	**0.04**	**1.63**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.20**	**0.04**	**6.44**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	84.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-FOD-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	04	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.24**	**0.04**	**1.63**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.26**	**0.04**	**6.77**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	86.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-BO-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	05	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.25**	**0.04**	**1.70**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.20**	**0.04**	**6.44**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	86.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-Roof-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	06	**Matrix:**	Ambient Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.07**	**0.04**	**0.47**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	84.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-116-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	07	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.10**	**0.04**	**0.68**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	106	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

Client:	ITSI Gilbane Company
Project:	DCE Circuits
Lab Order:	13A029
Lab ID:	LCS/LCSD

Method QC Data

Date Analyzed: 2/11/13 Batch: MS010211 Analyst: JJ

Analyses	LCS Result		LCS %REC	LCSD Result		LCSD %REC	T.V.	%RPD	Pass/fail LCS	Pass/fail LCSD	Pass/fail RPD	Date Analyzed
	ppbv	ug/M^3		ppbv	ug/M^3		ug/M^3					
VOLATILE ORGANICS IN AIR									70-130%	70-130%	<25%	Analyst: JJ
1,1-Dichloroethene	0.48	1.90	96.0	0.48	1.90	96.0	1.98	0.0				2/11/2013
cis-1,2-Dichloroethene	0.46	1.82	92.0	0.46	1.82	92.0	1.98	0.0				2/11/2013
1,1,1-Trichloroethane	0.45	2.45	90.0	0.44	2.40	88.0	2.73	2.2				2/11/2013
Trichloroethene	0.43	2.31	86.0	0.44	2.36	88.0	2.69	2.3				2/11/2013
Tetrachloroethene	0.38	2.58	76.0	0.39	2.64	78.0	3.39	2.6				2/11/2013
Surr: 4-Bromofluorobenzene			100			94.0						
			70-130%			70-130%						

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company
Project:	DCE Circuits
Lab Order:	13A029
Lab ID:	Blank

Method QC Data

Batch: MS010211 Analyst: JJ

Analyses	ppbv Result	ppbv Limit	ug/M^3 Result	ug/M^3 Limit	Qual	DF	Date Analyzed
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013
Tetrachloroethene	< 0.04	0.04	< 0.27	0.27		1	2/11/2013
Surr: 4-Bromofluorobenzene	90.0	70-130	%REC				

Airtech Environmental Laboratories (AEL) - AZ 0740
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client: ITSI Gilbane Company
Project: DCE Circuits
Lab Order: 13A029
Lab ID: Sampling Kits QC

		Canister				Time Integrated Sampler			
AEL#	Client ID	SN#	Clean Batch#	Vacuum before sampled Hg inch	Vacuum after sampled psia	SN#	Clean Batch#	Cal. Flow Rate before sampled ml/min	Flow Rate after sampled ml/min
13A029-01	DCE-B1340-101-H-0130	1455	1301-05	29.3	10.78	7341913	1212-02	2.8	2.8
13A029-02	DCE-B1340-101-L-0130	1557	1301-06	29.4	11.17	7331020	1209-02	2.8	2.8
13A029-03	DCE-B1340-117-FO-0130	1464	1301-06	29.4	10.52	7339733	1212-02	2.8	2.8
13A029-04	DCE-B1340-117-FOD-0130	1505	1301-05	29.3	10.99	7339730	1212-02	2.8	2.9
13A029-05	DCE-B1340-117-BO-0130	1458	1301-05	29.3	11.26	7341807	1212-02	2.8	2.9
13A029-06	DCE-B1340-Roof-0130	1448	1301-06	29.5	11.05	7339830	1212-02	2.8	2.8
13A029-07	DCE-B1340-116-0130	1470	1301-06	29.3	13.38	7339899	1212-01	2.8	2.9

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client: ITSI Gilbane Company
Project: DCE Circuits
Lab Order: 13A029
Lab ID: Standards

AEL ID#	STD Name	Vendor	SGI Order#	Description	CONC.	Accuracy	Exp.Date
S-120912-01	Stock	Spectra Gases	109434854	TO-14 39 Analytes	1.0 ppmv	± 5%	9/12/2013
S-120912-02	Stock	Spectra Gases	109434854	TO-15 25 Analytes	1.0 ppmv	± 5%	9/18/2013
S-120627-01	Stock	Spectra Gases	108224309	10 Additional Compounds	1.0 ppmv	± 5%	6/27/2013
S-121226-01	Stock	Spectra Gases	109888461	TO-15 IS 4 Compounds	1.0 ppmv	± 5%	12/26/2013
A-130121-02	Working Std	AEL Dilution		TO-15 39 Analytes	0.5 ppbv	± 5%	4/21/2013
A-130104-01	Working IS	AEL Dilution		TO-15 IS 4 Compounds	50 ppbv	± 5%	4/4/2013
A-130121-01	Working IS	AEL Dilution		TO-15 IS 4 Compounds	2.5 ppbv	± 5%	4/21/2013

Airtech Environmental Laboratories (AEL) - AZ 0740

Canister Cleaning Certificate

Canister size: 1.0L [ ] 6.0L [X] Other: _____ Serial Number: 1455

AEL Canister Clean Batch#: 1301-05

Comments: _____

Analytical Method: TO15 SIM

Comments: _____

This canister has been cleaned and has been individually analyzed to certify the analytes in the box are below the Report Limits.

		Report Limits		
Analyte		**ppbv**		**mg/M^3**
1,1-Dichloroethene	<	0.04	<	0.16
cis-1,2-Dichloroethene	<	0.04	<	0.16
1,1,1-Trichloroethane	<	0.04	<	0.22
Trichloroethene	<	0.04	<	0.21
Tetrachloroethene	<	0.04	<	0.27

Comments: _____

_____

Chemist: Yu Min Shi

Date: 2/18/2013

4620 E.Elwood Street, Suite 13, Phoenix AZ 85040 Phone: 480-968-5888, Fax: 480-966-1888

Airtech Environmental Laboratories (AEL) - AZ 0740

Canister Cleaning Certificate

Canister size: 1.0L [ ] 6.0L [X] Other: _____ Serial Number: 1557

AEL Canister Clean Batch#: 1301-06

Comments: _____

Analytical Method: TO15 SIM

Comments: _____

This canister has been cleaned and has been individually analyzed to certify the analytes in the box are below the Report Limits.

		Report Limits		
Analyte		**ppbv**		**mg/M^3**
1,1-Dichloroethene	<	0.04	<	0.16
cis-1,2-Dichloroethene	<	0.04	<	0.16
1,1,1-Trichloroethane	<	0.04	<	0.22
Trichloroethene	<	0.04	<	0.21
Tetrachloroethene	<	0.04	<	0.27

Comments: _____

_____

Chemist: Yu Min Shi

Date: 2/18/2013

4620 E.Elwood Street, Suite 13, Phoenix AZ 85040 Phone: 480-968-5888, Fax: 480-966-1888

Airtech Environmental Laboratories (AEL) - AZ 0740

Canister Cleaning Certificate

Canister size: 1.0L [ ] 6.0L [X] Other: _____ Serial Number: 1464

AEL Canister Clean Batch#: 1301-06

Comments: _____

Analytical Method: TO15 SIM

Comments: _____

This canister has been cleaned and has been individually analyzed to certify the analytes in the box are below the Report Limits.

		Report Limits		
Analyte		**ppbv**		**mg/M^3**
1,1-Dichloroethene	<	0.04	<	0.16
cis-1,2-Dichloroethene	<	0.04	<	0.16
1,1,1-Trichloroethane	<	0.04	<	0.22
Trichloroethene	<	0.04	<	0.21
Tetrachloroethene	<	0.04	<	0.27

Comments: _____

_____

Chemist: Yu Min Shi

Date: 2/18/2013

4620 E.Elwood Street, Suite 13, Phoenix AZ 85040 Phone: 480-968-5888, Fax: 480-966-1888

Airtech Environmental Laboratories (AEL) - AZ 0740

Canister Cleaning Certificate

Canister size: 1.0L [ ] 6.0L [X] Other: _____ Serial Number: 1505

AEL Canister Clean Batch#: 1301-05

Comments: _____

Analytical Method: TO15 SIM

Comments: _____

This canister has been cleaned and has been individually analyzed to certify the analytes in the box are below the Report Limits.

		Report Limits		
Analyte		**ppbv**		**mg/M^3**
1,1-Dichloroethene	<	0.04	<	0.16
cis-1,2-Dichloroethene	<	0.04	<	0.16
1,1,1-Trichloroethane	<	0.04	<	0.22
Trichloroethene	<	0.04	<	0.21
Tetrachloroethene	<	0.04	<	0.27

Comments: _____

Chemist: Yu Min Shi

Date: 2/18/2013

4620 E.Elwood Street, Suite 13, Phoenix AZ 85040 Phone: 480-968-5888, Fax: 480-966-1888

Airtech Environmental Laboratories (AEL) - AZ 0740

Canister Cleaning Certificate

Canister size: 1.0L [ ] 6.0L [X] Other: _____ Serial Number: 1458

AEL Canister Clean Batch#: 1301-05

Comments: _____

Analytical Method: TO15 SIM

Comments: _____

This canister has been cleaned and has been individually analyzed to certify the analytes in the box are below the Report Limits.

		Report Limits		
Analyte		**ppbv**		**mg/M^3**
1,1-Dichloroethene	<	0.04	<	0.16
cis-1,2-Dichloroethene	<	0.04	<	0.16
1,1,1-Trichloroethane	<	0.04	<	0.22
Trichloroethene	<	0.04	<	0.21
Tetrachloroethene	<	0.04	<	0.27

Comments: _____

_____

Chemist: Yu Min Shi

Date: 2/18/2013

4620 E.Elwood Street, Suite 13, Phoenix AZ 85040 Phone: 480-968-5888, Fax: 480-966-1888

Airtech Environmental Laboratories (AEL) - AZ 0740

Canister Cleaning Certificate

Canister size: 1.0L [ ] 6.0L [X] Other: _____ Serial Number: 1448

AEL Canister Clean Batch#: 1301-06

Comments: _____

Analytical Method: TO15 SIM

Comments: _____

This canister has been cleaned and has been individually analyzed to certify the analytes in the box are below the Report Limits.

		Report Limits		
Analyte		**ppbv**		**mg/M^3**
1,1-Dichloroethene	<	0.04	<	0.16
cis-1,2-Dichloroethene	<	0.04	<	0.16
1,1,1-Trichloroethane	<	0.04	<	0.22
Trichloroethene	<	0.04	<	0.21
Tetrachloroethene	<	0.04	<	0.27

Comments: _____

_____

Chemist: Yu Min Shi

Date: 2/18/2013

4620 E.Elwood Street, Suite 13, Phoenix AZ 85040 Phone: 480-968-5888, Fax: 480-966-1888

Airtech Environmental Laboratories (AEL) - AZ 0740

Canister Cleaning Certificate

Canister size: 1.0L [ ] 6.0L [X] Other: _____ Serial Number: 1470

AEL Canister Clean Batch#: 1008-01

Comments: _____

Analytical Method: TO15 SIM

Comments: _____

This canister has been cleaned and has been individually analyzed to certify the analytes in the box are below the Report Limits.

		Report Limits		
Analyte		**ppbv**		**mg/M^3**
1,1-Dichloroethene	<	0.04	<	0.16
cis-1,2-Dichloroethene	<	0.04	<	0.16
1,1,1-Trichloroethane	<	0.04	<	0.22
Trichloroethene	<	0.04	<	0.21
Tetrachloroethene	<	0.04	<	0.27

Comments: _____

_____

Chemist: Yu Min Shi

Date: 2/18/2013

4620 E.Elwood Street, Suite 13, Phoenix AZ 85040 Phone: 480-968-5888, Fax: 480-966-1888

Airtech Environmental Laboratories (AEL)
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: March 7, 2013

Client:	Patricia Clymer	Work Order #:	13A029
Company:	ITSI Gilbane Company	Project Name:	DCE Circuits
Address:	1501 W. Fountainhead Pkwy, Ste 350	Project Number:	07163.0018
	Tempe, AZ 85282	Received Date:	1/31/2013

Dear Client:

Airtech Environmental Laboratories received seven (7) samples for analysis.

All analyses met laboratory QA/QC with any exceptions addressed in the Case Narrative.

If you have any questions or concerns regarding your samples analysis, please contact the laboratory at 480-968-5888

Sincerely,

Yu Min Shi
Technical Director
Airtech Environmental Labs

Arizona ADHS License No. AZ0740

Airtech Environmental Laboratories (AEL) - AZ 0740
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: March 7, 2013

Client:	Patricia Clymer	Work Order #:	13A029
Company:	ITSI Gilbane Company	Project Name:	DCE Circuits
Address:	1501 W. Fountainhead Pkwy, Ste 350	Project Number:	07163.0018
	Tempe, AZ 85282	Received Date:	01/31/13

SAMPLE SUMMARY

			24 Hour Sampling Start		24 Hour Sampling Stop		Gauge Reading (in Hg.)	
LAB ID	**CLIENT ID**	**METHOD**	**DATE**	**TIME**	**DATE**	**TIME**	**Start**	**Stop**
13A029-01	DCE-B1340-101-H-0130	TO-15_SIM EPA-5	1/30/2013	1037	1/31/2013	1055	29	8
13A029-02	DCE-B1340-101-L-0130	TO-15_SIM EPA-5	1/30/2013	1038	1/31/2013	1055	28	7
13A029-03	DCE-B1340-117-FO-0130	TO-15_SIM EPA-5	1/30/2013	1032	1/31/2013	1041	29	8.5
13A029-04	DCE-B1340-117-FOD-0130	TO-15_SIM EPA-5	1/30/2013	1033	1/31/2013	1042	29	7.5
13A029-05	DCE-B1340-117-BO-0130	TO-15_SIM EPA-5	1/30/2013	1034	1/31/2013	1042	28	7
13A029-06	DCE-B1340-Roof-0130	TO-15_SIM EPA-5	1/30/2013	1028	1/31/2013	1043	29	7
13A029-07	DCE-B1340-116-0130	TO-15_SIM EPA-5	1/30/2013	1053	1/31/2013	1106	27.5	6

Airtech Environmental Laboratories (AEL)
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: March 7, 2013

Client:	Patricia Clymer	Work Order #:	13A029
Company:	ITSI Gilbane Company	Project Name:	DCE Circuits
Address:	1501 W. Fountainhead Pkwy, Ste 350	Project Number:	07163.0018
	Tempe, AZ 85282	Received Date:	01/31/13

Case Narrative

All samples and QC associated with your samples met the quality control objectives.
Data qualifiers in this report are in accordance with ADEQ Data Qualifiers.

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-101-H-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	01	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.44**	**0.04**	**2.98**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**0.39**	**0.04**	**2.09**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	92.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-101-L-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	02	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.45**	**0.04**	**3.05**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**0.30**	**0.04**	**1.61**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	94.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-FO-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	03	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.24**	**0.04**	**1.63**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.20**	**0.04**	**6.44**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	86.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-FOD-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	04	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.24**	**0.04**	**1.63**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.26**	**0.04**	**6.77**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	86.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-117-BO-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	05	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.25**	**0.04**	**1.70**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	**1.20**	**0.04**	**6.44**	**0.21**		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	88.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-Roof-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	06	**Matrix:**	Ambient Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.07**	**0.04**	**0.47**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	86.0	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company	**Client Sample ID:**	DCE-B1340-116-0130
Project:	DCE Circuits	**Project Number:**	07163.0018
Lab Order:	13A029	**Collection:**	1/30/13 - 1/31-13
Lab ID:	07	**Matrix:**	Indoor Air

	ppbv		ug/M^3				Date	
Analyses	**Result**	**Limit**	**Result**	**Limit**	**Qual**	**DF**	**Analyzed**	**CAS#**
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ	
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013	71-55-6
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	75-35-4
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013	156-59-2
Tetrachloroethene	**0.10**	**0.04**	**0.68**	**0.27**		1	2/11/2013	127-18-4
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013	79-01-6
Surr: 4-Bromofluorobenzene	108	70-130	%REC					

Airtech Environmental Laboratories (AEL) - AZ 0740

Client:	ITSI Gilbane Company
Project:	DCE Circuits
Lab Order:	13A029
Lab ID:	LCS/LCSD

Method QC Data

Date Analyzed: 2/11/13 Batch: MS010211 Analyst: JJ

Analyses	LCS Result		LCS %REC	LCSD Result		LCSD %REC	T.V.	%RPD	Pass/fail LCS	Pass/fail LCSD	Pass/fail RPD	Date Analyzed
	ppbv	ug/M^3		ppbv	ug/M^3		ug/M^3					
VOLATILE ORGANICS IN AIR									70-130%	70-130%	<25%	Analyst: JJ
1,1-Dichloroethene	0.48	1.90	96.0	0.48	1.90	96.0	1.98	0.0				2/11/2013
cis-1,2-Dichloroethene	0.46	1.82	92.0	0.46	1.82	92.0	1.98	0.0				2/11/2013
1,1,1-Trichloroethane	0.45	2.45	90.0	0.44	2.40	88.0	2.73	2.2				2/11/2013
Trichloroethene	0.43	2.31	86.0	0.44	2.36	88.0	2.69	2.3				2/11/2013
Tetrachloroethene	0.38	2.58	76.0	0.39	2.64	78.0	3.39	2.6				2/11/2013
Surr: 4-Bromofluorobenzene			102			94.0						
			70-130%			70-130%						

Airtech Environmental Laboratories (AEL) - AZ 0740
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client:	ITSI Gilbane Company
Project:	DCE Circuits
Lab Order:	13A029
Lab ID:	Blank

Method QC Data

Batch: MS010211 Analyst: JJ

Analyses	ppbv Result	ppbv Limit	ug/M^3 Result	ug/M^3 Limit	Qual	DF	Date Analyzed
VOLATILE ORGANICS IN AIR	**TO-15 SIM**						Analyst: JJ
1,1-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013
cis-1,2-Dichloroethene	< 0.04	0.04	< 0.16	0.16		1	2/11/2013
1,1,1-Trichloroethane	< 0.04	0.04	< 0.22	0.22		1	2/11/2013
Trichloroethene	< 0.04	0.04	< 0.21	0.21		1	2/11/2013
Tetrachloroethene	< 0.04	0.04	< 0.27	0.27		1	2/11/2013
Surr: 4-Bromofluorobenzene	92.0	70-130	%REC				

Airtech Environmental Laboratories (AEL) - AZ 0740
4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client: ITSI Gilbane Company
Project: DCE Circuits
Lab Order: 13A029
Lab ID: Sampling Kits QC

		Canister				Time Integrated Sampler			
AEL#	Client ID	SN#	Clean Batch#	Vacuum before sampled Hg inch	Vacuum after sampled psia	SN#	Clean Batch#	Cal. Flow Rate before sampled ml/min	Flow Rate after sampled ml/min
13A029-01	DCE-B1340-101-H-0130	1455	1301-05	29.3	10.78	7341913	1212-02	2.8	2.8
13A029-02	DCE-B1340-101-L-0130	1557	1301-06	29.4	11.17	7331020	1209-02	2.8	2.8
13A029-03	DCE-B1340-117-FO-0130	1464	1301-06	29.4	10.52	7339733	1212-02	2.8	2.8
13A029-04	DCE-B1340-117-FOD-0130	1505	1301-05	29.3	10.99	7339730	1212-02	2.8	2.9
13A029-05	DCE-B1340-117-BO-0130	1458	1301-05	29.3	11.26	7341807	1212-02	2.8	2.9
13A029-06	DCE-B1340-Roof-0130	1448	1301-06	29.5	11.05	7339830	1212-02	2.8	2.8
13A029-07	DCE-B1340-116-0130	1470	1301-06	29.3	13.38	7339899	1212-01	2.8	2.9

Airtech Environmental Laboratories (AEL) - AZ 0740

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Client: ITSI Gilbane Company
Project: DCE Circuits
Lab Order: 13A029
Lab ID: Standards

AEL ID#	STD Name	Vendor	SGI Order#	Description	CONC.	Accuracy	Exp.Date
S-120912-01	Stock	Spectra Gases	109434854	TO-14 39 Analytes	1.0 ppmv	± 5%	9/12/2013
S-120912-02	Stock	Spectra Gases	109434854	TO-15 25 Analytes	1.0 ppmv	± 5%	9/18/2013
S-120627-01	Stock	Spectra Gases	108224309	10 Additional Compounds	1.0 ppmv	± 5%	6/27/2013
S-121226-01	Stock	Spectra Gases	109888461	TO-15 IS 4 Compounds	1.0 ppmv	± 5%	12/26/2013
A-130121-02	Working Std	AEL Dilution		TO-15 39 Analytes	0.5 ppbv	± 5%	4/21/2013
A-130104-01	Working IS	AEL Dilution		TO-15 IS 4 Compounds	50 ppbv	± 5%	4/4/2013
A-130121-01	Working IS	AEL Dilution		TO-15 IS 4 Compounds	2.5 ppbv	± 5%	4/21/2013

APPENDIX C
PRE-SAMPLING QUESTIONNAIRE

PRE-SAMPLING QUESTIONAIRE
South Indian Bend Wash (SIBW) DCE Subsite, Tempe, Arizona

***TO THE TENANT/RESPONDENT**: The purpose of this questionnaire is to help the U.S. Environmental Protection Agency (EPA) obtain the most accurate information possible from samples of indoor air collected in each suite at the DCE Site, so that the nature and extent of any hazardous contamination remaining from previous activities at this site can be determined and remediated effectively to protect the public health and safety. Answers to this questionnaire will provide important insight into activities that might have occurred inside the suites that could potentially affect the ambient air conditions and in turn affect the analytical results.*

Building/Suite Number: B1340 117 **Contact (tenant/other):** Jesse Hernandez

Questions for the Tenant

Since the last sampling round ( ):

1. Are you storing or using anything new or different in your suite (chemicals, cleaning products, paint thinners, air fresheners, dry cleaning, etc.)?

   NO

2. Has your suite been treated with pesticides? (If so, when and with what?)

   NO

3. On average, how often do you operate your A/C?

   Heater - when cold and in office

4. Have you been operating the HRV(s)? (If so, how often?)

   Every Monday

5. Has any painting, remodeling, etc. been done? (If so, please describe.)

   Water leak currently being fixed (from roof)

Questions for ITSI Interviewer

1. Did the tenant have any questions regarding what may or may not affect sampling results? (What were they? Were they explained to the tenant's satisfaction?)

   NO

2. Did you notice anything different from the last sampling round? If so, what comments/information did the tenant provide?

   Roof was being repaired during sampling event
   The tenant did not know all details of water leak.

3. Did you request that the tenant operate the ERV as much as possible during the week prior to the next sampling round?

   N/A

This questionnaire should be completed in person by a member of the ITSI DCE team at least one week prior to the sampling event. The person(s) likely able to provide the most pertinent input about each suite should be contacted (tenant, building manager, etc.).

ITSI Representative: Stephanie Stalabe **Date:** 1/30/13

PRE-SAMPLING QUESTIONAIRE
South Indian Bend Wash (SIBW) DCE Subsite, Tempe, Arizona

***TO THE TENANT/RESPONDENT**: The purpose of this questionnaire is to help the U.S. Environmental Protection Agency (EPA) obtain the most accurate information possible from samples of indoor air collected in each suite at the DCE Site, so that the nature and extent of any hazardous contamination remaining from previous activities at this site can be determined and remediated effectively to protect the public health and safety. Answers to this questionnaire will provide important insight into activities that might have occurred inside the suites that could potentially affect the ambient air conditions and in turn affect the analytical results.*

Building/Suite Number: B1340 101 **Contact (tenant/other):** Patrick O'Malley

Questions for the Tenant

Since the last sampling round ( ):

1. Are you storing or using anything new or different in your suite (chemicals, cleaning products, paint thinners, air fresheners, dry cleaning, etc.)?

   citric acid

2. Has your suite been treated with pesticides? (If so, when and with what?)

   no

3. On average, how often do you operate your A/C?

   heater when cold (1 week in Dec during training event

4. Have you been operating the HRV(s)? (If so, how often?)

   — No

5. Has any painting, remodeling, etc. been done? (If so, please describe.)

   new roasting coffee within building

Questions for ITSI Interviewer

1. Did the tenant have any questions regarding what may or may not affect sampling results? (What were they? Were they explained to the tenant's satisfaction?)

   No

2. Did you notice anything different from the last sampling round? If so, what comments/information did the tenant provide?

   New coffee roasting machine

3. Did you request that the tenant operate the ERV as much as possible during the week prior to the next sampling round? N/A

This questionnaire should be completed in person by a member of the ITSI DCE team at least one week prior to the sampling event. The person(s) likely able to provide the most pertinent input about each suite should be contacted (tenant, building manager, etc.).

ITSI Representative: Stephanie R. Kadatal **Date:** 1/30/13

Airtech Environmental Laboratories (AEL)

Chain of Custody

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

Customer: ITSI Gilbane Company	Page 1 of 1		AEL Lab #
Address: 1501 W Fountainhead Pkwy Ste 350	Sampler: Stephanie Archabal	Phone: 480-706-6488	
	Project Name: DCE Circuits	Project Number: 07163 0018	
City, State, Zip: Tempe, AZ, 85282	Project location: Tempe, AZ		
Contact: Patricia Clymer	P.O. Number:		
Phone: 480-706-6488 Fax: 480-704	Fax Results: Y (N)		
E-Mail Address: pclymer@itsi.com	E-Mail Results: (Y) N		

Sample Receipt	Turn Around Request	Sample Type	Analysis
Temperature____ °C	___ 24 Hours ___ 48 Hours	A: ambient air	117 - OFF
Custody Seals Yes___ No___	___ 72 Hours	I: indoor air	101 - no AC/heater on in warehouse
Custody Seals Intact Yes___ No___	___ 5 working Day	S: soil extraction vapor	
Total # of Containers: 7	(✓) Standard 10 Working Days	O: other	

Sample information

AEL Lab #	Serial # Canister	Serial # Grab/TIS	Canister (L)	Client's Sample Identification	Start sampled Date	Start sampled Time	End sampled Date	End sampled Time	Gauge read, inch Hg Start	Gauge read, inch Hg End	Description Sample Type	TO-15 full list	TO-15 BTEX only	TO-15 SIM	(Other) TO-15 EPA
	~~7341213~~	~~1455~~	(6) 1	DCE-B1340-101-H-0130	1/30/13	1037	1/31/13	1055	29	8	A (I) S O				X
	~~7331030~~	~~1440~~ 204													
	7331020	1557	(6) 1	DCE-B1340-101-L-0130	1/30/13	1038	1/31/13	1055	28	7	A (I) S O				X
	7339733	1404	(6) 1	DCE-B1340-117-FO-0130	1/30/13	1032	1/31/13	1041	29	8.5	A (I) S O				X
	7339730	1505	(6) 1	DCE-B1340-117-FOD-0130	1/30/13	1033	1/31/13	1042	29	7.5	A (I) S O				X
	7341207	1458	(6) 1	DCE-B1340-117-BO-0130	1/30/13	1034	1/31/13	1042	28	7	A (I) S O				X
	7339830	1448	(6) 1	DCE-B1340-ROOF-0130	1/30/13	1028	1/31/13	1043	29	7	(A) I S O				X
	7339899	1470	(6) 1	DCE-B1340-116-0130	1/30/13	1053	1/31/13	1016	27.5	6	A (I) S O				X
			6 1								A I S O				
			6 1								A I S O				
			6 1								A I S O				

Instructions / Special Requirements: TO-15 EPA include 1,1-DCE; cis-1,2-DCE; 1,1,1-TCA; TCE; PCE report in ug/m3 and ppbv

Date:	Time:	Samples Relinquished By:	Received By:
1/31/13	11:30	Stephanie Archabal / ITSI Gilbane Company	James Jones - Airtech

APPENDIX D
PHOTOGRAPHIC LOG

ITSI Gilbane

Photographic Documentation

Client: U.S. Environmental Protection Agency Region 9
Location: DCE Circuits, Tempe, AZ
Photograph Date: January 30-31,2013

Prepared by: ITSI Gilbane Company
Photographer: S. Archabal
Project Number: 07163.0018

Photograph No. 1

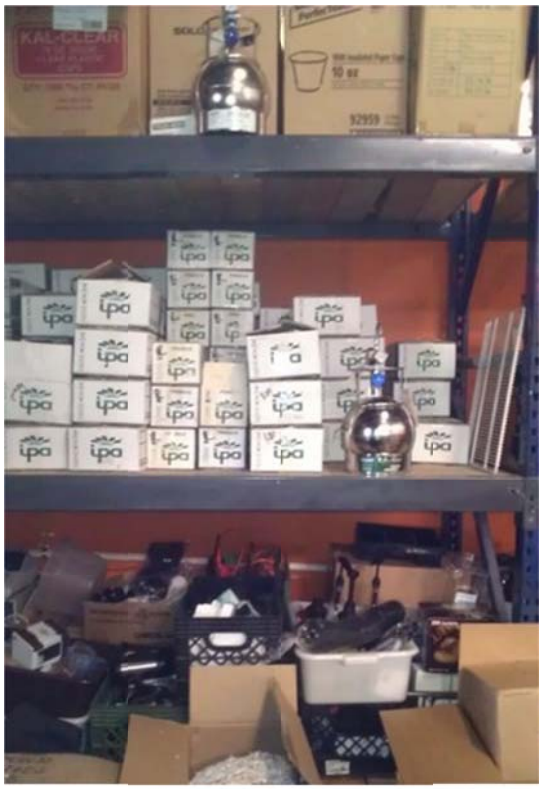
Description: DCE Site showing parking lot between buildings 1300 and 1340. The entrance to Building 1300, Suite 105, is to the back of the photograph on the left; to Building 1340, Suite 117, on the right (partly obscured by the mailboxes); to Building 1340, Suite 116 in the alley to the right of the photo behind Suite 117.

Direction: North

Photograph No. 2

Description: Two indoor air samples were collected from Building 1340, Suite 101. The canisters were placed on shelving approximately six feet and three feet above floor level in the center of the suite. (The suite is one large room.)

Direction: N/A



ITSI Gilbane

Photographic Documentation

Client: U.S. Environmental Protection Agency Region 9
Location: DCE Circuits, Tempe, AZ
Photograph Date: January 30-31,2013

Prepared by: ITSI Gilbane Company
Photographer: S. Archabal
Project Number: 07163.0018

Photograph No. 3

Description: Three indoor air samples were collected from Building 1340, Suite 117, during the January 2013 sampling event. One primary and one duplicate sample were collected in the main conference room on a table approximately 2.5 feet above floor level, as shown in the image at right. The third sample is shown in Photograph No. 4.

Direction: N/A

Photograph No. 4

Description: One indoor air sample was collected from the back office in Building 1340, Suite 117. The canister shown here was placed near the tenant's desk.

Direction: N/A

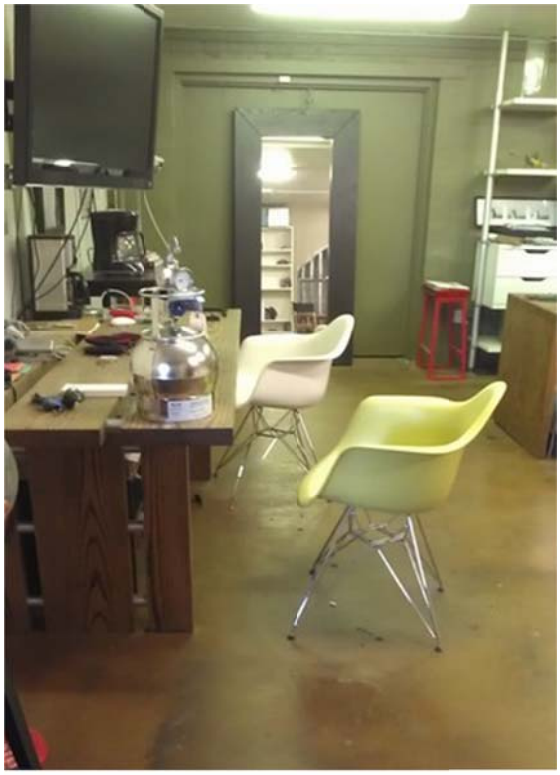
ITSI Gilbane

Photographic Documentation

Client: U.S. Environmental Protection Agency Region 9
Location: DCE Circuits, Tempe, AZ
Photograph Date: January 30-31,2013

Prepared by: ITSI Gilbane Company
Photographer: S. Archabal
Project Number: 07163.0018

Photograph No. 5



Description: One sample was collected in Building 1340, Suite 116. The entrance to this suite is in the alley behind Suite 117. This is the first time this Suite has been sampled.

The canister was placed on a desk located along the common wall shared by Suite 117 where historically vapor intrusion has been the greatest.

Direction: N/A

APPENDIX E
QUALITY CONTROL SUMMARY REPORT

QUALITY CONTROL SUMMARY REPORT
DCE Circuits Subsite
Tempe, Arizona
January 2013 Indoor Air Sampling Event

This Quality Control Summary Report (QCSR) has been prepared by ITSI Gilbane Company (ITSI Gilbane; formerly Innovative Technical Solutions, Inc. [ITSI]) to summarize the overall quality of the data, to reconcile the collected data with the project data quality objectives (DQO), and to establish and document the usability of the data collected for the DCE Circuits Superfund Project. A Level 2 validation was performed on the analytical data from the indoor air samples collected on January 30-31, 2013, at the DCE Circuits Subsite. Data were reviewed as described in the *Sampling and Analysis Plan (SAP) Addendum for DCE Circuits Superfund Site, Tempe, Arizona* (ITSI, June 22, 2009) and *Addendum, Quality Assurance Project Plan for Oversight of Groundwater, Treated Water, Soil Vapor, and Off-Gas Sampling* (ITSI, October 2008), which is attached to the SAP. The Level 2 validation is equivalent to a Stage 4 Validation, Manual (S4VM), as defined in the *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (U.S. Environmental Protection Agency [EPA], 2009).

Summary of Analytical Methods and Validation

Seven indoor air samples from Sample Delivery Group (SDG) 13A029 were validated. For this project, there were five compounds of concern: tetrachloroethene (perchloroethene; PCE), trichloroethene (TCE), cis-1,2-dichloroethene, 1,1,1-trichlorethane (TCA), and 1,1-dichloroethene. The samples were analyzed using EPA Method TO-15 Selected Ion Monitoring (SIM).

All analytical data for this sampling task were generated by Airtech Environmental Laboratory (AEL), a non-) Contract Laboratory Program (CLP) laboratory located in Phoenix, Arizona.

Data validation was performed by an ITSI Gilbane project chemist. The data reviews were conducted in accordance with the site-specific SAP or Quality Assurance Project Plan (QAPP).

Precision and Accuracy of Data

Precision: The precision of the dataset was assessed by the relative percent difference (RPD) between field duplicate samples and spike duplicate samples. One field duplicate sample was submitted. All RPDs for the field and spike duplicates were within the specified limit of 30 percent.

Accuracy: The accuracy of the dataset was assessed by examination of the percent recoveries for surrogates, laboratory control samples/laboratory control sample duplicates (LCS/LCSDs), and initial and continuing calibration verifications. There were no accuracy anomalies that required qualification of the data.

Overall, the statistics indicate that the laboratory's analytical system was able to produce accurate data and that the laboratory and field procedures were able to produce data of acceptable precision and accuracy.

Sampling Completeness and Representativeness

All samples were collected in compliance with the SAP (ITSI, June 2009), with the exception of the collection of additional sample volume for matrix spiking. The SAP calls for 5 percent of field samples to be spiked and analyzed for assessing accuracy and precision.

Rejected Results: There were no rejected analytical results. The completeness of the dataset is 100 percent.

Estimated Results: Out of 35 total results reported for the investigation, there were no results qualified as estimated due to quality control (QC) issues.

Field Duplicate Frequency: One field duplicate sample was collected for six indoor air investigative samples, for a field duplicate frequency of 17 percent. The duplicate frequency meets the minimum 10 percent QC criterion outlined in the SAP.

Field Duplicate Performance: Results from duplicate samples were compared to one another to determine the precision of the analytical system. For each pair of duplicate results, RPD values were calculated for the positive results. All RPD results were within the QC criterion of less than 30 percent. No data were qualified based on field duplicate precision failures.

Data Compliance with the SAP and QAPP

As required by the SAP, all indoor air samples must undergo an EPA Level 2 data validation. The laboratory provided an EPA Level IV data deliverable for the SDG discussed in this QCSR. An EPA Level IV data deliverable includes the sample results and chain-of-custody forms along with basic QC summaries including surrogate recoveries, method blank results, and precision and accuracy data summaries for each sample preparation batch. If any analytical problems were encountered, the report also

includes a case narrative describing the problem and any potential impact on data quality. In addition, the EPA Level IV deliverables include the raw data for the instrument tunes and calibrations, sample quantitation, and other QC parameters specified in the SAP.

Sample Receipt: The chain-of-custody noted that the samples were received intact. All samples were analyzed within the EPA-recommended holding time of 30 days for air samples collected in canisters.

Canister Condition and Pressure: Cleaning certifications were provided for the canisters used in the sampling event. The pressures of indoor air sample canisters were documented before and after collection. All beginning pressures were within the criterion of greater than or equal to 28 inches of mercury. All ending pressures were within the criterion of five to ten inches of mercury. The flow rates for the indoor canisters were tested before and after sample collection. The percent differences between the before and after flow rates were within the criterion of 10 percent.

Laboratory Blanks: Laboratory blanks were analyzed for each analysis. There were no results detected above the reporting limit (RL) in the blanks.

Calibration: The initial and continuing calibration summaries and raw data were reviewed. There were no results qualified as estimated values due to calibration anomalies; however, the following observation was made.

- Upon review of the initial calibration data, it was observed that one of the surrogate standards was dropped from the six-point initial calibration curve used for quantitation. The laboratory was contacted and provided an amended report with corrected surrogate values using the six-point calibration curve. Both the original and revised surrogate recoveries were within criteria. The differences between the surrogate values from the original report and the revised report were minimal. The data are not affected and no further action is required.

Surrogates and Internal Standards: Surrogates and internal standards were added to each sample. There were no anomalies that required qualification of the data due to surrogate or internal standard anomalies. **LCS/LCSD**: LCS/LCSD pairs were reported for each analysis. The percent recovery results were within the QC criterion of 70 to 130 percent for accuracy, and the RPD results were within the criterion of 30 percent for precision.

Instrument performance: The instrument tunes were reviewed. There were no anomalies that required qualification due to instrument performance.

Quantitation: The sample results were reviewed for proper identification and quantitation procedures and RL requirements. All results were reported to the RLs. The laboratory RLs were reviewed and met the RL requirements listed in the SAP for all samples. Selected target compounds and surrogate results from the initial calibration, continuing calibration verification, LCSs, and field samples were verified by calculating the results from the raw data. All results were verified. There were no qualifications for quantitation anomalies; however, an anomaly regarding the surrogate quantitation was observed and is discussed in the **Calibration** section above.

Data Validation, Usability, and Overall Assessment

Data quality was assessed according to the guidelines defined in the site-specific SAP and EPA Method TO15.

Out of 30 total primary results, no results were qualified as estimated due to QC issues. There were no rejected results. The completeness for the total dataset is 100 percent. Based on the available information, the data are considered usable for their intended purposes.