

22 February 2013

United States Environmental Protection Agency  
Region 9  
75 Hawthorne Street, SFD-7-3  
San Francisco, California 94105

**Attention: Ms. Alana Lee**  
**Project Manager, Superfund Division**

**Subject: Indoor Air Sampling Report**  
**Middlefield-Ellis-Whisman (MEW) Area and Moffett Field,**  
**California**  
**Former Fairchild Buildings – Google Quad**

Dear Ms. Lee:

Please find enclosed the Indoor Air Sampling Report presenting the results of recent (November and December 2012 and January 2013) indoor air sampling and field activities conducted in the former Fairchild buildings located at 369, 379, 389, and 399 North Whisman Road and 468 Ellis Street in Mountain View, California.

If you have any questions regarding this document please feel free to contact either of the undersigned at 518-785-0800 (Susan Welt) or 510-285-2700 (Nancy Bice).

Sincerely,



Susan B. Welt, PE (NY), MPH  
Senior Environmental Engineer



Nancy T. Bice, PG, CEG  
Principal Engineering Geologist

Ms. Alana Lee  
22 February 2013  
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Enclosure: Indoor Air Sampling Report

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Transmittal of IA Report 22Feb13.docx

*Prepared for*

**Schlumberger Technology Corporation**

225 Schlumberger Drive

Sugar Land, Texas 77478

# **Indoor Air Sampling Report**

**Former Fairchild Buildings – Google Quad  
369, 379, 389 and 399 North Whisman Road  
and 468 Ellis Street**

*Prepared by*

**Geosyntec**   
consultants

engineers | scientists | innovators

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WR1133A

February 2013

**Indoor Air Sampling Report**  
**Former Fairchild Buildings – Google Quad**  
**369, 379, 389 and 399 North Whisman Road**  
**and 468 Ellis Street**  
**Mountain View, California**

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Project Number: WR1133A Phase 06

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## 1. INTRODUCTION

This Indoor Air Sampling Report (Report) presents the results of recent (November and December 2012 and January 2013) indoor air sampling and field activities conducted by Geosyntec Consultants (Geosyntec) and Haley & Aldrich (H&A) on behalf of Schlumberger Technology Corporation (STC) in the former Fairchild buildings located at 369, 379, 389, and 399 North Whisman Road and 468 Ellis Street in Mountain View, California (Figure 1; sometimes referred to as the “Buildings.”).

The Report was prepared in accordance with the following documents:

- 16 September 2011 United States Environmental Protection Agency (EPA) Statement of Work (SOW), Section 2.2.1 (EPA, 2011); and
- 7 June 2011 Haley & Aldrich “Indoor Air Sampling and Analysis Work Plan for Existing, Unsampled Buildings, Middlefield-Ellis-Whisman (MEW) and Moffett Field Study Area,” ([Site-wide Work Plan], Haley & Aldrich, 2011) approved by EPA on 1 July 2011.

All sampling conducted by Geosyntec and H&A was performed in accordance with the 19 November 2012 Building-Specific Sampling Plan for 369-399 North Whisman Road and 468 Ellis Street in Mountain View, California (Building-specific Sampling Plan) which was prepared by H&A and approved by EPA on 19 November 2012.

In accordance with the Building-specific Sampling Plan (H&A, 2012), indoor air and outdoor air sampling was conducted by H&A between 21 and 23 November 2012. Indoor air and outdoor air samples were collected with the heating, ventilation, and air conditioning (HVAC) system on (21 November) and off (23 November) in each of the buildings. The sampling methods and findings of this sampling event are presented in the Building-specific Indoor Air Sampling Report, which was prepared by H&A and is attached to this report as Appendix A).

As indicated in the Building-specific Indoor Air Sampling Report, (Appendix A) the concentrations of chemicals of concern (COCs) detected in buildings 389 and 399 North Whisman Road and 468 Ellis Street were all below their respective EPA commercial indoor air cleanup levels established in the 16 August 2010 Vapor Intrusion Record of Decision Amendment (VI ROD Amendment; EPA, 2010). However, the levels of trichloroethene (TCE) detected in November at some of the indoor air sampling locations in the buildings located at 369 and 379 North Whisman Road were above the

EPA commercial cleanup level for the MEW site of 5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) established in the VI ROD Amendment. Therefore, just like as conducted based on previous indoor air sampling results, additional efforts to seal potential conduits and to evaluate the operation of the HVAC system were conducted in 369 and 379 North Whisman Road followed by additional sampling events to evaluate whether the TCE detections in the buildings located at 369 and 379 North Whisman Road were due to vapor intrusion (VI) and, if so, to assess the need for interim and long-term mitigation measures as established in the VI ROD Amendment.

**1.1 Previous Indoor Air Sampling**

Previous indoor air sampling has been conducted in these Buildings. The sample results indicated no COCs were present in the indoor air at levels above their respective EPA commercial indoor air cleanup levels when the Buildings were occupied.

In addition, following improvements to the Buildings in 2012, the current tenant, Google Inc. (“Tenant”), conducted indoor air sampling at each of the Buildings. Indoor air samples were collected when the HVAC system was operational (i.e., under normal conditions since the HVAC system operates 24 hours per day, seven days a week). The results of these indoor air sampling events indicated no COCs were present at levels above their respective EPA commercial indoor air cleanup levels.

**1.2 Report Organization**

This report focused on the additional activities conducted in buildings 369 and 379 North Whisman Road. In accordance with the EPA SOW, the following table summarizes the items presented in this Report. The reader is referred to Appendix A for a complete discussion of the methods and results of sampling at 389 and 399 North Whisman Road and 468 Ellis Street.

<b>ITEM</b>	<b>LOCATION IN REPORT</b>
Building conditions, occupancy and use conditions, and a summary of all building/property-specific data, including identification of potential pathways for subsurface vapor intrusion	Section 2 and Appendix A (H&A Report)
Summary of all sampling and data collection	Section 3, Table 1, and Appendix

<b>ITEM</b>	<b>LOCATION IN REPORT</b>
results	A (H&A Report)
Quality Assurance/Quality Control (QA/QC) data and activities	Section 3, Appendix D (Tier I Validation Quality Assurance/Quality Control Forms), and Appendix A (H&A Report)
Schedule, recommendations, and follow-up actions, which shall include to the extent necessary, additional sampling to determine the source of vapor intrusion exceeding indoor air cleanup levels and vapor intrusion mitigation measures	Section 4 and Appendix A (H&A Report)
References	Section 5
Map of building/property layout and actual sampling locations, including photographs, where permitted	Figures 1 through 3 and Appendix B (Photographs) and Appendix A (H&A Report)
Evaluation of current indoor air ventilation system (e.g., HVAC) operations and completed building surveys	Section 2 and Appendix A (H&A Report)
Laboratory analytical data	Appendix C (Laboratory Analytical Reports) and Appendix A (H&A Report)

## 2. ADDITIONAL INVESTIGATION ACTIVITIES

As indicated above and in Appendix A, some indoor air samples conducted in late November 2012 indicated results above the commercial indoor air action level for TCE of  $5 \mu\text{g}/\text{m}^3$  at 369 and 379 North Whisman Road. Upon receipt of the November 2012 analytical results on 14 December 2012, Geosyntec began conducting additional investigation activities. In particular, Geosyntec conducted a walkthrough of the two buildings on 15 December 2012 to evaluate potential sources of TCE (e.g., conduits which may be preferential pathways for vapor intrusion) and seal identified conduits, if any, to prepare for resampling of the indoor and outdoor air. Concurrently, H&A requested that Eurofins, the analytical laboratory that provided the sampling canisters and analyzed the samples, conduct a comprehensive data validation assessment. The results of the data validation indicated no discrepancies in the dataset (Appendix A).

The following presents a summary of the building walkthroughs, measures implemented to address potential VI pathways; and sampling activities conducted.

### 2.1 Initial Building Walkthroughs – December 2012

The initial walkthrough of buildings 369 and 379 North Whisman Road was conducted by representatives of Geosyntec, H&A, and Google on 15 December 2012. During this walkthrough, a photo-ionization detector (PID, ppBRAE), which measures total volatile organic compounds (VOCs), was used to screen observable potential conduits to the subsurface, including cracks in the concrete floor, pipe risers, PVC conduit risers, and electrical boxes beneath conference room tables. While the PID is not capable of measuring TCE specifically, it can be used as a screening tool to determine if VOCs are present in an area. Several locations shown in the photographs (Appendix B) at 379 North Whisman had PID readings indicating the presence of VOCs:

- A crack in the floor slab near the location of indoor air sample 379AMB1;
- An area with a group of four PVC conduits through the slab near indoor air sample 379AMB6; and
- A number of electrical boxes.

Geosyntec applied caulk sealant or polyurethane foam sealant to all but one of these areas. The area with four PVC conduits penetrating the slab on the west side of 379 North Whisman Road could not be sealed effectively on 15 December 2012.

The screening with the PID did not identify areas with the presence of VOCs at 369 North Whisman Road, except in one active kitchen drain, which could not be sealed. The drain readings could be related to cleaning products used to clean the kitchen floor.

Following discussions with representatives of the Owner and Tenant, a second walkthrough was conducted with representatives of Geosyntec and Tenant on 26 December 2012 at 369 and 379 North Whisman Road to evaluate additional measures that could be used to seal the potential conduit group on the west side of 379 North Whisman Road. It was agreed that a layer of Sika Flex Concrete Filler/Adhesive would be placed around the base of the conduits followed by an overlying concrete curb (see Appendix B for photographs of these activities). It also was agreed that the same sealing method would be applied to a twin group of conduits on the east side of 369 North Whisman Road (see Appendix B). The work to seal these conduits was conducted by Geosyntec on 27 December 2012.

## **2.2 Indoor Air Sampling – 29 December 2012 and 1 January 2013**

Following completion of activities to seal the conduits identified during the initial walkthroughs in December 2012, a second round of HVAC-on and HVAC-off samples was collected on 29 December 2012 and 1 January 2013, respectively. Samples were collected from the same locations as the November 2012 HVAC-on and HVAC-off sampling events and in accordance with the Building-specific Sampling Plan (H&A, 2012).

The air samples were collected over an eight-hour time period in Selected Ion Mode (SIM) individually certified 6-Liter SUMMA<sup>®</sup> canisters and analyzed for TCE; tetrachloroethene (PCE); 1,1-dichloroethene (1,1-DCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); 1,1-dichloroethane (1,1-DCA); and vinyl chloride. The analysis was performed using EPA Method TO-15 SIM by TestAmerica Laboratories, Inc., a laboratory certified by the National Environmental Laboratory Accreditation Conference. The following samples were collected with the HVAC systems on and off:

- Five indoor air samples were collected from 369 North Whisman Road;
- Five indoor air samples and one duplicate (379AMB6) were collected from 379 North Whisman Road;
- One outdoor air sample was collected for comparison purposes; and

- An outdoor HVAC inlet sample was collected from each building during the HVAC-on sampling event.

The analytical results for the second round of sampling are summarized in Table 1 and in Figures 2 and 3. As shown in the table and figures, and discussed in Section 3 below, the results of the second round of sampling under both HVAC operating scenarios were not significantly different from the results of the first round collected in November 2012.

Upon receipt of the analytical results for the second round of HVAC-on and HVAC-off sampling at these buildings on 3 January 2013, Geosyntec arranged meetings with representatives of Owner and Tenant to discuss interim and long-term vapor mitigation options for the buildings. Meetings occurred on 7 January 2013 and 10 January 2013, at which it was agreed that another walkthrough would be performed to further identify and seal conduits and potential preferential pathways. In addition, it was decided that the HVAC systems would be inspected to evaluate whether the buildings were under positive pressure during the sampling events and, if not, to evaluate how the HVAC systems could be modified to place the buildings under positive pressure as an interim solution.

### **2.3 Building Walkthrough – January 2013**

The third round of walkthroughs of the two buildings was conducted by representatives of Geosyntec, Tenant, and Owner on 12 January 2013 with a PID (ppbRAE) to further evaluate potential preferential pathways for vapor intrusion. During the walkthrough, the ppbRAE was used to screen observable potential conduits to the subsurface, including PVC conduit risers, an external subsurface vault located between the two buildings, and electrical boxes beneath conference room tables and within conference room walls. The screening identified areas with detectable VOCs at both buildings. Geosyntec applied polyurethane foam sealant to all areas with detectable VOCs, which included:

- All overhead conduits in the common area outside of room 1T6, two overhead conduits in electrical room 1P7, and several electrical boxes and wall ports in conference rooms located in the 379 North Whisman Road building;
- Two overhead conduits in the 369 North Whisman Road building; and
- All conduits in the external subsurface vault located between the two buildings.

Photographs of these conduits and respective sealing are provided in Appendix B.

#### **2.4 HVAC Assessment and Modification – January 2013**

Geosyntec personnel and its subcontractors, Eichleay Engineers (Eichleay) and Pacific Test & Balance Inc. (PTB), met with representatives of Tenant and Owner to document current building conditions on 14 January 2013. Negative pressure was observed across all exterior doorways in both buildings. Upon further investigation, it was discovered that:

- 1) Tenant's automated HVAC system was reporting erroneous pressure readings; and
- 2) The HVAC systems were operating in a manual mode (i.e., automatic system was overridden) in order to maintain the temperature in the buildings.

It was agreed that Tenant would work with its HVAC contractor to return the HVAC systems to automatic mode in order to effectively maintain positive pressure throughout the buildings.

Tenant's HVAC contractors (ASI and ACCO) restored function of the automatic HVAC system, and performed modifications to system operational setpoints, including changes to minimum building pressures and minimum damper openings. According to a 19 February 2013 email from Facilities Operations at Tenant, the HVAC modifications included the following:

- ACCO technicians checked and restored the outside air dampers sequence back to the original design sequence to allow the dampers to modulate relative to the fan speed to maintain the design ventilation air-flow rate.
- In regard to the building pressure being slightly negative, ACCO technicians found a faulty pressure transducer at 369 North Whisman Road and replaced it. ACCO technicians also calibrated all pressure transducers and raised the building static pressure set points to +0.06 inches of water.
- ACCO technicians checked the max/min cubic feet per minute (CFM) settings for all variable air volume (VAV) boxes and adjusted them as needed to match their respective design values.

- ACCO technicians checked the static pressure readings in the 1st floor Intermediate Data Frame (IDF) rooms and found them to be neutral to the corridor as designed.
- ACCO technicians reprogrammed to increase airflow through the perimeter reheat VAV boxes when the outside air temperature dropped below 45 degrees Fahrenheit. The intent of this change is to increase heating in the buildings to offset the extreme low temperature outside supplied air (OSA) the air handling unit's (AHU's) bring in. This change will improve the building temperature control but does not have any effect on building pressurization.
- The hot water systems have been reprogrammed to run the 2nd boiler, if needed, to maintain the design hot water supply temperature.
- ACCO technicians replaced the water flow cartridges at some VAV box reheat coils to increase the heating capacity for these coils.
- ACCO technicians programmed the building static pressure sensor readings to be alarmable. The ACCO technicians programmed building static pressure sensor systems so email messages would be sent to all Tenant's Facilities Operations team members if a building's static pressure reading is out of specification. This operations team has coverage twenty-four hours per day/seven days per week. The Tenant Facilities Operations team replaced the carbon filters in all air handlers.

Confirmation readings were collected after setpoint adjustments were made to document observable changes to building pressurization. Those readings indicate that the building envelopes had a positive pressure, as presented in Table 2. HVAC modification work was completed on 19 January 2013 and confirmation pressure readings were collected on 22 January 2013.

## **2.5 Confirmation Sampling – January 2013**

On 22 January 2013, confirmation indoor air samples were collected with the HVAC system on from all previous sample locations to verify the effectiveness of the additional sealing of potential conduits and preferential pathways and HVAC operational adjustments with respect to improvement in indoor air quality. An outdoor air sample was also collected for comparison purposes. The air samples were collected over an 8-hr time period in SIM individually certified 6-Liter SUMMA<sup>®</sup> canisters and

analyzed for TCE, PCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCA, and vinyl chloride. The analysis was performed using EPA Method TO-15 SIM by Eurofins AirToxics, Inc., a laboratory certified by the National Environmental Laboratory Accreditation Conference.

The confirmation sampling was conducted two days after the completion of the HVAC modifications in order to allow the building pressures to equilibrate. All sampling was conducted from the same locations in both buildings and in accordance with the 19 November 2012 Building-specific Sampling Plans (H&A, 2012), as described above. A building walkthrough to check the building pressure in each building was also conducted on 22 January 2013.

As discussed below, the results of the confirmation sampling indicated no COCs above clean-up levels in either building with the HVAC systems on.

### **3. SAMPLE RESULTS AND DATA EVALUATION**

As discussed above, since the November 2012 air sampling event (detailed in Appendix A), multiple rounds of indoor air sampling have been conducted in both buildings to evaluate indoor air quality. Two rounds of sampling occurred with the HVAC units on, and one round of sampling occurred with the HVAC units off.

The following presents a summary of the analytical results obtained during these sampling events as well as an evaluation of the data.

#### **3.1 Evaluation Criteria**

The indoor air results are compared to EPA's cleanup standards established in the VI ROD Amendment (EPA, 2010) and to outdoor air conditions. The focus of this evaluation is on the concentration of TCE detected in the indoor air of each building.

For a commercial scenario, the clean-up levels are based on a long-term exposure duration of 25 years, 250 days per year, and 10 hours per day. If workers are present in the building less often, potential risks would be lower. For example, if a worker works only 5 hours per day instead of 10 hours, the reduced exposure time provides a safety factor of 2 (i.e., estimated risks would be half as much). The risk is also reduced if the exposure concentration, the exposure duration, or exposure frequency is less than the exposure assumptions used to determine the action levels (e.g., 5  $\mu\text{g}/\text{m}^3$  for TCE).

Outdoor air samples are compared to the indoor samples to evaluate the impact of the outdoor air on the indoor air quality. According to EPA's VI ROD Amendment, outdoor concentrations of TCE typically range from below the detection limit to 0.4  $\mu\text{g}/\text{m}^3$ .

The sampling results and an evaluation of the air sampling are presented in Section 3.2. All indoor air and outdoor air samples collected were subject to data validation, as discussed in Section 3.3.

#### **3.2 Analytical Results**

This section presents the results of the air sampling. The results of COC detections in the air samples collected during these sampling events are shown on Table 1; the concentration of TCE detected at each sample location is depicted on Figures 2 and 3. A complete set of the analytical data obtained during this sampling event at each

building is provided in Appendix C. Historical air sample results of all the COCs and TCE are also included in the tables and figures, respectively, for comparison purposes but are not discussed here.

### **3.2.1 369 North Whisman Road**

As shown in Table 1, with the HVAC system operational but prior to establishing a positive pressure in the building (29 December 2012 sampling), three COCs (1,1-DCE, PCE, TCE) were detected in some of the indoor air samples. Only TCE was detected at levels above the EPA commercial indoor air clean-up level prior to the HVAC modification; these TCE elevated levels (above 5  $\mu\text{g}/\text{m}^3$ ) were detected in three locations (369AMB5, 369AMB6, and 369AMB8).

With the HVAC system off (1 January 2013 sampling), four COCs (1,1-DCE, cis-1,2-DCE, PCE, and TCE) were detected in most of the indoor air samples collected. Other than TCE, the levels of these COCs were below their respective EPA clean-up levels. TCE was detected in all but one sample location (369AMB3) with the HVAC off at concentrations above the EPA commercial indoor air clean-up level.

Once the additional sealing of conduits and preferential pathways was completed and the HVAC system was modified such that a positive pressure is maintained in the building, COCs were not detected in any of the indoor air samples (22 January 2013 sampling).

### **3.2.2 379 North Whisman Road**

As shown in Table 1, two COCs (PCE and TCE) were detected in all of the indoor air samples when the HVAC system was operational but prior to HVAC modification (29 December 2012 sampling). Only TCE was detected at levels above the EPA commercial indoor air clean-up levels prior to the HVAC modification at one sample location (379AMB6).

With the HVAC system off (1 January 2013), six of the seven COCs were detected in the indoor air samples; vinyl chloride was not detected in any of the samples. Other than TCE, the levels of the other five COCs were below their respective EPA commercial indoor air clean-up levels. TCE was detected in all samples collected at concentrations above the EPA commercial indoor air clean-up levels.

Once the sealing of additional potential conduits and preferential pathways was completed and the HVAC system was modified and a positive pressure established in the building, all concentrations of COCs were below their respective EPA commercial clean-up levels (22 January 2013 sampling), with only one low-level detection of TCE at location 379AMB4.

### **3.2.3 Outdoor Air Analytical Results**

A low level of PCE was detected in the outdoor air samples collected on 29 December 2012 but not on the other days of sampling. No other COCs were detected in the outdoor air samples.

### **3.3 Quality Assurance/Quality Control**

QA/QC activities complied with the requirements detailed in the Site-wide Work Plan, (Haley & Aldrich, 2011) and sampling procedures followed the operating procedures presented in the “Responses to EPA's Comments on the Conditional Approval – Site-wide Indoor Air Sampling and Analysis Work Plan for Existing, Unsampled Commercial Buildings, Middlefield-Ellis-Whisman (MEW) Mountain View, and Moffett Field, California,” (Haley & Aldrich, 2011c). No deviations or discrepancies were identified for field techniques or sampling protocol. The laboratory followed media preparation procedures for the canisters and sample analysis.

The Site-wide Work Plan specifies that field duplicates should be collected at a rate of one in ten samples. One field duplicate was collected during each of the sampling events conducted at these buildings at sample location 379AMB6. Precision was evaluated by assessing the relative percent difference (RPD) between primary and field duplicate samples. RPD was calculated when a given analyte was detected above the laboratory reporting limit in both the primary sample and the field duplicate sample at a given location. Results were below the project data quality objective (DQO) of less than (<) 30 percent RPD.

All data reported were validated and no qualifications were recommended for any results. The Tier I Validation Quality Assurance/Quality Control Forms (Appendix D) provide additional information regarding the QA/QC evaluation. Since all results were valid and samples were collected from all points identified, the 369 and 379 North Whisman Road sampling events achieved the DQO of 100 percent completeness.

### **3.4 Evaluation of Sample Results**

As indicated in the H&A Report (H&A, 2012), the November 2012 air sampling events were the first time the concentrations of TCE were above the EPA commercial indoor air clean-up level with the HVAC systems on. During building walkthroughs in December 2012 and January 2013, potential vapor intrusion conduits were identified and sealed in both buildings. However, the concentrations of TCE detected in the indoor air in both buildings with the HVAC systems on and off remained above the EPA commercial indoor air clean-up level of  $5 \mu\text{g}/\text{m}^3$  and the concentrations of TCE in outdoor air.

Modifications to the HVAC systems in January 2013 resulted in strong positive pressures in both buildings and confirmation sampling with the HVAC system on indicated no COCs above EPA commercial indoor air cleanup levels.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

As discussed above, after sealing potential conduits and preferential pathways and modifying the HVAC system so that it is balanced and provides a positive pressure within each building, confirmation indoor air sampling (with the HVAC systems operating) indicated that all COCs were at levels below their respective EPA commercial indoor air clean-up levels. Because the Tenant continuously operates the HVAC system (i.e., 24 hours a day, seven days a week), under positive pressure conditions, TCE levels are expected to remain below the EPA commercial indoor air cleanup level of 5  $\mu\text{g}/\text{m}^3$ . In addition, the adjusted HVAC system has now been alarmed to provide alerts to the Tenant's operational personnel if the positive pressure provided by the HVAC system is not maintained, thereby allowing for modifications, if necessary, to promptly be made.

While the HVAC modifications provide continuous positive pressure and maintain indoor air quality at acceptable levels at 369 and 379 North Whisman, the HVAC system off sampling indicates TCE concentrations above the EPA commercial indoor air cleanup level. Therefore, it is recommended that a sub-slab depressurization system (SSDS) be installed beneath 369 and 379 North Whisman Road. Geosyntec is preparing a pilot scale work plan for design and implementation of a SSDS, which will be submitted to EPA for review under separate cover.

## 5. REFERENCES

- Haley & Aldrich, Inc., 2011, “Indoor Air Sampling and Analysis Work Plan for Existing, Unsampled Buildings, Middlefield-Ellis-Whisman (MEW) and Moffett Field Study Area, Mountain View, California,” 7 June 2011.
- Haley & Aldrich, Inc., 2011b, “Air Sampling Results, 379 North Whisman Road, Mountain View, California,” 15 February 2011.
- Haley & Aldrich, Inc., 2011c, “Responses to EPA's Comments on the Conditional Approval – Site-wide Indoor Air Sampling and Analysis Work Plan for Existing, Unsampled Commercial Buildings, Middlefield-Ellis-Whisman (MEW) Mountain View, and Moffett Field, California,” 31 August 2011
- Haley & Aldrich, Inc., 2012, “Building-specific Sampling Plans, 369-399 North Whisman Road and 468 Ellis Street, Mountain View, Middlefield-Ellis-Whisman (MEW) Area, Mountain View, California,” 19 November 2012.
- Haley & Aldrich, Inc., 2013, “Building-specific Indoor Air Sampling Report, 369-399 North Whisman Road and 468 Ellis Street, Mountain View, Middlefield-Ellis-Whisman (MEW) Area, Mountain View, California,” February 2013.
- United States Environmental Protection Agency, 2010, “Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California,” August 2010.
- United States Environmental Protection Agency, 2011, “Statement of Work for Remedial Design and Remedial Action to Address the Vapor Intrusion Pathway Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California,” 16 September 2011.

# TABLES

**TABLE I**  
**AIR SAMPLING RESULTS**  
**369 and 379 NORTH WHISMAN ROAD**  
**MOUNTAIN VIEW, CALIFORNIA**

Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>HVAC On</b>													
369 N. Whisman Rd.	369AMB1	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
369 N. Whisman Rd.	369AMB1	5/13/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
369 N. Whisman Rd.	369AMB1	10/2/2003	On	Indoor	10	Primary	<0.14	<0.069	0.19	0.75	<0.69	0.53	0.12
369 N. Whisman Rd.	369AMB1	10/7/2003	On	Indoor	10	Primary	<0.14	<0.068	0.58	<b>2.2</b>	<0.68	1.6	<0.044
369 N. Whisman Rd.	369AMB1	6/30/2010	On	Indoor	10	Primary	<0.020	0.089	0.014 J	0.071 J	<0.055	3.0	<0.013
369 N. Whisman Rd.	369AMB1*	6/30/2010	On	Indoor	10	Primary	<0.020	0.086	0.013 J	0.074 J	<0.055	2.7	<0.013
369 N. Whisman Rd.	369AMB2	5/6/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	0.33	<0.64	<0.17	<0.041
369 N. Whisman Rd.	369AMB2	5/13/2003	On	Indoor	10	Primary	0.88	<0.068	<0.14	0.30	<0.68	<0.18	<0.044
369 N. Whisman Rd.	369AMB2	10/2/2003	On	Indoor	10	Primary	<0.14	<0.069 J	<0.14	0.31	<0.69	0.33	<0.044
369 N. Whisman Rd.	369AMB2	10/7/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.44	<0.69	0.28	<0.044
369 N. Whisman Rd.	369AMB2	6/30/2010	On	Indoor	10	Primary	<0.020	0.087	0.016 J	0.079 J	<0.055	2.8	<0.013
369 N. Whisman Rd.	369AMB3	5/6/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
369 N. Whisman Rd.	369AMB3	5/13/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
369 N. Whisman Rd.	369AMB3	10/2/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.40	<0.69	0.41	<0.044
369 N. Whisman Rd.	369AMB3	10/7/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.45	<0.69	0.33	<0.044
369 N. Whisman Rd.	369AMB3*	10/7/2003	On	Indoor	10	Duplicate	<0.14	<0.069	<0.14	0.49	<0.69	0.34	<0.044
369 N. Whisman Rd.	369AMB3	6/30/2010	On	Indoor	10	Primary	<0.020	0.066	0.011 J	0.062 J	<0.056	2.2	0.0070 J
369 N. Whisman Rd.	369AMB3	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.074	<0.65	0.14	<0.042
369 N. Whisman Rd.	369AMB3	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.13	<0.051
369 N. Whisman Rd.	369AMB3	1/22/2013	On	Indoor	8	Primary	<0.14	<0.067	<0.13	<0.23	<0.67	<0.18	<0.043
369 N. Whisman Rd.	369AMB4	5/6/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	0.17 J	<0.041
369 N. Whisman Rd.	369AMB4	5/13/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	0.26	<0.68	<0.18	<0.044
369 N. Whisman Rd.	369AMB4	10/2/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	0.67	<0.044
369 N. Whisman Rd.	369AMB4	10/7/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	0.46	<0.68	0.32	<0.044
369 N. Whisman Rd.	369AMB4	6/30/2010	On	Indoor	10	Primary	<0.020	0.054	0.011 J	0.060 J	<0.055	1.9	0.0069 J
369 N. Whisman Rd.	369AMB5	6/30/2010	On	Indoor	10	Primary	<0.020	0.078	0.015 J	0.065 J	<0.055	2.7	0.0097 J
369 N. Whisman Rd.	369AMB5*	6/30/2010	On	Indoor	10	Primary	<0.020	0.089	0.017 J	0.078 J	<0.055	3.2	0.0053 J
369 N. Whisman Rd.	369AMB5	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.081	<0.65	1.4	<0.042
369 N. Whisman Rd.	369AMB5*	11/21/2012	On	Indoor	8	Duplicate	<0.12	<0.061	<0.12	0.078	<0.61	1.5	<0.04
369 N. Whisman Rd.	369AMB5	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	0.19	<0.079	<b>6.4</b>	<0.051
369 N. Whisman Rd.	369AMB5	1/22/2013	On	Indoor	8	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
369 N. Whisman Rd.	369AMB6	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.079	<0.67	1.6	<0.043
369 N. Whisman Rd.	369AMB6	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	0.16	<0.079	<b>5.8</b>	<0.051
369 N. Whisman Rd.	369AMB6	1/22/2013	On	Indoor	8	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041

**TABLE I**  
**AIR SAMPLING RESULTS**  
**369 and 379 NORTH WHISMAN ROAD**  
**MOUNTAIN VIEW, CALIFORNIA**

Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>HVAC On</b>													
369 N. Whisman Rd.	369AMB7	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.054	<0.67	0.095	<0.043
369 N. Whisman Rd.	369AMB7	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.15	<0.051
369 N. Whisman Rd.	369AMB7	1/22/2013	On	Indoor	8	Primary	<0.11	<0.055	<0.11	<0.19	<0.55	<0.15	<0.036
369 N. Whisman Rd.	369AMB8	11/21/2012	On	Indoor	8	Primary	<0.13	<0.064	<0.13	0.1	<0.64	1.4	<0.041
369 N. Whisman Rd.	369AMB8	12/29/2012	On	Indoor	8	Primary	<0.081	0.078	<0.079	0.18	<0.079	<b>6.2</b>	<0.051
369 N. Whisman Rd.	369AMB8	1/22/2013	On	Indoor	8	Primary	<0.14	<0.067	<0.13	<0.23	<0.67	<0.18	<0.043
369 N. Whisman Rd.	369HVAC1	5/6/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
369 N. Whisman Rd.	369HVAC1	5/13/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
369 N. Whisman Rd.	369HVAC1	6/29/2010	On	Outdoor	24	Primary	<0.020	<0.020	<0.055	0.042 J	<0.055	0.16	0.043
369 N. Whisman Rd.	369HVAC1	11/21/2012	On	Outdoor	8	Primary	<0.13	<0.065	<0.13	0.042	<0.65	0.029	<0.042
369 N. Whisman Rd.	369HVAC1	12/29/2012	On	Outdoor	8	Primary	<0.081	<0.079	<0.079	0.56	<0.079	<0.11	<0.051
369 N. Whisman Rd.	369HVAC1	1/22/2013	On	Outdoor	8	Primary	<0.12	<0.061	<0.12	<0.21	<0.61	<0.17	<0.040
369 N. Whisman Rd.	369HVAC2	5/6/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
369 N. Whisman Rd.	369HVAC2	5/13/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	0.23 J	<0.69	<0.19	<0.044
369 N. Whisman Rd.	369PATH1	5/6/2003	On	Pathway	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
369 N. Whisman Rd.	369PATH1*	5/6/2003	On	Pathway	10	Duplicate	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
369 N. Whisman Rd.	369PATH1	5/13/2003	On	Pathway	10	Primary	<0.14	<0.069	<0.14	0.23 J	<0.69	<0.19	<0.044
369 N. Whisman Rd.	369PATH2	6/30/2010	On	Pathway	10	Primary	<0.020	0.064	0.0099 J	0.068 J	<0.055	2.0	<0.013
369 N. Whisman Rd.	369/379OUT1	12/29/2012	On	Outdoor	8	Primary	<0.081	<0.079	<0.079	0.13	<0.079	<0.11	<0.051
369 N. Whisman Rd.	369/379OUT1	1/22/2013	On	Outdoor	8	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
<b>HVAC Off</b>													
369 N. Whisman Rd.	369AMB1	3/14/2010	Off	Indoor	10	Primary	<0.020	0.21	0.013 J	0.084 J	<0.056	4.3	<0.013
369 N. Whisman Rd.	369AMB1*	3/14/2010	Off	Indoor	10	Duplicate	<0.020	0.20	0.015 J	0.087 J	<0.056	4.5	<0.013
369 N. Whisman Rd.	369AMB2	3/14/2010	Off	Indoor	10	Primary	<0.020	0.094	<0.056	0.083 J	<0.056	1.9	<0.013
369 N. Whisman Rd.	369AMB3	3/14/2010	Off	Indoor	10	Primary	<0.020	0.15	0.011 J	0.093 J	<0.056	3.4	0.0060 J
369 N. Whisman Rd.	369 AMB3	11/23/2012	Off	Indoor	8	Primary	<0.13	0.11	<0.13	0.091	<0.65	3.1	<0.042
369 N. Whisman Rd.	369 AMB3	1/1/2013	Off	Indoor	8	Primary	<0.081	0.14	<0.079	<0.14	<0.079	4.9	<0.051
369 N. Whisman Rd.	369AMB4	3/14/2010	Off	Indoor	10	Primary	<0.020	0.11	<0.056	0.077 J	<0.056	2.3	<0.013
369 N. Whisman Rd.	369AMB5	3/14/2010	Off	Indoor	10	Primary	<0.020	0.10	0.012 J	0.11 J	<0.056	2.4	<0.013
369 N. Whisman Rd.	369AMB5	11/23/2012	Off	Indoor	8	Primary	<0.13	0.32	<0.13	0.16	<0.65	<b>13</b>	<0.042
369 N. Whisman Rd.	369AMB5*	11/23/2012	Off	Indoor	8	Duplicate	<0.13	0.31	<0.13	0.12	<0.64	<b>12</b>	<0.041
369 N. Whisman Rd.	369AMB5	1/1/2013	Off	Indoor	8	Primary	<0.081	0.18	<0.079	<0.14	<0.079	<b>5.2</b>	<0.051
369 N. Whisman Rd.	369AMB6	11/23/2012	Off	Indoor	8	Primary	<0.14	0.61	0.17	0.22	<0.68	<b>36</b>	<0.044
369 N. Whisman Rd.	369AMB6	1/1/2013	Off	Indoor	8	Primary	<0.081	0.59	0.13	0.17	<0.079	<b>30</b>	<0.051
369 N. Whisman Rd.	369 AMB7	11/23/2012	Off	Indoor	8	Primary	<0.13	0.12	<0.13	0.098	<0.65	3.3	<0.042
369 N. Whisman Rd.	369 AMB7	1/1/2013	Off	Indoor	8	Primary	<0.081	0.16	<0.079	<0.14	<0.079	<b>5.7</b>	<0.051

**TABLE I**  
**AIR SAMPLING RESULTS**  
**369 and 379 NORTH WHISMAN ROAD**  
**MOUNTAIN VIEW, CALIFORNIA**

Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>HVAC Off</b>													
369 N. Whisman Rd.	369AMB8	11/23/2012	Off	Indoor	8	Primary	<0.14	0.28	<0.13	0.097	<0.67	<b>6.2</b>	<0.043
369 N. Whisman Rd.	369AMB8	1/1/2013	Off	Indoor	8	Primary	<0.081	0.38	<0.079	<0.14	<0.079	<b>5.6</b>	<0.051
369 N. Whisman Rd.	369OUT1	3/13/2010	Off	Outdoor	24	Primary	<0.020	<0.020	<0.056	0.068 J	<0.056	0.071	<0.013
369 N. Whisman Rd.	369-399OUT1	11/23/2012	Off	Outdoor	8	Primary	<0.13	<0.064	<0.13	0.054	<0.64	<0.026	<0.041
369 N. Whisman Rd.	369/379OUT1	1/1/2013	Off	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
369 N. Whisman Rd.	369PATH2	3/14/2010	Off	Pathway	10	Primary	<0.020	0.11	0.010 J	0.083 J	<0.056	2.2	<0.013
<b>HVAC On</b>													
379 N. Whisman Rd.	379AMB1	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.61	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB1	05/13/2003	On	Indoor	10	Primary	<0.13	<0.066	<0.13	0.24	<0.66	<0.18	<0.043
379 N. Whisman Rd.	379AMB1	10/02/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
379 N. Whisman Rd.	379AMB1	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.72	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB1	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.027 J	0.15	<0.055	0.59	<0.013
379 N. Whisman Rd.	379AMB1	11/21/2012	On	Indoor	8	Primary	<0.14	<0.068	<0.14	0.11	<0.68	1.3	<0.044
379 N. Whisman Rd.	379AMB1	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	0.67	<0.079	1.8	<0.051
379 N. Whisman Rd.	379AMB1	01/22/2013	On	Indoor	8	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
379 N. Whisman Rd.	379AMB2	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB2	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB2	10/02/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
379 N. Whisman Rd.	379AMB2	10/07/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	0.69	<0.70	0.19 J	<0.045
379 N. Whisman Rd.	379AMB2	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.026 J	0.11 J	<0.055	0.48	<0.013
379 N. Whisman Rd.	379AMB2	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.072	<0.67	1.4	<0.043
379 N. Whisman Rd.	379AMB2	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	0.64	<0.079	1.8	<0.051
379 N. Whisman Rd.	379AMB2	01/22/2013	On	Indoor	8	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
379 N. Whisman Rd.	379AMB3	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB3*	05/13/2003	On	Indoor	10	Duplicate	<0.13	<0.066	<0.13	0.26	<0.66	<0.18	<0.043
379 N. Whisman Rd.	379AMB3	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB3	10/02/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
379 N. Whisman Rd.	379AMB3	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.61	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB3	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.016 J	0.12 J	<0.055	0.71	<0.013
379 N. Whisman Rd.	379AMB3	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	0.48	<0.079	1.4	<0.051
379 N. Whisman Rd.	379AMB3	01/22/2013	On	Indoor	8	Primary	<0.14	<0.067	<0.13	<0.23	<0.67	<0.18	<0.043
379 N. Whisman Rd.	379AMB4	05/06/2003	On	Indoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
379 N. Whisman Rd.	379AMB4	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379AMB4	10/02/2003	On	Indoor	10	Primary	<0.15	<0.072	<0.14	<0.25	<0.72	<0.20	<0.046
379 N. Whisman Rd.	379AMB4	10/07/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	0.59	<0.70	<0.19	<0.045
379 N. Whisman Rd.	379AMB4	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.016 J	0.10 J	<0.056	0.65	<0.013
379 N. Whisman Rd.	379AMB4	11/21/2012	On	Indoor	8	Primary	<0.14	<0.068	<0.14	0.097	<0.68	0.64	<0.044
379 N. Whisman Rd.	379AMB4	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	0.71	<0.079	1.7	<0.051
379 N. Whisman Rd.	379AMB4	01/22/2013	On	Indoor	8	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	0.20	<0.044

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**AIR SAMPLING RESULTS**  
**369 and 379 NORTH WHISMAN ROAD**  
**MOUNTAIN VIEW, CALIFORNIA**

Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>HVAC On</b>													
379 N. Whisman Rd.	379AMB5	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.019 J	0.075 J	<0.055	0.53	<0.013
379 N. Whisman Rd.	379AMB6	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.11	<0.65	<b>7.8</b>	<0.042
379 N. Whisman Rd.	379AMB6	12/29/2012	On	Indoor	8	Primary	<0.081	<0.079	<0.079	1.2	<0.079	<b>7.5</b>	<0.051
379 N. Whisman Rd.	DUP-1*	12/29/2012	On	Indoor	8	Duplicate	<0.081	<0.079	<0.079	1.4	<0.079	<b>7.7</b>	<0.051
379 N. Whisman Rd.	379AMB6	01/22/2013	On	Indoor	8	Primary	<0.15	<0.072	<0.14	<0.25	<0.72	<0.20	<0.047
379 N. Whisman Rd.	DUP-1*	01/22/2013	On	Indoor	8	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
379 N. Whisman Rd.	379HVAC1	05/06/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379HVAC1	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
379 N. Whisman Rd.	379HVAC1	11/21/2012	On	Outdoor	8	Primary	<0.14	<0.067	<0.13	<0.034	<0.67	0.038	<0.043
379 N. Whisman Rd.	379HVAC2	05/06/2003	On	Outdoor	10	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
379 N. Whisman Rd.	379HVAC2	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
379 N. Whisman Rd.	379HVAC2	10/02/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379HVAC2	10/07/2003	On	Outdoor	10	Primary	<0.14	<0.070	<0.14	0.64	<0.70	<0.19	<0.045
379 N. Whisman Rd.	379HVAC2*	10/07/2003	On	Outdoor	10	Duplicate	<0.14	<0.069	<0.14	0.72	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379HVAC2	12/29/2012	On	Outdoor	8	Primary	<0.081	<0.079	<0.079	1.1	<0.079	<0.11	<0.051
379 N. Whisman Rd.	379HVAC2	01/22/2013	On	Outdoor	8	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
379 N. Whisman Rd.	379OUT1	07/22/2010	On	Outdoor	10	Primary	<0.020	<0.020	0.011 J	0.054 J	<0.055	0.046	<0.013
379 N. Whisman Rd.	379OUT1	09/08/2010	On	Outdoor	24	Primary	<0.020	<0.020	0.015 J	0.062 J	<0.055	0.077	<0.013
379 N. Whisman Rd.	379PATH1	05/06/2003	On	Pathway	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
379 N. Whisman Rd.	379PATH1	05/13/2003	On	Pathway	10	Primary	<0.13	<0.062	<0.12	0.26	<0.62	<0.17	<0.040
<b>HVAC Off</b>													
379 N. Whisman Rd.	379AMB1	07/23/2010	Off	Indoor	10	Primary	0.045	0.054	0.038 J	0.36	<0.055	<b>9.5</b>	<0.013
379 N. Whisman Rd.	379AMB1	09/11/2010	Off	Indoor	10	Primary	0.018 J	0.011 J	0.056	0.16	<0.055	3.1	<0.013
379 N. Whisman Rd.	379AMB1	01/28/2011	Off	Indoor	10	Primary	0.019 J	0.020	0.029 J	0.26	<0.055	4.1	<0.013
379 N. Whisman Rd.	379AMB1	11/23/2012	Off	Indoor	8	Primary	<0.13	0.24	<0.13	0.25	<0.64	<b>23</b>	<0.041
379 N. Whisman Rd.	379AMB1	01/01/2013	Off	Indoor	8	Primary	<0.081	0.31	<0.079	0.26	<0.079	<b>20</b>	<0.051
379 N. Whisman Rd.	379AMB2	07/23/2010	Off	Indoor	10	Primary	0.039	0.045	0.032 J	0.33	<0.055	<b>7.6</b>	<0.013
379 N. Whisman Rd.	379AMB2	09/11/2010	Off	Indoor	10	Primary	0.021	0.017 J	0.053 J	0.19	<0.055	3.6	<0.013
379 N. Whisman Rd.	379AMB2	01/28/2011	Off	Indoor	10	Primary	<0.020	<0.020	<0.055	0.25	<0.055	2.9	<0.013
379 N. Whisman Rd.	379AMB2	11/23/2012	Off	Indoor	8	Primary	<0.14	0.19	<0.13	0.22	<0.67	<b>14</b>	<0.043
379 N. Whisman Rd.	379AMB2	01/01/2013	Off	Indoor	8	Primary	<0.081	0.33	<0.079	0.27	<0.079	<b>14</b>	<0.051
379 N. Whisman Rd.	379AMB3	07/23/2010	Off	Indoor	10	Primary	<0.020	0.039	0.020 J	0.38	<0.055	4.6	0.0056 J
379 N. Whisman Rd.	379AMB3	09/11/2010	Off	Indoor	10	Primary	0.015 J	0.015 J	0.042 J	0.22	<0.055	2.9	<0.013
379 N. Whisman Rd.	379AMB3	01/28/2011	Off	Indoor	10	Primary	0.012 J	0.023	0.017 J	0.22	<0.055	1.8	0.0060 J
379 N. Whisman Rd.	379AMB3	11/23/2012	Off	Indoor	8	Primary	<0.13	0.27	<0.12	0.30	<0.63	<b>9.6</b>	<0.040
379 N. Whisman Rd.	379AMB3	01/01/2013	Off	Indoor	8	Primary	0.11	0.59	<0.079	0.41	<0.079	<b>13</b>	<0.051

**TABLE I**  
 AIR SAMPLING RESULTS  
 369 and 379 NORTH WHISMAN ROAD  
 MOUNTAIN VIEW, CALIFORNIA

Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>HVAC Off</b>													
379 N. Whisman Rd.	379AMB4	07/23/2010	Off	Indoor	10	Primary	0.038	0.068	0.032 J	0.53	<0.055	<b>7.5</b>	0.0072 J
379 N. Whisman Rd.	379AMB4	09/11/2010	Off	Indoor	10	Primary	<0.020	<0.020	0.011 J	0.21	<0.055	0.67	<0.013
379 N. Whisman Rd.	379AMB4	01/28/2011	Off	Indoor	10	Primary	0.017 J	0.042	<0.055	0.20	<0.055	2.3	<0.013
379 N. Whisman Rd.	379AMB4	11/23/2012	Off	Indoor	8	Primary	<0.14	0.26	<0.14	0.29	<0.69	<b>12</b>	<0.045
379 N. Whisman Rd.	379AMB4	01/01/2013	Off	Indoor	8	Primary	0.098	0.5	<0.079	0.39	<0.079	<b>14</b>	<0.051
379 N. Whisman Rd.	379AMB5	07/23/2010	Off	Indoor	10	Primary	0.039	0.044	0.034 J	0.35	<0.055	<b>9.2</b>	0.0091 J
379 N. Whisman Rd.	379AMB5	09/11/2010	Off	Indoor	10	Primary	0.024	0.017 J	0.058	0.18	<0.055	3.8	<0.013
379 N. Whisman Rd.	379AMB5	01/28/2011	Off	Indoor	10	Primary	<0.020	0.029	0.018 J	0.30	<0.055	3.9	0.0063 J
379 N. Whisman Rd.	379AMB6	11/23/2012	Off	Indoor	8	Primary	<0.11	0.84	0.51	0.67	<0.54	<b>130</b>	<0.035
379 N. Whisman Rd.	379AMB6	01/01/2013	Off	Indoor	8	Primary	<0.081	0.9	0.44	0.65	0.21	<b>110</b>	<0.051
379 N. Whisman Rd.	DUP-1*	01/01/2013	Off	Indoor	8	Duplicate	<0.081	0.93	0.45	0.63	0.21	<b>120</b>	<0.051
379 N. Whisman Rd.	379OUT1	07/22/2010	Off	Outdoor	24	Primary	<0.020	<0.020	0.011 J	0.054 J	<0.055	0.046	<0.013
379 N. Whisman Rd.	379OUT1	09/11/2010	Off	Outdoor	24	Primary	<0.020	<0.020	0.019 J	0.071 J	<0.055	0.29	<0.013
379 N. Whisman Rd.	379OUT1	01/28/2011	Off	Outdoor	24	Primary	<0.020	<0.020	<0.055	0.12 J	<0.055	0.028	<0.013
<b>Long-Term Cleanup Level</b>													
Commercial							6	700	210	2	210	5	2

**Notes:**  
 All units are micrograms per cubic meter (µg/m<sup>3</sup>).  
 \* - denotes duplicate co-located sample  
 J - estimated result  
 <0.020 - denotes result was below respective reporting limit  
 Bold denotes levels above Long-term Cleanup Level

**TABLE 2**  
DIFFERENTIAL PRESSURE READINGS  
369 and 379 NORTH WHISMAN ROAD  
MOUNTAIN VIEW, CALIFORNIA

Location	Measurement Date	Differential Pressure <sup>1</sup> (inches of water)
<b>369 N. Whisman Road</b>		
North Portal Café Door	01/15/2013	-0.0104
	1/19/2013	0.050
	1/22/2013	0.026
East Portal Café Door	01/15/2013	-0.0114
	1/19/2013	0.052
	1/22/2013	0.026
Lobby South of Portal Café	01/15/2013	-0.0141
	1/19/2013	0.051
	1/22/2013	0.026
Lobby 1A0	01/15/2013	-0.0192
	1/19/2013	0.042
	1/22/2013	0.021
Lobby 1E4	01/15/2013	-0.0188
	1/19/2013	0.046
	1/22/2013	0.023
Hallway adjacent to room 1K0	01/15/2013	-0.0127
	1/19/2013	0.049
	1/22/2013	0.024
<b>379 N. Whisman Road</b>		
Lobby 1F4	01/15/2013	-0.0066
	1/19/2013	0.027
	1/22/2013	0.030
Lobby 1K8	01/15/2013	-0.0102
	1/19/2013	0.032
	1/22/2013	0.030
Hallway between rooms 1M5/1M7	01/15/2013	-0.0194
	1/19/2013	0.032
	1/22/2013	0.030
Lobby adjacent to room 1P6	01/15/2013	-0.0203
	1/19/2013	0.031
	1/22/2013	0.035
West Lobby adjacent to room 1X0	01/15/2013	-0.0102
	1/19/2013	0.040
	1/22/2013	0.038
Lobby adjacent to room 1A2	01/15/2013	-0.0148
	1/19/2013	0.032
	1/22/2013	0.033

**Notes:**

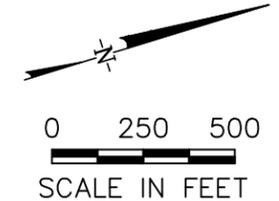
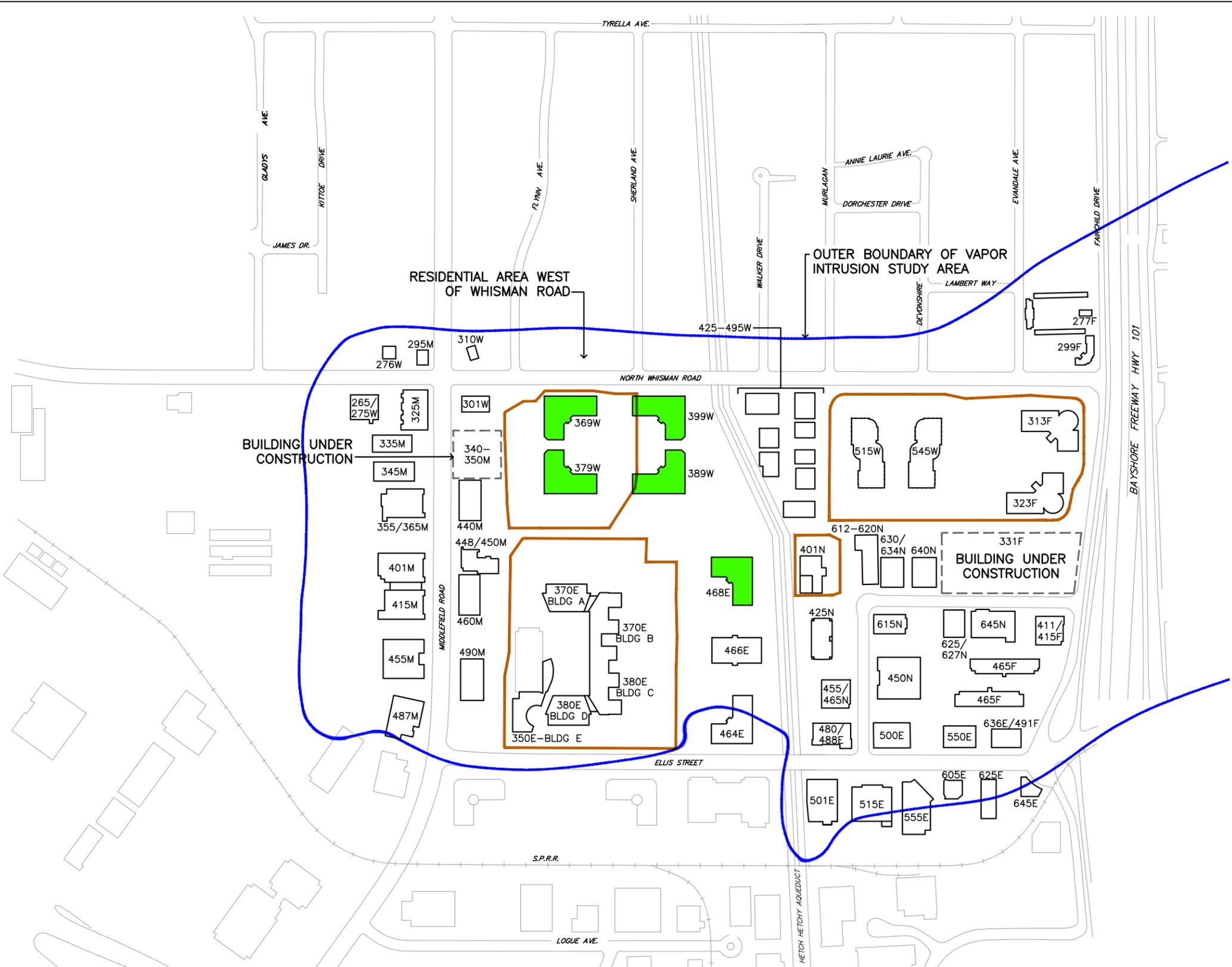
1. Negative values indicate airflow into building. Positive values indicate airflow out of building.

# FIGURES

P:\CADD\NEW\VI\Figures\FIG1-SITE\_LOCATION.dwg 2-07-13 01:33:03 PM SKhalameyzer

- LEGEND:**
-  SLURRY WALL
  -  OUTER BOUNDARY OF VAPOR INTRUSION STUDY AREA
  -  SUBJECT SITE
  - E ELLIS STREET
  - M EAST MIDDLEFIELD ROAD
  - F FAIRCHILD DRIVE
  - W NORTH WHISMAN ROAD
  - N NATIONAL AVENUE

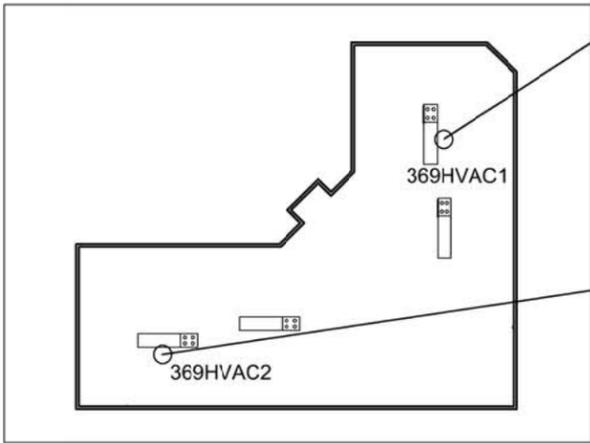
- NOTES:**
1. BOUNDARY OF MEW STUDY AREA IS DEFINED BY THE 5 MICROGRAMS PER LITER (µg/L) TRICHLOROETHENE CONTOUR AS PRESENTED BY EPA IN DECEMBER 2011.
  2. BUILDINGS IN RESIDENTIAL AREA WEST OF WHISMAN ROAD ARE NOT SHOWN.



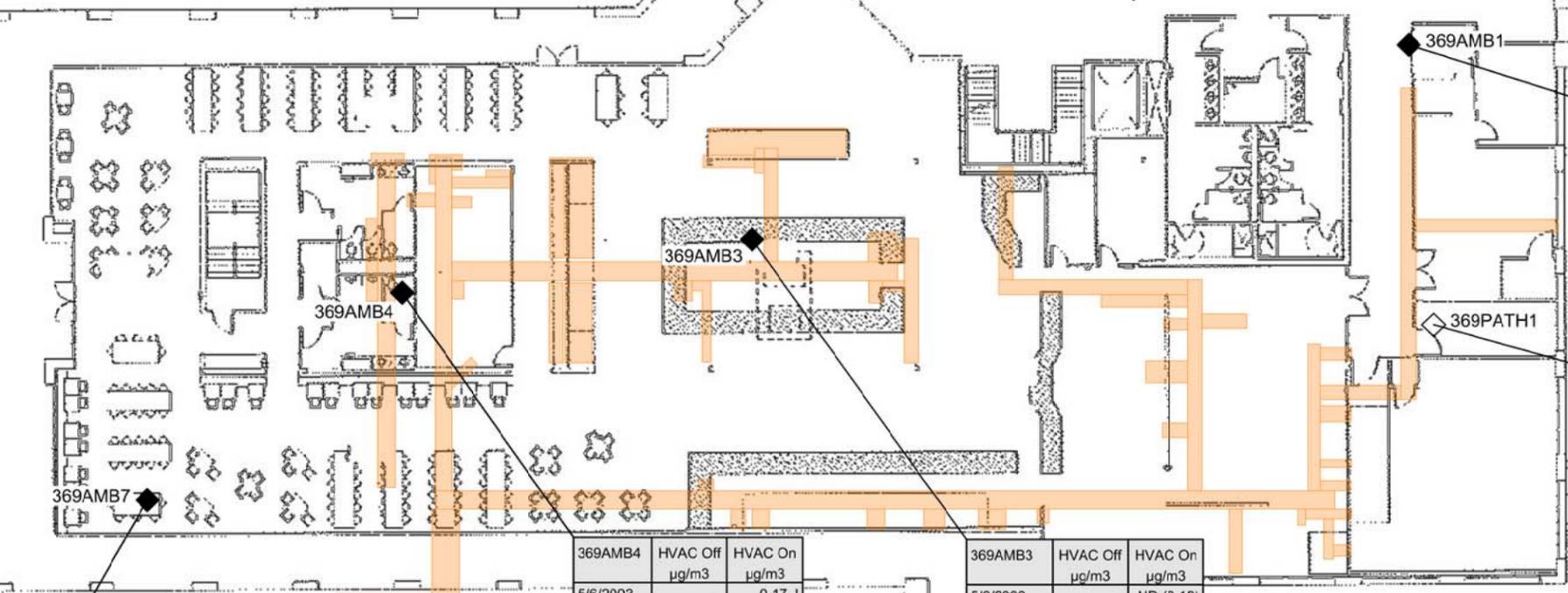
SOURCE: HALEY & ALDRICH, 2013, BUILDING-SPECIFIC INDOOR AIR SAMPLING REPORT: 369-399 NORTH WHISMAN ROAD AND 468 ELLIS STREET, MOUNTAIN VIEW, CALIFORNIA, FEBRUARY.

<b>Geosyntec</b> consultants	
SITE LOCATION 369. 379, 389, AND 399 NORTH WHISMAN ROAD AND 468 ELLIS STREET MOUNTAIN VIEW, CALIFORNIA	FIGURE NO. 1
	PROJECT NO. WR1133A
	DATE: FEBRUARY 2013

P:\CADD\VIEW\Figures\Fig2-369\_N\_WHISMAN\_RD.dwg 2-06-13 11:57:49 AM Skhdameyzer



APPROXIMATE LOCATION OF HVAC SYSTEM



- LEGEND:**
- ◆ INDOOR AIR SAMPLING LOCATION
  - ◇ PATHWAY AIR SAMPLING LOCATION
  - OUTDOOR AIR SAMPLING LOCATION
  - ▬ UTILITY TRENCH (2012)

- NOTES:**
1. THIS FIGURE IS BASED ON IMAGES OF THE BUILDING PROVIDED BY DEVCON AND GOOGLE.
  2. ALL LOCATIONS ARE APPROXIMATE.
  3. CHEMICAL CONCENTRATIONS IN MICROGRAMS PER CUBIC METER ( $\mu\text{g}/\text{m}^3$ ).
  4. ND DENOTES CHEMICAL WAS NOT DETECTED AT THE LEVEL SHOWN.
  5. J: ESTIMATED RESULT.

369-399OUT1	HVAC Off	$\mu\text{g}/\text{m}^3$
11/23/2012	ND	(0.026)

369OUT1	HVAC Off	$\mu\text{g}/\text{m}^3$
3/13/2010	0.071	

369AMB2	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.17)
5/13/2003	-	ND (0.18)
10/2/2003	-	0.33
10/7/2003	-	0.28
3/14/2010	1.9	-
6/30/2010	-	2.8

369AMB6	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
11/21/2012	-	1.6
11/23/2012	36	-
12/29/2012	-	5.8
1/1/2013	30	-
1/22/2013	-	ND (0.17)

369PATH2	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
3/14/2010	2.2	-
6/30/2010	-	2.0

369AMB5	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
3/14/2010	2.4	-
6/30/2010	-	2.7
11/21/2012	-	1.4
11/23/2012	13	-
12/29/2012	-	6.4
1/1/2013	5.2	-
1/22/2013	-	ND (0.18)

369DUP1	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
11/21/2012	-	1.5
11/23/2012	12	-

369AMB8	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
11/21/2012	-	1.4
11/23/2012	6.2	-
12/29/2012	-	6.2
1/1/2013	5.6	-
1/22/2013	-	ND (0.18)

369AMB1	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.19)
5/13/2003	-	ND (0.19)
10/2/2003	-	0.53
10/7/2003	-	1.6
3/14/2010	4.3	-
6/30/2010	-	3.0

369PATH1	HVAC On
	$\mu\text{g}/\text{m}^3$
5/6/2003	ND (0.19)
5/13/2003	ND (0.19)

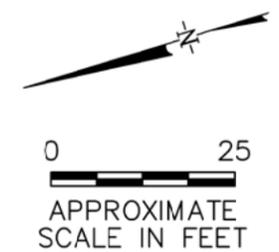
369AMB4	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
5/6/2003	-	0.17 J
5/13/2003	-	ND (0.18)
10/2/2003	-	0.67
10/7/2003	-	0.32
3/14/2010	2.3	-
6/30/2010	-	1.9

369AMB3	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.19)
5/13/2003	-	ND (0.19)
10/2/2003	-	0.41
10/7/2003	-	0.33
3/14/2010	3.4	-
6/30/2010	-	2.2
11/21/2012	-	0.14
11/23/2012	3.1	-
12/29/2012	-	0.13
1/1/2013	4.9	-
1/22/2013	-	ND (0.18)

369AMB7	HVAC Off	HVAC On
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
11/21/2012	-	0.095
11/23/2012	3.3	-
12/29/2012	-	0.15
1/1/2013	5.7	-
1/22/2013	-	ND (0.15)

**EXAMPLE DATABOX**

SAMPLE LOCATION NAME	HVAC STATUS		SAMPLE UNITS
	HVAC Off	HVAC On	
369AMB1	5/6/2003	ND (0.19)	ANALYTE CONCENTRATIONS
	5/13/2003	ND (0.19)	
	10/2/2003	0.53	
	10/7/2003	1.6	
	3/14/2010	4.3	
	6/30/2010	3	



SOURCE: HALEY & ALDRICH, 2013, BUILDING-SPECIFIC INDOOR AIR SAMPLING REPORT: 369-399 NORTH WHISMAN ROAD AND 468 ELLIS STREET, MOUNTAIN VIEW, CALIFORNIA, FEBRUARY.

<p>LOCATION OF AIR SAMPLES AND TCE CONCENTRATIONS</p> <p>369 NORTH WHISMAN ROAD MOUNTAIN VIEW, CALIFORNIA</p>		<p>Geosyntec<sup>®</sup> consultants</p>	
		<p>FIGURE NO. 2</p>	<p>PROJECT NO. WR1133A</p>
		<p>DATE: FEBRUARY 2013</p>	



APPENDIX A  
Building-specific Indoor Air Sampling  
Report (Haley & Aldrich, 2013)

**BUILDING-SPECIFIC INDOOR AIR SAMPLING REPORT  
369 - 399 NORTH WHISMAN ROAD AND 468 ELLIS STREET  
MOUNTAIN VIEW, CALIFORNIA**

by

**Haley & Aldrich, Inc.  
San Jose, California**

**File No. 37498-001  
8 February 2013**

Haley & Aldrich, Inc.  
2107 N. 1st Street  
Suite 380  
San Jose, CA 95131

Tel: 408.961.4805  
Fax: 408.453.8708  
HaleyAldrich.com



8 February 2013  
File No. 37498-001

Geosyntec Consultants  
1111 Broadway, 6th Floor  
Oakland, California 94607

Attention: Ms. Nancy Bice  
Principal Engineering Geologist

Subject: Building-specific Indoor Air Sampling Report  
369 - 399 North Whisman Road and 468 Ellis Street  
Mountain View, California

Dear Ms. Bice:

Please find enclosed the above-referenced report summarizing the air sampling activities conducted in November 2012 at 369, 379, 389, and 399 North Whisman Road and 468 Ellis Street, in Mountain View, California.

Please feel free to call the undersigned if you have questions regarding this document.

Sincerely yours,  
HALEY & ALDRICH, INC.

A handwritten signature in blue ink, appearing to read 'Jennifer D. Boyer'. The signature is fluid and cursive.

Jennifer D. Boyer  
Project Manager

A handwritten signature in black ink, appearing to read 'Elie H. Haddad'. The signature is very stylized and cursive.

Elie H. Haddad, PE  
Senior Vice President

Enclosures

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6	Location of Air Samples and TCE Concentrations – 468 Ellis Street

## 1. INTRODUCTION

This Building-specific Indoor Air Sampling Report (Report) presents the activities and results of the air sampling performed by Haley & Aldrich, Inc., (Haley & Aldrich) at 369 - 399 North Whisman Road and 468 Ellis Street, in Mountain View, California (Figure 1). The Report was prepared in accordance with the following documents:

- 16 September 2011 United States Environmental Protection Agency (EPA) Statement of Work (SOW), Section 2.2.1 (EPA, 2011);
- 7 June 2011 Haley & Aldrich “Indoor Air Sampling and Analysis Work Plan for Existing, Unsampled Buildings, Middlefield-Ellis-Whisman (MEW) and Moffett Field Study Area,” ([Site-wide Work Plan], Haley & Aldrich, 2011b) approved by EPA on 1 July 2011; and
- 19 November 2012 Haley & Aldrich “Building-specific Sampling Plans” (Haley & Aldrich, 2012) conditionally approved by EPA on 19 November 2012.

## 2. REPORT CONTENTS

In accordance with the EPA SOW, this Report includes the items identified below and a cross reference to where those items can be found.

ITEM	LOCATION IN REPORT
Building conditions, occupancy and use conditions, and a summary of all building/property-specific data, including identification of potential pathways for subsurface vapor intrusion	Section 3 and Appendix A (Building Questionnaire Forms)
Evaluation of current indoor air ventilation system (e.g., heating, ventilation, and air conditioning [HVAC]) operations and completed building surveys	Appendix A (Building Questionnaire Forms)
Map of building/property layout and actual sampling locations, including photographs, where permitted	Figures 2 through 6 and Appendix B (Photographs)
Summary of all sampling and data collection results	Section 5, Tables I through V
Laboratory analytical data	Appendix C (Laboratory Analytical Reports)
Quality Assurance/Quality Control (QA/QC) data and activities	Section 5, Appendix D (Tier I Validation Quality Assurance/Quality Control Forms), and Appendix E (Data Usability Summary Reports)
Schedule, recommendations, and follow-up actions, which shall include to the extent necessary, additional sampling to determine the source of vapor intrusion exceeding indoor air cleanup levels and vapor intrusion mitigation measures	Section 6

### 3. BUILDING CONDITIONS

Representatives from Haley & Aldrich and EPA conducted a walkthrough of the buildings on 7 November 2012. An evaluation of the indoor air ventilation system was also conducted during the walk-through and on the day of sampling when the HVAC system was operational (21 November 2012) by Air Systems, Inc. (ASI). The results of the walkthrough and HVAC evaluation are included in the building-specific questionnaires provided in Appendix A, which incorporate information received from the property representative and observations made during sampling activities. HVAC inspection reports prepared during historical indoor air sampling events at 379 North Whisman Road are also included in Appendix A.

As indicated on the building-specific questionnaires, the five buildings located at 369, 379, 389, and 399 North Whisman Road and 468 Ellis Street are two-story structures with concrete tilt-up walls constructed in 1998 and renovated in 2012. The buildings have no basement or crawlspace. The buildings are used primarily for office space; cafeterias are present in 369 and 389 North Whisman Road and 468 Ellis Street.

Fire risers penetrate the floor slabs in each of the five buildings. Utility trenches were cut in the concrete slabs of each building during renovations in 2012; the trench locations are shown on Figures 2 through 6. Information regarding the utility trenching is presented in the Air Monitoring and Soil Sampling Plan for the Google-Quad Utility Excavation Activities prepared by EORM dated 6 March 2012. There is one approximately 15-foot deep elevator shaft in each of the five buildings. Cleaning supplies were observed in the janitorial closets and kitchens at each building. Photographs of the buildings and sample locations during this sampling event are provided in Appendix B.

In 2010, Haley & Aldrich sealed utility conduits with a closed-cell polyurethane at 369 and 379 North Whisman Road. Additionally, the interstitial space between the fire riser pipe and the surface penetration was backfilled and a ½-inch thick mortar seal was placed above the pea gravel.

During the renovation work at 369, 379, 389, and 399 North Whisman Road and 468 Ellis Street in April and May 2012, Haley & Aldrich implemented the following activities:

- Removed and vacuumed out existing caulking in expansion/control joints and resealed with DAP Watertight Concrete Filler and Sealant in first floor concrete slab;
- Sealed cracks in the concrete elevator pit floor and walls;
- Sealed around new plumbing and conduit pipe penetrations through concrete slab;
- Sealed around new floor drains;
- Sealed inside legacy conduits; and
- Backfilled the interstitial space between the fire riser pipes and the surface penetration with pea gravel then placed a ½-inch thick mortar seal above the pea gravel (369, 389, 399 North Whisman Road and 468 Ellis Street buildings).

Field maps showing the legacy conduits sealed are presented in Appendix F.

The buildings located at 369 and 389 North Whisman Road are each serviced by seven HVAC units: four zone heating and cooling system units and three package units. 379 and 399 North Whisman Road

are each serviced by six HVAC units: four zone heating and cooling system units and two package units. 468 Ellis Street is serviced by seven HVAC units: six zone heating and cooling system units and one package unit. All of the units have outside air intakes and economizers. According to the tenant, the HVAC units operate in all five buildings 24 hours per day, seven days per week.

#### 4. SAMPLING AND DATA EVALUATION APPROACH

Volatile organic compounds found in indoor air can be attributed to facility or occupational sources (e.g., sources attributed to building construction, operation, and occupancy), volatilization from the subsurface into the building (i.e., vapor intrusion), and contributions from outdoor air. This section explains the sampling procedures and sample types collected in 369, 379, 389, and 399 North Whisman Road and 468 Ellis Street.

In accordance with the Site-wide Work Plan, the HVAC system was operated for three days under normal occupancy procedures; samples were collected on the third day of operation with the HVAC system on. Samples were also collected with the HVAC system off starting 38 hours after shutting down the HVAC units.

##### 4.1 Sampling Methodology

Haley & Aldrich collected air samples with the HVAC system on and off at each building. Specific information regarding the sampling method, duration, and number of samples is referenced below. One of the indoor air samples collected during HVAC on sampling at 379 North Whisman Road (379AMB3) and the outdoor sample collected during HVAC on sampling at 399 North Whisman Road were not analyzed due to equipment malfunctions.

The air samples were collected in Selected Ion Mode (SIM) certified 6-Liter SUMMA<sup>®</sup> canisters and analyzed for trichloroethene (TCE); tetrachloroethene (PCE); 1,1-dichloroethene (1,1-DCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene; 1,1-dichloroethane; and vinyl chloride. The analysis was performed using EPA Method TO-15 SIM by Eurofins Air Toxics Ltd., a laboratory certified by the National Environmental Laboratory Accreditation Conference.

The table below presents a summary of sampling methodology, including method, duration, number of samples collected during each sampling event, and the operation status of the HVAC system.

Operation Status of the HVAC System	Sampling Method	Sample Duration	No. of Samples
369 North Whisman Road - HVAC On	Passivated canisters (SUMMA <sup>®</sup> canisters)	8 hours	5 indoor 1 duplicate 1 HVAC
369 North Whisman Road - HVAC Off	Passivated canisters (SUMMA <sup>®</sup> canisters)	8 hours	5 indoor 1 duplicate
379 North Whisman Road - HVAC On	Passivated canisters (SUMMA <sup>®</sup> canisters)	8 hours	4 indoor 1 HVAC
379 North Whisman Road - HVAC Off	Passivated canisters (SUMMA <sup>®</sup> canisters)	8 hours	5 indoor
389 North Whisman Road - HVAC On	Passivated canisters (SUMMA <sup>®</sup> canisters)	8 hours	5 indoor 1 HVAC

<b>Operation Status of the HVAC System</b>	<b>Sampling Method</b>	<b>Sample Duration</b>	<b>No. of Samples</b>
389 North Whisman Road - HVAC Off	Passivated canisters (SUMMA® canisters)	8 hours	5 indoor
399 North Whisman Road - HVAC On	Passivated canisters (SUMMA® canisters)	8 hours	5 indoor
399 North Whisman Road - HVAC Off	Passivated canisters (SUMMA® canisters)	8 hours	5 indoor
369-399 North Whisman Road HVAC Off	Passivated canisters (SUMMA® canisters)	8 hours	1 outdoor
468 Ellis Street - HVAC On	Passivated canisters (SUMMA® canisters)	8 hours	4 indoor 1 duplicate 1 HVAC
468 Ellis Street - HVAC Off	Passivated canisters (SUMMA® canisters)	8 hours	4 indoor 1 duplicate 1 outdoor

In addition to the air samples included in the above table, indoor, outdoor, and pathway air samples were previously collected at 369, 379, 389, and 399 North Whisman Road and 468 Ellis Street in 2003, 2010, and 2011. Information regarding the historical air samples is presented in the following documents:

- 29 June 2009 Haley & Aldrich “Final Supplemental Remedial Investigation for Vapor Intrusion Pathway, Middlefield-Ellis-Whisman Study Area, Mountain View and Moffett Field, California” Haley & Aldrich, 2009);
- 19 March 2010 Haley & Aldrich “After-Hours Air Sampling Results, 399 N. Whisman Road, Mountain View, California” (Haley & Aldrich, 2010a);
- 21 May 2010 Haley & Aldrich “After-Hours Air Sampling Results, 468 Ellis Street, Mountain View, California” (Haley & Aldrich, 2010b);
- 21 July 2010 Haley & Aldrich “Air Sampling Results, 399 N. Whisman Road, Mountain View, California” (Haley & Aldrich, 2010c);
- 23 September 2010 Haley & Aldrich “Air Sampling Results, 369 N. Whisman Road, Mountain View, California” (Haley & Aldrich, 2010d);
- 23 September 2010 Haley & Aldrich “After-Hours Air Sampling Results, 389 N. Whisman Road, Mountain View, California” (Haley & Aldrich, 2010e); and
- 24 February 2011 Haley & Aldrich “Air Sampling Results, 379 N. Whisman Road, Mountain View, California” (Haley & Aldrich, 2011).

### *369 North Whisman Road*

The indoor air samples were collected at 369 North Whisman Road on 21 November 2012 (HVAC on) and 23 November 2012 (HVAC off). Indoor air samples 369AMB3, 369AMB5, 369AMB6, 369AMB7, and 369AMB8 were collected in a dining area, a conference room, a training room near the 2012 renovation utility trench, an additional dining area near the 2012 renovation utility trench, and the badging office near the fire riser, respectively. A duplicate air sample was collected at location 369AMB5. The selected indoor air sample locations provide adequate areal representation and different interior space types in the building. In addition to indoor air sampling, outdoor air samples 369HVAC1 (HVAC on) and 369-399OUT1 (HVAC off) were collected to represent outdoor conditions on each day of sampling. Sample locations are presented on Figure 2 and photographs taken during sampling activities are provided in Appendix B.

As approved by EPA in its 19 November 2012 letter, previous sample locations, including 369AMB1, 369AMB2, and 369AMB4, were not sampled during the November 2012 sampling events because they were either located in an unoccupied space (369AMB1 and 369AMB2) or room use had changed from occupied space to a restroom (369AMB4).

### *379 North Whisman Road*

The indoor air samples were collected at 379 North Whisman Road on 21 November 2012 (HVAC on) and 23 November 2012 (HVAC off). Indoor air samples 379AMB1, 379AMB2, 379AMB3, 379AMB4, and 379AMB6 were collected in a hallway near the 2012 renovation utility trench, an open office, a conference room, an additional open office near the 2012 renovation utility trench, and a hallway near a meeting area and previously sealed conduits, respectively. The selected indoor air sample locations provide adequate areal representation and different interior space types in the building. In addition to indoor air sampling, outdoor air samples 379HVAC1 (HVAC on) and 369-399OUT1 (HVAC off) were collected to represent outdoor conditions on each day of sampling. Sample locations are presented on Figure 3 and photographs taken during sampling activities are provided in Appendix B.

As approved by EPA in its 19 November 2012 letter, previous sample location 379AMB5 was not sampled in the November 2012 sampling events because, due to building renovation, the sample would now be located in an unoccupied space. Another sample was therefore collected (379AMB6) located near the previous sample location 379AMB5.

### *389 North Whisman Road*

The indoor air samples were collected at 389 North Whisman Road on 21 November 2012 (HVAC on) and 23 November 2012 (HVAC off). Indoor air samples 389AMB1, 389AMB2, 389AMB3, 389AMB4, and 389AMB6 were collected in a dining area near the 2012 renovation utility trench, an open office, an additional open office/meeting area, a break area near the 2012 renovation utility trench, and an open office area near the fire riser, respectively. The selected indoor air sample locations provide adequate areal representation and different interior space types in the building. In addition to indoor air sampling, outdoor air samples 389HVAC1 (HVAC on) and 369-399OUT1 (HVAC off) were collected to represent outdoor conditions on each day of sampling. Sample locations are presented on Figure 4 and photographs taken during sampling activities are provided in Appendix B.

As approved by EPA in its 19 November 2012 letter, previous sample location 389AMB5 was not sampled during the November 2012 sampling event because, due to building renovation, the sample would be located in an unoccupied space. Another sample was therefore collected (389AMB6) located near the previous sample location 389AMB5.

### *399 North Whisman Road*

The indoor air samples were collected at 399 North Whisman Road on 21 November 2012 (HVAC on) and 23 November 2012 (HVAC off). Indoor air samples 399AMB1, 399AMB2, 399AMB3, 399AMB4, and 399AMB5 were collected in a hallway near the 2012 renovation utility trench, an open office, a second open office near the fire riser, an additional open office, and a conference room, respectively. The selected indoor air sample locations provide adequate areal representation and different interior space types in the building. In addition to indoor air sampling, outdoor air samples 399HVAC1 (HVAC on) and 369-399OUT1 (HVAC off) were collected to represent outdoor conditions on each day of sampling. Sample locations are presented on Figure 5 and photographs taken during sampling activities are provided in Appendix B.

### *468 Ellis Street*

The indoor air samples were collected at 468 Ellis Street on 21 November 2012 (HVAC on) and 23 November 2012 (HVAC off). Indoor air samples 468AMB1, 468AMB2, 468AMB4, and 468AMB5 were collected in a classroom near the 2012 renovation utility trench, a conference room near the 2012 renovation utility trench, a dining area near the 2012 renovation utility trench and the fire riser, and a dining area near the 2012 renovation utility trench, respectively. A duplicate air sample was collected at location 468AMB1. The selected indoor air sample locations provide adequate areal representation and different interior space types in the building. In addition to indoor air sampling, outdoor air samples 468HVAC1 (HVAC on) and 468OUT1 (HVAC off) were collected to represent outdoor conditions on each day of sampling. Sample locations are presented on Figure 6 and photographs taken during sampling activities are provided in Appendix B.

As approved by EPA in its 19 November 2012 letter, previous sample location, 468AMB3 was not sampled in the November 2012 sampling event since, due to building renovation, it is now located in a food preparation area. Another sample was therefore collected (486AMB5) located near the former sample location 468AMB3, but away from the direct food preparation area.

## **4.2 Evaluation Criteria**

The results are compared to EPA's cleanup standards established in "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," ([ROD Amendment]; EPA, 2010) and to outdoor air conditions.

For a commercial scenario, the cleanup levels are based on a long-term exposure duration of 25 years, 250 days per year, and 10 hours per day. If workers are present in the building less often, potential risks would be lower. For example, if a worker works only 5 hours per day instead of 10 hours, the reduced exposure time provides a safety factor of 2 (estimated risks would be half as much). The same is also true if the exposure concentration, the exposure duration, or exposure frequency is less than the exposure assumptions used to determine the action levels (e.g., 5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) for TCE).

Outdoor samples are compared to the indoor samples to evaluate the impact of the outdoor air on the indoor air quality. According to EPA's ROD Amendment, outdoor concentrations of TCE are typically less than or equal to 0.4  $\mu\text{g}/\text{m}^3$ .

## 5. AIR SAMPLING RESULTS

The COC detections in the air samples collected during this sampling event are shown in Tables I through V; the concentrations of TCE detected at each sample location are depicted in Figures 2 through 6. A complete set of the analytical data obtained during this sampling event at each building is provided in Appendix C. Historical air sample results for all COCs are also included in the tables and historical TCE results are depicted in the figures for comparison purposes. Previous sample results were discussed in air sampling reports previously provided to EPA (Haley & Aldrich, 2009; Haley & Aldrich, 2010a; Haley & Aldrich, 2010b; Haley & Aldrich, 2010c; Haley & Aldrich, 2010d; Haley & Aldrich, 2010e; Haley & Aldrich, 2011a).

### 5.1 Quality Assurance/Quality Control

QA/QC activities complied with the requirements detailed in the Site-wide Work Plan, (Haley & Aldrich, 2011b) and sampling procedures followed the operating procedures presented in the “Responses to EPA's Comments on the Conditional Approval – Site-wide Indoor Air Sampling and Analysis Work Plan for Existing, Unsampled Commercial Buildings, Middlefield-Ellis-Whisman (MEW) Mountain View, and Moffett Field, California,” (Haley & Aldrich, 2011c). No deviations or discrepancies were identified for field techniques or sampling protocol. The laboratory followed media preparation procedures for the canisters and sample analysis.

The Site-wide Work Plan specifies that field duplicates should be collected at a rate of one in ten samples. Two field duplicates were collected during the 369 - 399 North Whisman Road and 468 Ellis Street sampling event at locations 369AMB5 and 468AMB1. Precision was evaluated by assessing the relative percent difference (RPD) between primary and field duplicate samples. RPD was calculated when a given analyte was detected above the laboratory reporting limit in both the primary sample and the field duplicate sample at a given location. Results were below the project data quality objective (DQO) of less than (<) 30 percent RPD.

All data reported were validated and no qualifications were recommended for any results. The Tier I Validation Quality Assurance/Quality Control Forms (Appendix D) and Data Usability Summary Reports (Appendix E) provide additional information regarding the QA/QC evaluation. Because all results were valid and samples were collected from all points identified, the 369 - 399 North Whisman Road and 468 Ellis Street sampling event achieved the DQO of 100 percent completeness.

### 5.2 Evaluation of Sampling Results

#### 5.2.1 369 North Whisman Road

##### *21 November 2012 Sampling Results (HVAC On)*

With the HVAC system on, TCE was detected in indoor air at concentrations ranging from 0.095  $\mu\text{g}/\text{m}^3$  (369AMB7) to 1.6  $\mu\text{g}/\text{m}^3$  (369AMB6), below EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.054  $\mu\text{g}/\text{m}^3$  (369AMB7) to 0.10  $\mu\text{g}/\text{m}^3$  (369AMB8), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . The outdoor air sample (369HVAC1) contained concentrations of 0.029  $\mu\text{g}/\text{m}^3$  and 0.042  $\mu\text{g}/\text{m}^3$  of TCE and PCE, respectively. No other chemicals of concern (COCs) were detected in indoor or outdoor air at or above the respective laboratory reporting limit with the HVAC system on.

### *23 November 2012 Sampling Results (HVAC Off)*

With the HVAC system off, TCE was detected in indoor air at concentrations ranging from 3.1  $\mu\text{g}/\text{m}^3$  (369AMB3) to 36  $\mu\text{g}/\text{m}^3$  (369AMB6); two sample locations (369AMB8 and 369AMB6) had TCE concentrations above EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.091  $\mu\text{g}/\text{m}^3$  (369AMB3) to 0.22  $\mu\text{g}/\text{m}^3$  (369AMB6), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . 1,1-DCE was detected in indoor air ranging in concentrations from 0.11  $\mu\text{g}/\text{m}^3$  (369AMB3) to 0.61  $\mu\text{g}/\text{m}^3$  (369AMB6), below EPA's cleanup level of 700  $\mu\text{g}/\text{m}^3$ . Cis-1,2-DCE was detected in one sample (369AMB6) at 0.17  $\mu\text{g}/\text{m}^3$ , below EPA's cleanup level of 210  $\mu\text{g}/\text{m}^3$ . The outdoor air sample (369-399OUT1) contained PCE at a concentration of 0.054  $\mu\text{g}/\text{m}^3$ . No other COCs were detected in indoor or outdoor air at or above the respective laboratory reporting limit with the HVAC system off.

### **5.2.2 379 North Whisman Road**

#### *21 November 2012 Sampling Results (HVAC On)*

With the HVAC system on, TCE was detected in indoor air at concentrations ranging from 0.64  $\mu\text{g}/\text{m}^3$  (379AMB4) to 7.8  $\mu\text{g}/\text{m}^3$  (379AMB6); only one sample (379AMB6) had a concentration of TCE above EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.072  $\mu\text{g}/\text{m}^3$  (379AMB2) to 0.11  $\mu\text{g}/\text{m}^3$  (379AMB1 and 379AMB6), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . The outdoor air sample (379HVAC1) contained TCE and PCE concentrations of 0.038  $\mu\text{g}/\text{m}^3$  and 0.034  $\mu\text{g}/\text{m}^3$ , respectively. No other COCs were detected in indoor or outdoor air with the HVAC system on at or above the respective laboratory reporting limit. One indoor air sample, 379AMB3, was not analyzed due to an equipment malfunction.

#### *23 November 2012 Sampling Results (HVAC Off)*

With the HVAC system off, TCE was detected in indoor air at concentrations ranging from 9.6  $\mu\text{g}/\text{m}^3$  (379AMB3) to 130  $\mu\text{g}/\text{m}^3$  (379AMB6); all samples had a concentration of TCE above EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.22  $\mu\text{g}/\text{m}^3$  (379AMB2) to 0.67  $\mu\text{g}/\text{m}^3$  (379AMB6), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . 1,1-DCE was detected in indoor air ranging in concentrations from 0.19  $\mu\text{g}/\text{m}^3$  (379AMB2) to 0.84  $\mu\text{g}/\text{m}^3$  (379AMB6), below EPA's cleanup level of 700  $\mu\text{g}/\text{m}^3$ . Cis-1,2-DCE was detected in one sample (379AMB6) at a concentration of 0.51  $\mu\text{g}/\text{m}^3$ , below EPA's cleanup level of 210  $\mu\text{g}/\text{m}^3$ . The outdoor air sample (369-399OUT1) contained PCE at a concentration of 0.054  $\mu\text{g}/\text{m}^3$ . No other COCs were detected in indoor or outdoor air at or above the respective laboratory reporting limit with the HVAC system off.

### **5.2.3 389 North Whisman Road**

#### *21 November 2012 Sampling Results (HVAC On)*

With the HVAC system on, no COCs were detected at levels above the EPA's cleanup levels. TCE was detected in indoor air at concentrations ranging from 0.10  $\mu\text{g}/\text{m}^3$  (389AMB1) to 0.26  $\mu\text{g}/\text{m}^3$  (389AMB6), below EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.072  $\mu\text{g}/\text{m}^3$  (389AMB2) to 0.10  $\mu\text{g}/\text{m}^3$  (389AMB6), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . No other COCs were detected in indoor or outdoor air with the HVAC system on at or above the respective laboratory reporting limit.

### *23 November 2012 Sampling Results (HVAC Off)*

With the HVAC system off no COCs were detected at levels above the EPA cleanup levels. TCE was detected in indoor air at concentrations ranging from 0.60  $\mu\text{g}/\text{m}^3$  (389AMB1) to 1.8  $\mu\text{g}/\text{m}^3$  (389AMB6), below EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.077  $\mu\text{g}/\text{m}^3$  (389AMB1) to 0.084  $\mu\text{g}/\text{m}^3$  (389AMB3), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . The outdoor air sample (369-399OUT1) contained PCE at a concentration of 0.054  $\mu\text{g}/\text{m}^3$ . No other COCs were detected in indoor or outdoor air at or above the respective laboratory reporting limit with the HVAC system off.

#### **5.2.4 399 North Whisman Road**

### *21 November 2012 Sampling Results (HVAC On)*

With the HVAC system on no COCs were detected at levels above the EPA cleanup levels. TCE was detected in indoor air at concentrations ranging from 0.039  $\mu\text{g}/\text{m}^3$  (399AMB1) to 0.061  $\mu\text{g}/\text{m}^3$  (399AMB4), below EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.073  $\mu\text{g}/\text{m}^3$  (399AMB3) to 0.10  $\mu\text{g}/\text{m}^3$  (399AMB2), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . The outdoor air sample (399HVAC1) was not analyzed due to an equipment malfunction. No other COCs were detected in indoor or outdoor air at or above the respective laboratory reporting limit with the HVAC system on.

### *23 November 2012 Sampling Results (HVAC Off)*

With the HVAC system off no COCs were detected at levels above the EPA cleanup levels. TCE was detected in indoor air at concentrations ranging from 0.21  $\mu\text{g}/\text{m}^3$  (399AMB2 and 399AMB5) to 0.82  $\mu\text{g}/\text{m}^3$  (399AMB3), below EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.080  $\mu\text{g}/\text{m}^3$  (399AMB2) to 0.094  $\mu\text{g}/\text{m}^3$  (399AMB3), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . Outdoor air on this day of sampling (369-399OUT1) contained PCE at a concentration of 0.054  $\mu\text{g}/\text{m}^3$ . No other COCs were detected in indoor or outdoor air at or above the respective laboratory reporting limit with the HVAC system off.

#### **5.2.5 468 Ellis Street**

### *21 November 2012 Sampling Results (HVAC On)*

With the HVAC system on no COCs were detected at levels above the EPA cleanup levels. TCE was detected in indoor air at concentrations ranging from 0.030  $\mu\text{g}/\text{m}^3$  (468AMB1) to 0.095  $\mu\text{g}/\text{m}^3$  (468AMB4), below EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.045  $\mu\text{g}/\text{m}^3$  (468AMB4 and 468DUP1, the duplicate sample collected at location 468AMB1) to 0.31  $\mu\text{g}/\text{m}^3$  (468AMB2), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . Outdoor air on this day of sampling (468HVAC1) contained TCE and PCE at concentrations of 0.029  $\mu\text{g}/\text{m}^3$  and 0.049  $\mu\text{g}/\text{m}^3$ , respectively. No other COCs were detected in indoor or outdoor air with the HVAC system on at or above the respective laboratory reporting limit.

### *23 November 2012 Sampling Results (HVAC Off)*

With the HVAC system off no COCs were detected at levels above the EPA cleanup levels. TCE was detected in indoor air at concentrations ranging from 0.11  $\mu\text{g}/\text{m}^3$  (468AMB1) to 0.38  $\mu\text{g}/\text{m}^3$

(468AMB4), below EPA's cleanup level of 5  $\mu\text{g}/\text{m}^3$ . PCE was detected in indoor air at concentrations ranging from 0.063  $\mu\text{g}/\text{m}^3$  (468AMB4) to 0.076  $\mu\text{g}/\text{m}^3$  (468AMB2), below EPA's cleanup level of 2  $\mu\text{g}/\text{m}^3$ . Outdoor air on this day of sampling (468OUT1) contained TCE and PCE at concentrations of 0.038  $\mu\text{g}/\text{m}^3$  and 0.053  $\mu\text{g}/\text{m}^3$ , respectively. No other COCs were detected in indoor or outdoor air at or above the respective laboratory reporting limit with the HVAC system off.

## 6. RECOMMENDATIONS AND NEXT STEPS

For buildings 389 and 399 North Whisman Road and 468 Ellis Street, all concentrations are below the indoor air cleanup levels established in the ROD Amendment. Thus, no other action is recommended at this time.

Per the ROD Amendment, EPA requires that each building be assigned a response action tier. This will be performed for these three buildings in accordance with the EPA-approved "Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering," submitted to EPA on 29 September 2011.

Due to the elevated levels of TCE detected in indoor air in buildings 369 and 379 North Whisman Road during this sampling event, additional sampling has been conducted. Recommendations and a description of subsequent sampling are being provided by Geosyntec in a separate report.

G:\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_02\_Building-specific\_Indoor\_Air\_Sampling\_Report\2013\_0208\_HAI\_369-399\_Whisman\_468\_Ellis\_Report\_vF.doc

## REFERENCES

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## **TABLES**

TABLE I  
 AIR SAMPLING RESULTS  
 369 NORTH WHISMAN ROAD  
 MOUNTAIN VIEW, CALIFORNIA

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC On)</b>														
Fairchild	369 N. Whisman Rd.	369AMB1	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	369 N. Whisman Rd.	369AMB1	05/13/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	369 N. Whisman Rd.	369AMB1	10/02/2003	On	Indoor	10	Primary	<0.14	<0.069	0.19	0.75	<0.69	0.53	0.12
Fairchild	369 N. Whisman Rd.	369AMB1	10/07/2003	On	Indoor	10	Primary	<0.14	<0.068	0.58	2.2	<0.68	1.6	<0.044
Fairchild	369 N. Whisman Rd.	369AMB1	06/30/2010	On	Indoor	10	Primary	<0.020	0.089	0.014 J	0.071 J	<0.055	3.0	<0.013
Fairchild	369 N. Whisman Rd.	369AMB1*	06/30/2010	On	Indoor	10	Primary	<0.020	0.086	0.013 J	0.074 J	<0.055	2.7	<0.013
Fairchild	369 N. Whisman Rd.	369AMB2	05/06/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	0.33	<0.64	<0.17	<0.041
Fairchild	369 N. Whisman Rd.	369AMB2	05/13/2003	On	Indoor	10	Primary	0.88	<0.068	<0.14	0.30	<0.68	<0.18	<0.044
Fairchild	369 N. Whisman Rd.	369AMB2	10/02/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.31	<0.69	0.33	<0.044
Fairchild	369 N. Whisman Rd.	369AMB2	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.44	<0.69	0.28	<0.044
Fairchild	369 N. Whisman Rd.	369AMB2	06/30/2010	On	Indoor	10	Primary	<0.020	0.087	0.016 J	0.079 J	<0.055	2.8	<0.013
Fairchild	369 N. Whisman Rd.	369AMB3	05/06/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	369 N. Whisman Rd.	369AMB3	05/13/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	369 N. Whisman Rd.	369AMB3	10/02/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.40	<0.69	0.41	<0.044
Fairchild	369 N. Whisman Rd.	369AMB3	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.45	<0.69	0.33	<0.044
Fairchild	369 N. Whisman Rd.	369AMB3*	10/07/2003	On	Indoor	10	Duplicate	<0.14	<0.069	<0.14	0.49	<0.69	0.34	<0.044
Fairchild	369 N. Whisman Rd.	369AMB3	06/30/2010	On	Indoor	10	Primary	<0.020	0.066	0.011 J	0.062 J	<0.056	2.2	0.0070 J
Fairchild	369 N. Whisman Rd.	369AMB3	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.074	<0.65	0.14	<0.042
Fairchild	369 N. Whisman Rd.	369AMB4	05/06/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	0.17 J	<0.041
Fairchild	369 N. Whisman Rd.	369AMB4	05/13/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	0.26	<0.68	<0.18	<0.044
Fairchild	369 N. Whisman Rd.	369AMB4	10/02/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	0.67	<0.044
Fairchild	369 N. Whisman Rd.	369AMB4	10/07/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	0.46	<0.68	0.32	<0.044
Fairchild	369 N. Whisman Rd.	369AMB4	06/30/2010	On	Indoor	10	Primary	<0.020	0.054	0.011 J	0.060 J	<0.055	1.9	0.0069 J
Fairchild	369 N. Whisman Rd.	369AMB5	06/30/2010	On	Indoor	10	Primary	<0.020	0.078	0.015 J	0.065 J	<0.055	2.7	0.0097 J
Fairchild	369 N. Whisman Rd.	369AMB5*	06/30/2010	On	Indoor	10	Duplicate	<0.020	0.089	0.017 J	0.078 J	<0.055	3.2	0.0053 J
Fairchild	369 N. Whisman Rd.	369AMB5	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.081	<0.65	1.4	<0.042
Fairchild	369 N. Whisman Rd.	369AMB5*	11/21/2012	On	Indoor	8	Duplicate	<0.12	<0.061	<0.12	0.078	<0.61	1.5	<0.040
Fairchild	369 N. Whisman Rd.	369AMB6	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.079	<0.67	1.6	<0.043
Fairchild	369 N. Whisman Rd.	369AMB7	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.054	<0.67	0.095	<0.043
Fairchild	369 N. Whisman Rd.	369AMB8	11/21/2012	On	Indoor	8	Primary	<0.13	<0.064	<0.13	0.10	<0.64	1.4	<0.041
Fairchild	369 N. Whisman Rd.	369HVAC1	05/06/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	369 N. Whisman Rd.	369HVAC1	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	369 N. Whisman Rd.	369HVAC1	06/29/2010	On	Outdoor	24	Primary	<0.020	<0.020	<0.055	0.042 J	<0.055	0.16	0.043
Fairchild	369 N. Whisman Rd.	369HVAC1	11/21/2012	On	Outdoor	8	Primary	<0.13	<0.065	<0.13	0.042	<0.65	0.029	<0.042
Fairchild	369 N. Whisman Rd.	369HVAC2	05/06/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	369 N. Whisman Rd.	369HVAC2	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	0.23 J	<0.69	<0.19	<0.044

**TABLE I**  
**AIR SAMPLING RESULTS**  
 369 NORTH WHISMAN ROAD  
 MOUNTAIN VIEW, CALIFORNIA

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC On)</b>														
Fairchild	369 N. Whisman Rd.	369PATH1	05/06/2003	On	Pathway	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	369 N. Whisman Rd.	369PATH1*	05/06/2003	On	Pathway	10	Duplicate	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	369 N. Whisman Rd.	369PATH1	05/13/2003	On	Pathway	10	Primary	<0.14	<0.069	<0.14	0.23 J	<0.69	<0.19	<0.044
Fairchild	369 N. Whisman Rd.	369PATH2	06/30/2010	On	Pathway	10	Primary	<0.020	0.064	0.0099 J	0.068 J	<0.055	2.0	<0.013
<b>Air Sampling Results (HVAC Off)</b>														
Fairchild	369 N. Whisman Rd.	369AMB1	03/14/2010	Off	Indoor	10	Primary	<0.020	0.21	0.013 J	0.084 J	<0.056	4.3	<0.013
Fairchild	369 N. Whisman Rd.	369AMB1*	03/14/2010	Off	Indoor	10	Duplicate	<0.020	0.20	0.015 J	0.087 J	<0.056	4.5	<0.013
Fairchild	369 N. Whisman Rd.	369AMB2	03/14/2010	Off	Indoor	10	Primary	<0.020	0.094	<0.056	0.083 J	<0.056	1.9	<0.013
Fairchild	369 N. Whisman Rd.	369AMB3	03/14/2010	Off	Indoor	10	Primary	<0.020	0.15	0.011 J	0.093 J	<0.056	3.4	0.0060 J
Fairchild	369 N. Whisman Rd.	369AMB3	11/23/2012	Off	Indoor	8	Primary	<0.13	0.11	<0.13	0.091	<0.65	3.1	<0.042
Fairchild	369 N. Whisman Rd.	369AMB4	03/14/2010	Off	Indoor	10	Primary	<0.020	0.11	<0.056	0.077 J	<0.056	2.3	<0.013
Fairchild	369 N. Whisman Rd.	369AMB5	03/14/2010	Off	Indoor	10	Primary	<0.020	0.10	0.012 J	0.11 J	<0.056	2.4	<0.013
Fairchild	369 N. Whisman Rd.	369AMB5	11/23/2012	Off	Indoor	8	Primary	<0.13	0.32	<0.13	0.16	<0.65	13	<0.042
Fairchild	369 N. Whisman Rd.	369AMB5*	11/23/2012	Off	Indoor	8	Duplicate	<0.13	0.31	<0.13	0.12	<0.64	12	<0.041
Fairchild	369 N. Whisman Rd.	369AMB6	11/23/2012	Off	Indoor	8	Primary	<0.14	0.61	0.17	0.22	<0.68	36	<0.044
Fairchild	369 N. Whisman Rd.	369AMB7	11/23/2012	Off	Indoor	8	Primary	<0.13	0.12	<0.13	0.098	<0.65	3.3	<0.042
Fairchild	369 N. Whisman Rd.	369AMB8	11/23/2012	Off	Indoor	8	Primary	<0.14	0.28	<0.13	0.097	<0.67	6.2	<0.043
Fairchild	369 N. Whisman Rd.	369OUT1	03/13/2010	Off	Outdoor	24	Primary	<0.020	<0.020	<0.056	0.068 J	<0.056	0.071	<0.013
Fairchild	369 N. Whisman Rd.	369-399OUT1	11/23/2012	Off	Outdoor	8	Primary	<0.13	<0.064	<0.13	0.054	<0.64	<0.026	<0.041
Fairchild	369 N. Whisman Rd.	369PATH2	03/14/2010	Off	Pathway	10	Primary	<0.020	0.11	0.010 J	0.083 J	<0.056	2.2	<0.013
<b>Long-Term Cleanup Level</b>														
Commercial								6	700	210	2	210	5	2

**Notes:**

All units are micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

\* - denotes duplicate co-located sample

J - estimated result

<0.020 - denotes result was below respective reporting limit

**TABLE II**  
**AIR SAMPLING RESULTS**  
**379 NORTH WHISMAN ROAD**  
**MOUNTAIN VIEW, CALIFORNIA**

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC On)</b>														
Fairchild	379 N. Whisman Rd.	379AMB1	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.61	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB1	05/13/2003	On	Indoor	10	Primary	<0.13	<0.066	<0.13	0.24	<0.66	<0.18	<0.043
Fairchild	379 N. Whisman Rd.	379AMB1	10/02/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	379 N. Whisman Rd.	379AMB1	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.72	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB1	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.027 J	0.15	<0.055	0.59	<0.013
Fairchild	379 N. Whisman Rd.	379AMB1	11/21/2012	On	Indoor	8	Primary	<0.14	<0.068	<0.14	0.11	<0.68	1.3	<0.044
Fairchild	379 N. Whisman Rd.	379AMB2	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB2	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB2	10/02/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
Fairchild	379 N. Whisman Rd.	379AMB2	10/07/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	0.69	<0.70	0.19 J	<0.045
Fairchild	379 N. Whisman Rd.	379AMB2	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.026 J	0.11 J	<0.055	0.48	<0.013
Fairchild	379 N. Whisman Rd.	379AMB2	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.072	<0.67	1.4	<0.043
Fairchild	379 N. Whisman Rd.	379AMB3	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB3*	05/13/2003	On	Indoor	10	Duplicate	<0.13	<0.066	<0.13	0.26	<0.66	<0.18	<0.043
Fairchild	379 N. Whisman Rd.	379AMB3	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB3	10/02/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	379 N. Whisman Rd.	379AMB3	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.61	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB3	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.016 J	0.12 J	<0.055	0.71	<0.013
Fairchild	379 N. Whisman Rd.	379AMB4	05/06/2003	On	Indoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
Fairchild	379 N. Whisman Rd.	379AMB4	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379AMB4	10/02/2003	On	Indoor	10	Primary	<0.15	<0.072	<0.14	<0.25	<0.72	<0.20	<0.046
Fairchild	379 N. Whisman Rd.	379AMB4	10/07/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	0.59	<0.70	<0.19	<0.045
Fairchild	379 N. Whisman Rd.	379AMB4	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.016 J	0.10 J	<0.056	0.65	<0.013
Fairchild	379 N. Whisman Rd.	379AMB4	11/21/2012	On	Indoor	8	Primary	<0.14	<0.068	<0.14	0.097	<0.68	0.64	<0.044
Fairchild	379 N. Whisman Rd.	379AMB5	09/09/2010	On	Indoor	10	Primary	<0.020	<0.020	0.019 J	0.075 J	<0.055	0.53	<0.013
Fairchild	379 N. Whisman Rd.	379AMB6	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.11	<0.65	7.8	<0.042
Fairchild	379 N. Whisman Rd.	379OUT1	09/08/2010	On	Outdoor	24	Primary	<0.020	<0.020	0.015 J	0.062 J	<0.055	0.077	<0.013
Fairchild	379 N. Whisman Rd.	379HVAC1	05/06/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379HVAC1	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	379 N. Whisman Rd.	379HVAC1	11/21/2012	On	Outdoor	8	Primary	<0.14	<0.067	<0.13	0.034	<0.67	0.038	<0.043
Fairchild	379 N. Whisman Rd.	379HVAC2	05/06/2003	On	Outdoor	10	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
Fairchild	379 N. Whisman Rd.	379HVAC2	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	379 N. Whisman Rd.	379HVAC2	10/02/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379HVAC2	10/07/2003	On	Outdoor	10	Primary	<0.14	<0.070	<0.14	0.64	<0.70	<0.19	<0.045
Fairchild	379 N. Whisman Rd.	379HVAC2*	10/07/2003	On	Outdoor	10	Duplicate	<0.14	<0.069	<0.14	0.72	<0.69	<0.19	<0.044

TABLE II  
AIR SAMPLING RESULTS  
379 NORTH WHISMAN ROAD  
MOUNTAIN VIEW, CALIFORNIA

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC On)</b>														
Fairchild	379 N. Whisman Rd.	379PATH1	05/06/2003	On	Pathway	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	379 N. Whisman Rd.	379PATH1	05/13/2003	On	Pathway	10	Primary	<0.13	<0.062	<0.12	0.26	<0.62	<0.17	<0.040
<b>Air Sampling Results (HVAC Off)</b>														
Fairchild	379 N. Whisman Rd.	379AMB1	07/23/2010	Off	Indoor	10	Primary	0.045	0.054	0.038 J	0.36	<0.055	9.5	<0.013
Fairchild	379 N. Whisman Rd.	379AMB1	09/11/2010	Off	Indoor	10	Primary	0.018 J	0.011 J	0.056	0.16	<0.055	3.1	<0.013
Fairchild	379 N. Whisman Rd.	379AMB1	01/28/2011	Off	Indoor	10	Primary	0.019 J	0.020	0.029 J	0.26	<0.055	4.1	<0.013
Fairchild	379 N. Whisman Rd.	379AMB1	11/23/2012	Off	Indoor	8	Primary	<0.13	0.24	<0.13	0.25	<0.64	23	<0.041
Fairchild	379 N. Whisman Rd.	379AMB2	07/23/2010	Off	Indoor	10	Primary	0.039	0.045	0.032 J	0.33	<0.055	7.6	<0.013
Fairchild	379 N. Whisman Rd.	379AMB2	09/11/2010	Off	Indoor	10	Primary	0.021	0.017 J	0.053 J	0.19	<0.055	3.6	<0.013
Fairchild	379 N. Whisman Rd.	379AMB2	01/28/2011	Off	Indoor	10	Primary	<0.020	<0.020	<0.055	0.25	<0.055	2.9	<0.013
Fairchild	379 N. Whisman Rd.	379AMB2	11/23/2012	Off	Indoor	8	Primary	<0.14	0.19	<0.13	0.22	<0.67	14	<0.043
Fairchild	379 N. Whisman Rd.	379AMB3	07/23/2010	Off	Indoor	10	Primary	<0.020	0.039	0.020 J	0.38	<0.055	4.6	0.0056 J
Fairchild	379 N. Whisman Rd.	379AMB3	09/11/2010	Off	Indoor	10	Primary	0.015 J	0.015 J	0.042 J	0.22	<0.055	2.9	<0.013
Fairchild	379 N. Whisman Rd.	379AMB3	01/28/2011	Off	Indoor	10	Primary	0.012 J	0.023	0.017 J	0.22	<0.055	1.8	0.0060 J
Fairchild	379 N. Whisman Rd.	379AMB3	11/23/2012	Off	Indoor	8	Primary	<0.13	0.27	<0.12	0.30	<0.63	9.6	<0.040
Fairchild	379 N. Whisman Rd.	379AMB4	07/23/2010	Off	Indoor	10	Primary	0.038	0.068	0.032 J	0.53	<0.055	7.5	0.0072 J
Fairchild	379 N. Whisman Rd.	379AMB4	09/11/2010	Off	Indoor	10	Primary	<0.020	<0.020	0.011 J	0.21	<0.055	0.67	<0.013
Fairchild	379 N. Whisman Rd.	379AMB4	01/28/2011	Off	Indoor	10	Primary	0.017 J	0.042	<0.055	0.20	<0.055	2.3	<0.013
Fairchild	379 N. Whisman Rd.	379AMB4	11/23/2012	Off	Indoor	8	Primary	<0.14	0.26	<0.14	0.29	<0.69	12	<0.045
Fairchild	379 N. Whisman Rd.	379AMB5	07/23/2010	Off	Indoor	10	Primary	0.039	0.044	0.034 J	0.35	<0.055	9.2	0.0091 J
Fairchild	379 N. Whisman Rd.	379AMB5	09/11/2010	Off	Indoor	10	Primary	0.024	0.017 J	0.058	0.18	<0.055	3.8	<0.013
Fairchild	379 N. Whisman Rd.	379AMB5	01/28/2011	Off	Indoor	10	Primary	<0.020	0.029	0.018 J	0.30	<0.055	3.9	0.0063 J
Fairchild	379 N. Whisman Rd.	379AMB6	11/23/2012	Off	Indoor	8	Primary	<0.11	0.84	0.51	0.67	<0.54	130	<0.035
Fairchild	379 N. Whisman Rd.	379OUT1	07/22/2010	Off	Outdoor	24	Primary	<0.020	<0.020	0.011 J	0.054 J	<0.055	0.046	<0.013
Fairchild	379 N. Whisman Rd.	379OUT1	09/11/2010	Off	Outdoor	24	Primary	<0.020	<0.020	0.019 J	0.071 J	<0.055	0.29	<0.013
Fairchild	379 N. Whisman Rd.	379OUT1	01/28/2011	Off	Outdoor	24	Primary	<0.020	<0.020	<0.055	0.12 J	<0.055	0.028	<0.013
Fairchild	389 N. Whisman Rd.	369-399OUT1	11/23/2012	Off	Outdoor	8	Primary	<0.13	<0.064	<0.13	0.054	<0.64	<0.026	<0.041
<b>Long-Term Cleanup Level</b>														
Commercial								6	700	210	2	210	5	2

**Notes:**

All units are micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

\* - denotes duplicate co-located sample

J - estimated result

<0.020 - denotes result was below respective reporting limit

**TABLE III**  
**AIR SAMPLING RESULTS**  
**389 NORTH WHISMAN ROAD**  
**MOUNTAIN VIEW, CALIFORNIA**

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC On)</b>														
Fairchild	389 N. Whisman Rd.	389AMB1	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	389 N. Whisman Rd.	389AMB1	05/13/2003	On	Indoor	10	Primary	<0.13	<0.066	<0.13	<0.23	<0.66	<0.18	<0.043
Fairchild	389 N. Whisman Rd.	389AMB1	10/02/2003	On	Indoor	10	Primary	<0.15	<0.074	<0.15	<0.25	<0.74	<0.20	<0.048
Fairchild	389 N. Whisman Rd.	389AMB1	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.39	<0.69	<0.19	<0.044
Fairchild	389 N. Whisman Rd.	389AMB1	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.074	<0.65	0.10	<0.042
Fairchild	389 N. Whisman Rd.	389AMB2	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	389 N. Whisman Rd.	389AMB2	05/13/2003	On	Indoor	10	Primary	<0.13	<0.066	<0.13	<0.23	<0.66	<0.18	<0.043
Fairchild	389 N. Whisman Rd.	389AMB2	10/02/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389AMB2	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	0.73	7.9	<0.69	2.1	<0.044
Fairchild	389 N. Whisman Rd.	389AMB2	11/21/2012	On	Indoor	8	Primary	<0.13	<0.063	<0.12	0.072	<0.63	0.11	<0.040
Fairchild	389 N. Whisman Rd.	389AMB3	05/06/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389AMB3	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	389 N. Whisman Rd.	389AMB3	10/02/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389AMB3*	10/02/2003	On	Indoor	10	Duplicate	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389AMB3	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.41	<0.69	<0.19	<0.044
Fairchild	389 N. Whisman Rd.	389AMB3	11/21/2012	On	Indoor	8	Primary	<0.13	<0.064	<0.13	0.097	<0.64	0.18	<0.041
Fairchild	389 N. Whisman Rd.	389AMB4	05/06/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389AMB4	05/13/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389AMB4	10/02/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389AMB4	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.50	<0.69	<0.19	<0.044
Fairchild	389 N. Whisman Rd.	389AMB4	11/21/2012	On	Indoor	8	Primary	<0.13	<0.064	<0.13	0.086	<0.64	0.15	<0.041
Fairchild	389 N. Whisman Rd.	389AMB6	11/21/2012	On	Indoor	8	Primary	<0.13	<0.064	<0.13	0.10	<0.64	0.26	<0.041
Fairchild	389 N. Whisman Rd.	389HVAC1	05/06/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389HVAC1*	05/06/2003	On	Outdoor	10	Duplicate	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	389 N. Whisman Rd.	389HVAC1	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	389 N. Whisman Rd.	389HVAC1	11/21/2012	On	Outdoor	8	Primary	<0.13	<0.065	<0.13	<0.033	<0.65	<0.026	<0.042
Fairchild	389 N. Whisman Rd.	389HVAC2	05/06/2003	On	Outdoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
Fairchild	389 N. Whisman Rd.	389HVAC2	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	389 N. Whisman Rd.	389PATH1	05/06/2003	On	Pathway	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
Fairchild	389 N. Whisman Rd.	389PATH1	05/13/2003	On	Pathway	10	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042

**TABLE III**  
**AIR SAMPLING RESULTS**  
 389 NORTH WHISMAN ROAD  
 MOUNTAIN VIEW, CALIFORNIA

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC Off)</b>														
Fairchild	389 N. Whisman Rd.	389AMB1	07/02/2010	Off	Indoor	10	Primary	<0.020	<0.020	0.014 J	0.41	<0.055	1.1	0.016
Fairchild	389 N. Whisman Rd.	389AMB1	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.077	<0.64	0.60	<0.041
Fairchild	389 N. Whisman Rd.	389AMB2	07/02/2010	Off	Indoor	10	Primary	<0.020	<0.020	0.016 J	0.47	<0.055	1.2	0.014
Fairchild	389 N. Whisman Rd.	389AMB2*	07/02/2010	Off	Indoor	10	Duplicate	<0.020	<0.020	0.014 J	0.41	<0.056	0.94	0.0060 J
Fairchild	389 N. Whisman Rd.	389AMB2	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.082	<0.64	0.87	<0.041
Fairchild	389 N. Whisman Rd.	389AMB3	07/02/2010	Off	Indoor	10	Primary	<0.020	<0.020	0.025 J	0.29	<0.055	2.3	0.015
Fairchild	389 N. Whisman Rd.	389AMB3	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.084	<0.64	1.1	<0.041
Fairchild	389 N. Whisman Rd.	389AMB4	07/02/2010	Off	Indoor	10	Primary	<0.020	<0.020	0.023 J	0.26	<0.055	2.3	0.0063 J
Fairchild	389 N. Whisman Rd.	389AMB4	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.083	<0.64	1.2	<0.041
Fairchild	389 N. Whisman Rd.	389AMB5	07/02/2010	Off	Indoor	10	Primary	<0.020	<0.020	0.021 J	0.27	<0.055	2.4	0.016
Fairchild	389 N. Whisman Rd.	389AMB6	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.079	<0.64	1.8	<0.041
Fairchild	389 N. Whisman Rd.	389OUT1	07/01/2010	Off	Outdoor	24	Primary	<0.020	<0.020	<0.055	0.041 J	<0.055	0.037	0.0061 J
Fairchild	389 N. Whisman Rd.	369-399OUT1	11/23/2012	Off	Outdoor	8	Primary	<0.13	<0.064	<0.13	0.054	<0.64	<0.026	<0.041
<b>Long-Term Cleanup Level</b>														
Commercial								6	700	210	2	210	5	2

**Notes:**  
 All units are micrograms per cubic meter (µg/m<sup>3</sup>).  
 \* - denotes duplicate co-located sample  
 J - estimated result  
 <0.020 - denotes result was below respective reporting limit

TABLE IV  
AIR SAMPLING RESULTS  
399 NORTH WHISMAN ROAD  
MOUNTAIN VIEW, CALIFORNIA

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC On)</b>														
Fairchild	399 N. Whisman Rd.	399AMB1	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	399 N. Whisman Rd.	399AMB1	05/13/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
Fairchild	399 N. Whisman Rd.	399AMB1	10/02/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
Fairchild	399 N. Whisman Rd.	399AMB1	10/07/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	0.44	<0.68	<0.18	<0.044
Fairchild	399 N. Whisman Rd.	399AMB1	06/23/2010	On	Indoor	10	Primary	<0.02	<0.020	<0.056	0.074 J	<0.056	0.02 J	<0.013
Fairchild	399 N. Whisman Rd.	399AMB1	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.074	<0.67	0.039	<0.043
Fairchild	399 N. Whisman Rd.	399AMB2	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	399 N. Whisman Rd.	399AMB2	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	399 N. Whisman Rd.	399AMB2	10/02/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	399 N. Whisman Rd.	399AMB2	10/07/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	0.43	<0.68	<0.18	<0.044
Fairchild	399 N. Whisman Rd.	399AMB2	06/23/2010	On	Indoor	10	Primary	<0.020	<0.020	<0.055	0.071 J	<0.055	0.023 J	<0.013
Fairchild	399 N. Whisman Rd.	399AMB2	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.10	<0.67	0.045	<0.043
Fairchild	399 N. Whisman Rd.	399AMB3	05/06/2003	On	Indoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
Fairchild	399 N. Whisman Rd.	399AMB3	05/13/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	399 N. Whisman Rd.	399AMB3	10/02/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	399 N. Whisman Rd.	399AMB3*	10/02/2003	On	Indoor	10	Duplicate	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	399 N. Whisman Rd.	399AMB3	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.53	<0.69	<0.19	<0.044
Fairchild	399 N. Whisman Rd.	399AMB3	06/23/2010	On	Indoor	10	Primary	<0.020	<0.020	<0.055	0.089 J	<0.055	<0.027	<0.013
Fairchild	399 N. Whisman Rd.	399AMB3	11/21/2012	On	Indoor	8	Primary	<0.16	<0.078	<0.16	0.073	<0.78	0.048	<0.050
Fairchild	399 N. Whisman Rd.	399AMB4	05/06/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	8.9	<0.68	<0.18	<0.044
Fairchild	399 N. Whisman Rd.	399AMB4	05/13/2003	On	Indoor	10	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
Fairchild	399 N. Whisman Rd.	399AMB4	10/02/2003	On	Indoor	10	Primary	<0.13	<0.066	<0.13	<0.23	<0.66	<0.18	<0.043
Fairchild	399 N. Whisman Rd.	399AMB4	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.51	<0.69	<0.19	<0.044
Fairchild	399 N. Whisman Rd.	399AMB4	06/23/2010	On	Indoor	10	Primary	<0.020	<0.020	<0.055	0.12 J	<0.055	0.029	<0.013
Fairchild	399 N. Whisman Rd.	399AMB4*	06/23/2010	On	Indoor	10	Duplicate	<0.020	<0.020	<0.055	0.12 J	<0.055	0.028	<0.013
Fairchild	399 N. Whisman Rd.	399AMB4	11/21/2012	On	Indoor	8	Primary	<0.14	<0.068	<0.14	0.082	<0.68	0.061	<0.044
Fairchild	399 N. Whisman Rd.	399AMB5	06/23/2010	On	Indoor	10	Primary	<0.020	<0.020	<0.055	0.074 J	<0.055	0.026 J	0.0067 J
Fairchild	399 N. Whisman Rd.	399AMB5	11/21/2012	On	Indoor	8	Primary	<0.14	<0.067	<0.13	0.092	<0.67	0.045	<0.043
Fairchild	399 N. Whisman Rd.	399HVAC1	05/06/2003	On	Outdoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
Fairchild	399 N. Whisman Rd.	399HVAC1	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	399 N. Whisman Rd.	399HVAC2	05/06/2003	On	Outdoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	399 N. Whisman Rd.	399HVAC2	05/13/2003	On	Outdoor	10	Primary	<0.13	<0.065	<0.13	0.29	<0.65	<0.18	<0.042
Fairchild	399 N. Whisman Rd.	399HVAC2	10/02/2003	On	Outdoor	10	Primary	<0.15	<0.074	<0.15	<0.25	<0.74	<0.20	<0.048
Fairchild	399 N. Whisman Rd.	399HVAC2	10/07/2003	On	Outdoor	10	Primary	<0.15	<0.072	<0.14	0.54	<0.72	<0.20	<0.046
Fairchild	399 N. Whisman Rd.	399HVAC2	06/22/2010	On	Outdoor	24	Primary	<0.020	<0.020	<0.055	0.040 J	<0.055	0.013 J	0.0082 J
Fairchild	399 N. Whisman Rd.	399PATH1	05/06/2003	On	Pathway	10	Primary	<0.12	<0.060	<0.12	<0.20	<0.60	<0.16	<0.039
Fairchild	399 N. Whisman Rd.	399PATH1	05/13/2003	On	Pathway	10	Primary	<0.13	<0.066	<0.13	0.24	<0.66	<0.18	<0.043
Fairchild	399 N. Whisman Rd.	399PATH1*	05/13/2003	On	Pathway	10	Duplicate	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044

**TABLE IV**  
**AIR SAMPLING RESULTS**  
 399 NORTH WHISMAN ROAD  
 MOUNTAIN VIEW, CALIFORNIA

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC Off)</b>														
Fairchild	399 N. Whisman Rd.	399AMB1	02/21/2010	Off	Indoor	10	Primary	<0.032	<0.040	<0.056	0.055 J	<0.056	0.051	<0.018
Fairchild	399 N. Whisman Rd.	399AMB1	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.085	<0.64	0.32	<0.041
Fairchild	399 N. Whisman Rd.	399AMB2	02/21/2010	Off	Indoor	10	Primary	<0.032	<0.040	<0.055	0.063 J	<0.055	0.054	<0.018
Fairchild	399 N. Whisman Rd.	399AMB2	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.080	<0.64	0.21	<0.041
Fairchild	399 N. Whisman Rd.	399AMB3	02/21/2010	Off	Indoor	10	Primary	<0.032	<0.040	<0.055	0.049 J	<0.055	0.061	<0.018
Fairchild	399 N. Whisman Rd.	399AMB3	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.064	<0.13	0.094	<0.64	0.82	<0.041
Fairchild	399 N. Whisman Rd.	399AMB4	02/21/2010	Off	Indoor	10	Primary	<0.032	<0.040	<0.055	0.064 J	<0.055	0.11	<0.018
Fairchild	399 N. Whisman Rd.	399AMB4*	02/21/2010	Off	Indoor	10	Duplicate	<0.032	<0.040	<0.055	0.063 J	<0.055	0.094	<0.018
Fairchild	399 N. Whisman Rd.	399AMB4	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.065	<0.13	0.084	<0.65	0.23	<0.042
Fairchild	399 N. Whisman Rd.	399AMB5	02/21/2010	Off	Indoor	10	Primary	<0.032	<0.040	<0.056	0.056 J	<0.056	0.051	<0.018
Fairchild	399 N. Whisman Rd.	399AMB5	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.065	<0.13	0.082	<0.65	0.21	<0.042
Fairchild	399 N. Whisman Rd.	399OUT1	02/20/2010	Off	Outdoor	24	Primary	<0.032	<0.040	<0.055	0.039 J	<0.055	0.045	<0.018
Fairchild	389 N. Whisman Rd.	369-399OUT1	11/23/2012	Off	Outdoor	8	Primary	<0.13	<0.064	<0.13	0.054	<0.64	<0.026	<0.041
<b>Long-Term Cleanup Level</b>														
Commercial								6	700	210	2	210	5	2

**Notes:**

All units are micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

\* - denotes duplicate co-located sample

J - estimated result

<0.020 - denotes result was below respective reporting limit

TABLE V  
AIR SAMPLING RESULTS  
468 ELLIS STREET  
MOUNTAIN VIEW, CALIFORNIA

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC On)</b>														
Fairchild	468 Ellis St.	468AMB1	05/06/2003	On	Indoor	10	Primary	<0.13	<0.062	<0.12	0.31	<0.62	0.22	<0.040
Fairchild	468 Ellis St.	468AMB1	05/13/2003	On	Indoor	10	Primary	<0.13	<0.066	<0.13	<0.23	<0.66	<0.18	<0.043
Fairchild	468 Ellis St.	468AMB1	10/02/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	468 Ellis St.	468AMB1	10/07/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	0.59	<0.70	<0.19	<0.045
Fairchild	468 Ellis St.	468AMB1	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.050	<0.65	0.030	<0.042
Fairchild	468 Ellis St.	468AMB1*	11/21/2012	On	Indoor	8	Duplicate	<0.14	<0.067	<0.13	0.045	<0.67	0.031	<0.043
Fairchild	468 Ellis St.	468AMB2	05/06/2003	On	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
Fairchild	468 Ellis St.	468AMB2	05/13/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	468 Ellis St.	468AMB2	10/02/2003	On	Indoor	10	Primary	<0.14	<0.070 J	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	468 Ellis St.	468AMB2	10/07/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	0.59	<0.69	<0.19	<0.044
Fairchild	468 Ellis St.	468AMB2	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.31	<0.65	0.064	<0.042
Fairchild	468 Ellis St.	468AMB3	05/06/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	468 Ellis St.	468AMB3	05/13/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	468 Ellis St.	468AMB3*	05/13/2003	On	Indoor	10	Duplicate	<0.12	<0.061	<0.12	1.7	<0.61	<0.17	<0.039
Fairchild	468 Ellis St.	468AMB3	10/02/2003	On	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	468 Ellis St.	468AMB3	10/07/2003	On	Indoor	10	Primary	<0.13	<0.066	<0.13	0.70	<0.66	<0.18	<0.043
Fairchild	468 Ellis St.	468AMB4	05/06/2003	On	Indoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	468 Ellis St.	468AMB4	05/13/2003	On	Indoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
Fairchild	468 Ellis St.	468AMB4	10/02/2003	On	Indoor	10	Primary	<0.14	<0.069 J	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	468 Ellis St.	468AMB4	10/07/2003	On	Indoor	10	Primary	<0.14	<0.068	<0.14	0.67	<0.68	<0.18	<0.044
Fairchild	468 Ellis St.	468AMB4	11/21/2012	On	Indoor	8	Primary	<0.13	<0.065	<0.13	0.045	<0.65	0.095	<0.042
Fairchild	468 Ellis St.	468AMB5	11/21/2012	On	Indoor	8	Primary	<0.12	<0.061	<0.12	0.052	<0.61	0.069	<0.040
Fairchild	468 Ellis St.	468HVAC1	05/06/2003	On	Outdoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	468 Ellis St.	468HVAC1	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.070	<0.14	<0.24	<0.70	<0.19	<0.045
Fairchild	468 Ellis St.	468HVAC1	11/21/2012	On	Outdoor	8	Primary	<0.14	<0.067	<0.13	0.049	<0.67	0.029	<0.043
Fairchild	468 Ellis St.	468HVAC2	05/06/2003	On	Outdoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
Fairchild	468 Ellis St.	468HVAC2	05/13/2003	On	Outdoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	468 Ellis St.	468HVAC2	10/02/2003	On	Outdoor	10	Primary	<0.14	<0.069 J	<0.14	<0.24	<0.69	<0.19	<0.044
Fairchild	468 Ellis St.	468HVAC2	10/07/2003	On	Outdoor	10	Primary	<0.14	<0.070	<0.14	0.66	<0.70	<0.19	<0.045
Fairchild	468 Ellis St.	468PATH1	05/06/2003	On	Pathway	10	Primary	<0.13	<0.066	<0.13	<0.23	<0.66	<0.18	<0.043
Fairchild	468 Ellis St.	468PATH1*	05/06/2003	On	Pathway	10	Duplicate	<0.11	<0.054	<0.11	0.26	<0.54	<0.15	<0.035
Fairchild	468 Ellis St.	468PATH1	05/13/2003	On	Pathway	10	Primary	<0.15	<0.075	<0.15	0.33	<0.75	<0.20	<0.048
Fairchild	468 Ellis St.	468PATH2	05/06/2003	On	Pathway	10	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	<0.18	<0.044
Fairchild	468 Ellis St.	468PATH2	05/13/2003	On	Pathway	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044

Company	Building	Location / Sample ID	Sample Date	Ventilation Status	Sample Purpose	Sample Duration (hours)	Sample Type	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl chloride
<b>Air Sampling Results (HVAC Off)</b>														
Fairchild	468 Ellis St.	468AMB1	04/09/2010	Off	Indoor	10	Primary	<0.020	<0.020	<0.056	0.059 J	<0.056	0.038	<0.013
Fairchild	468 Ellis St.	468AMB1	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.065	<0.13	0.067	<0.65	0.11	<0.042
Fairchild	468 Ellis St.	468AMB1*	11/23/2012	Off	Indoor	8	Duplicate	<0.13	<0.064	<0.13	0.072	<0.64	0.12	<0.041
Fairchild	468 Ellis St.	468AMB2	04/09/2010	Off	Indoor	10	Primary	<0.020	<0.020	<0.055	0.059 J	<0.055	0.043	<0.013
Fairchild	468 Ellis St.	468AMB2	11/23/2012	Off	Indoor	8	Primary	<0.14	<0.067	<0.13	0.076	<0.67	0.13	<0.043
Fairchild	468 Ellis St.	468AMB3	04/09/2010	Off	Indoor	10	Primary	<0.020	<0.020	<0.055	0.060 J	<0.055	0.050	<0.013
Fairchild	468 Ellis St.	468AMB4	04/09/2010	Off	Indoor	10	Primary	<0.020	<0.020	<0.055	0.059 J	<0.055	0.065	<0.013
Fairchild	468 Ellis St.	468AMB4	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.063	<0.12	0.063	<0.63	0.38	<0.040
Fairchild	468 Ellis St.	468AMB5	11/23/2012	Off	Indoor	8	Primary	<0.13	<0.065	<0.13	0.065	<0.65	0.28	<0.042
Fairchild	468 Ellis St.	468OUT1	04/08/2010	Off	Outdoor	24	Primary	<0.020	<0.020	<0.055	0.060 J	<0.055	0.038	<0.013
Fairchild	468 Ellis St.	468OUT1	11/23/2012	Off	Outdoor	8	Primary	<0.14	<0.067	<0.13	0.053	<0.67	0.038	<0.043
<b>Long-Term Cleanup Level</b>														
Commercial								6	700	210	2	210	5	2

**Notes:**

All units are micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

\* - denotes duplicate co-located sample

J - estimated result

<0.020 - denotes result was below respective reporting limit

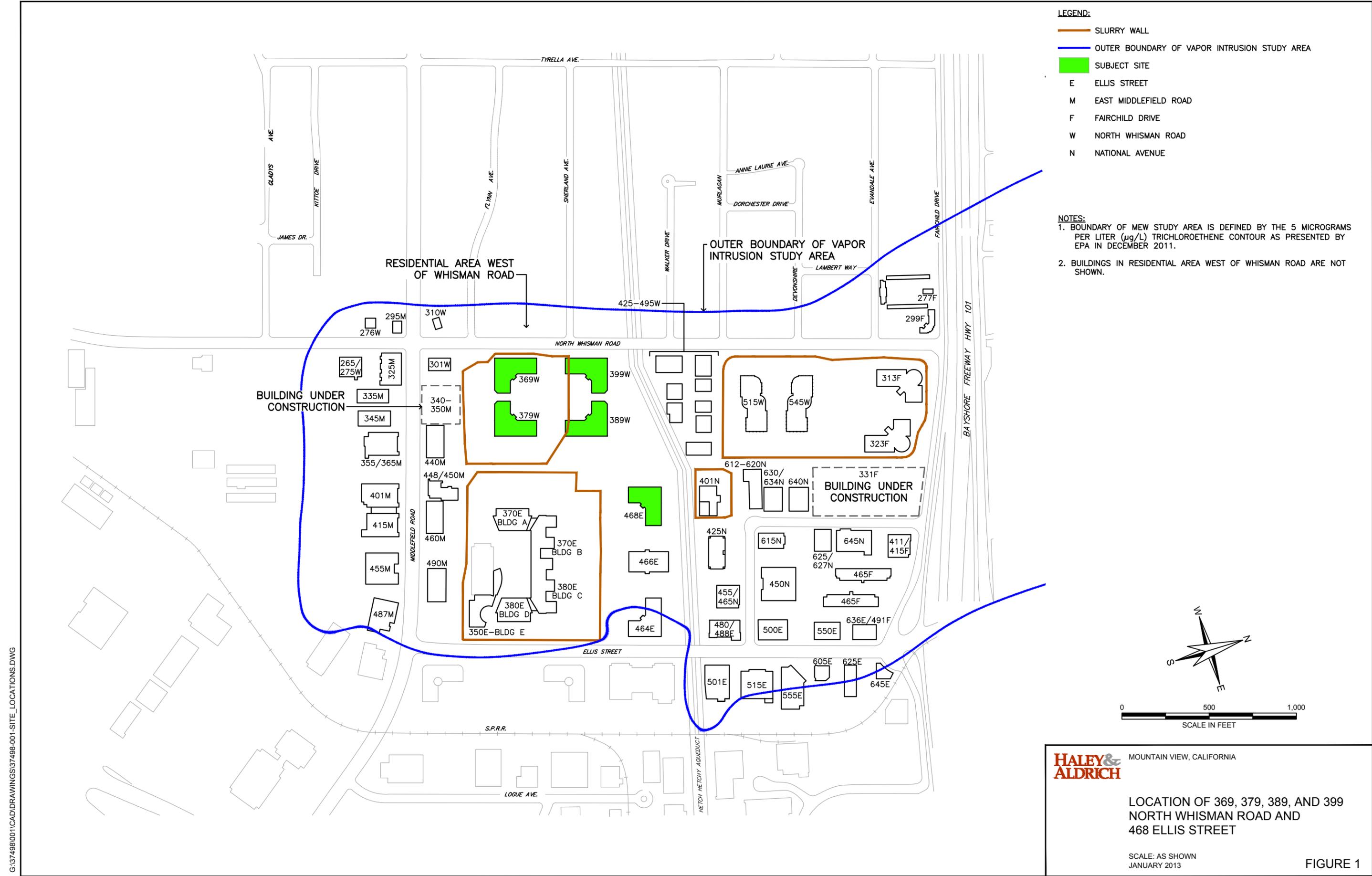
## **FIGURES**

**LEGEND:**

-  SLURRY WALL
-  OUTER BOUNDARY OF VAPOR INTRUSION STUDY AREA
-  SUBJECT SITE
- E ELLIS STREET
- M EAST MIDDLEFIELD ROAD
- F FAIRCHILD DRIVE
- W NORTH WHISMAN ROAD
- N NATIONAL AVENUE

**NOTES:**

1. BOUNDARY OF MEW STUDY AREA IS DEFINED BY THE 5 MICROGRAMS PER LITER ( $\mu\text{g/L}$ ) TRICHLOROETHENE CONTOUR AS PRESENTED BY EPA IN DECEMBER 2011.
2. BUILDINGS IN RESIDENTIAL AREA WEST OF WHISMAN ROAD ARE NOT SHOWN.



G:\37498\001\CAD\DRAWINGS\37498-001-SITE\_LOCATIONS.DWG

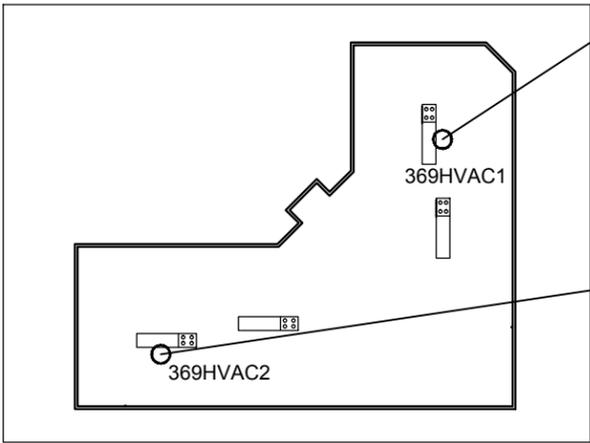
**HALEY & ALDRICH** MOUNTAIN VIEW, CALIFORNIA

**LOCATION OF 369, 379, 389, AND 399 NORTH WHISMAN ROAD AND 468 ELLIS STREET**

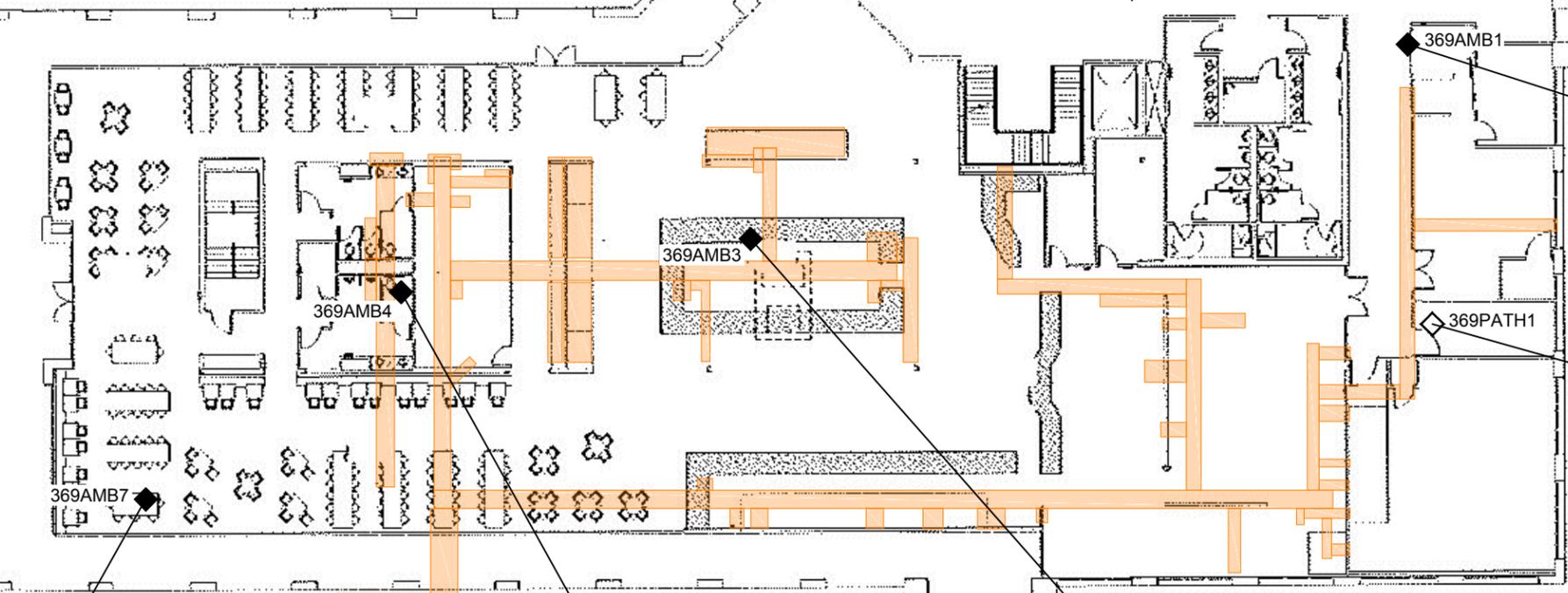
SCALE: AS SHOWN  
JANUARY 2013

**FIGURE 1**

G:\37498\001\CADD\DRAWINGS\37498-001\_369\_N\_WHISMAN\_RD (NEW\_INTR)-DATABOX\_R2.DWG



APPROXIMATE LOCATION OF HVAC SYSTEM

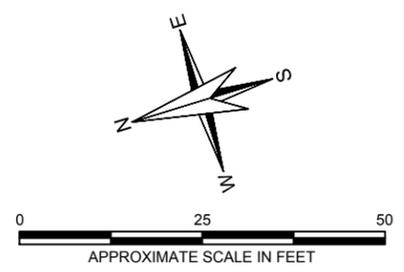


- LEGEND:**
- ◆ INDOOR AIR SAMPLING LOCATION
  - ◇ PATHWAY AIR SAMPLING LOCATION
  - OUTDOOR AIR SAMPLING LOCATION
  - ▬ UTILITY TRENCH (2012)

- NOTES:**
1. THIS FIGURE IS BASED ON IMAGES OF THE BUILDING PROVIDED BY DEVCON AND GOOGLE.
  2. ALL LOCATIONS ARE APPROXIMATE.
  3. CHEMICAL CONCENTRATIONS IN MICROGRAMS PER CUBIC METER ( $\mu\text{g}/\text{m}^3$ ).
  4. ND DENOTES CHEMICAL WAS NOT DETECTED AT THE LEVEL SHOWN.
  5. J: ESTIMATED RESULT.

**EXAMPLE DATABOX**

SAMPLE LOCATION NAME	HVAC STATUS		SAMPLE UNITS
	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$	
369AMB1	5/6/2003	ND (0.19)	ANALYTE CONCENTRATIONS
	5/13/2003	ND (0.19)	
	10/2/2003	0.53	
	10/7/2003	1.6	
	3/14/2010	4.3	
	6/30/2010	3	



369HVAC1	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	ND (0.19)
5/13/2003	ND (0.18)
6/29/2010	0.16
11/21/2012	0.029

369HVAC2	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	ND (0.19)
5/13/2003	ND (0.19)

369AMB2	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.17)
5/13/2003	-	ND (0.18)
10/2/2003	-	0.33
10/7/2003	-	0.28
3/14/2010	1.9	-
6/30/2010	-	2.8

369AMB5	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
3/14/2010	2.4	-
6/30/2010	-	2.7
11/21/2012	-	1.4
11/23/2012	13	-

369DUP1	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
11/21/2012	-	1.5
11/23/2012	12	-

369AMB6	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
11/21/2012	-	1.6
11/23/2012	36	-

369PATH2	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
3/14/2010	2.2	-
6/30/2010	-	2.0

369AMB8	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
11/21/2012	-	1.4
11/23/2012	6.2	-

369-399OUT1	HVAC Off $\mu\text{g}/\text{m}^3$
11/23/2012	ND (0.026)

369OUT1	HVAC Off $\mu\text{g}/\text{m}^3$
3/13/2010	0.071

369AMB1	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.19)
5/13/2003	-	ND (0.19)
10/2/2003	-	0.53
10/7/2003	-	1.6
3/14/2010	4.3	-
6/30/2010	-	3.0

369PATH1	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	ND (0.19)
5/13/2003	ND (0.19)

369AMB7	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
11/21/2012	-	0.095
11/23/2012	3.3	-

369AMB4	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	0.17 J
5/13/2003	-	ND (0.18)
10/2/2003	-	0.67
10/7/2003	-	0.32
3/14/2010	2.3	-
6/30/2010	-	1.9

369AMB3	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.19)
5/13/2003	-	ND (0.19)
10/2/2003	-	0.41
10/7/2003	-	0.33
3/14/2010	3.4	-
6/30/2010	-	2.2
11/21/2012	-	0.14
11/23/2012	3.1	-

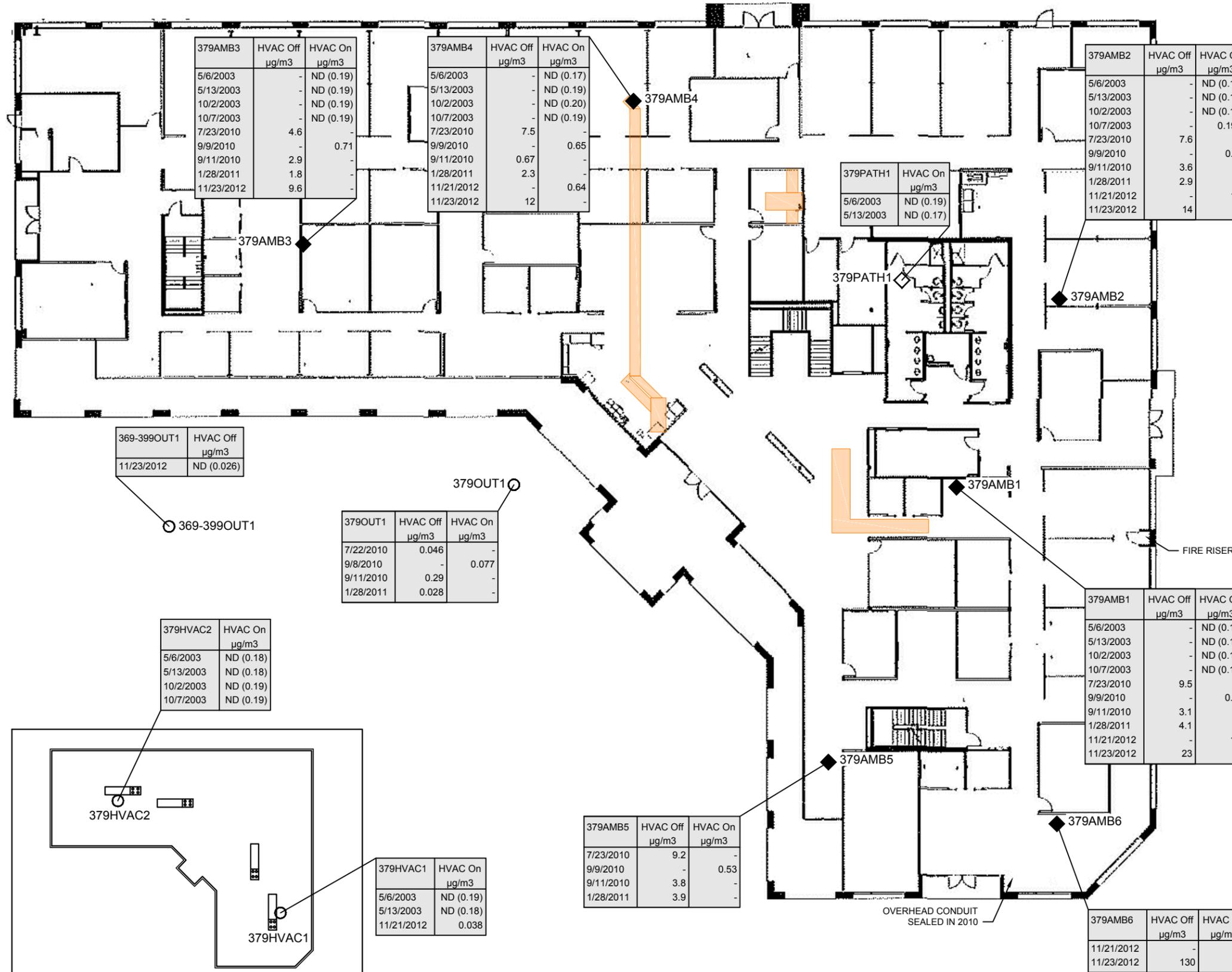


369 NORTH WHISMAN ROAD  
MOUNTAIN VIEW, CALIFORNIA

**LOCATION OF AIR SAMPLES AND TCE CONCENTRATIONS - 369 NORTH WHISMAN ROAD**

SCALE: AS SHOWN  
JANUARY 2013

G:\37498\001\CADD\DRAWINGS\37498-001-379\_N.WHISMAN ROAD (NEW INTR)-DATABOX\_R2.DWG



**LEGEND:**

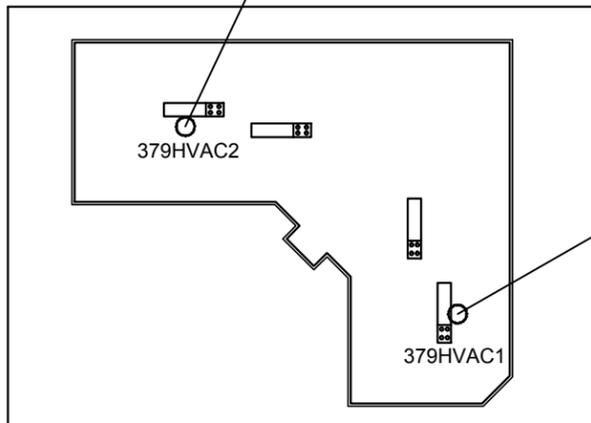
- ◆ INDOOR AIR SAMPLING LOCATION
- ◇ PATHWAY AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION
- ▬ UTILITY TRENCH (2012)

**NOTES:**

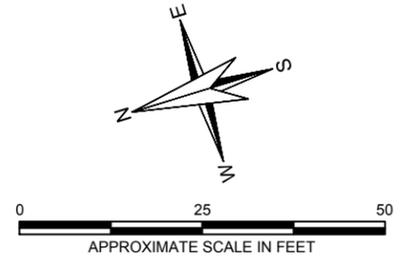
1. THIS FIGURE IS BASED ON IMAGES OF THE BUILDING PROVIDED BY DEVCON AND GOOGLE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. CHEMICAL CONCENTRATIONS IN MICROGRAMS PER CUBIC METER ( $\mu\text{g}/\text{m}^3$ ).
4. ND DENOTES CHEMICAL WAS NOT DETECTED AT THE LEVEL SHOWN.
5. J: ESTIMATED RESULT.

**EXAMPLE DATABOX**

SAMPLE LOCATION NAME		HVAC STATUS		SAMPLE UNITS	
		HVAC Off	HVAC On		
		$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$		
SAMPLE COLLECTION DATE	379AMB1	-	ND (0.19)		
	5/6/2003	-	ND (0.19)		
	5/13/2003	-	0.53		
	10/2/2003	-	1.6		
	10/7/2003	4.3	-		
	6/30/2010	-	3		



APPROXIMATE LOCATION OF HVAC SYSTEM

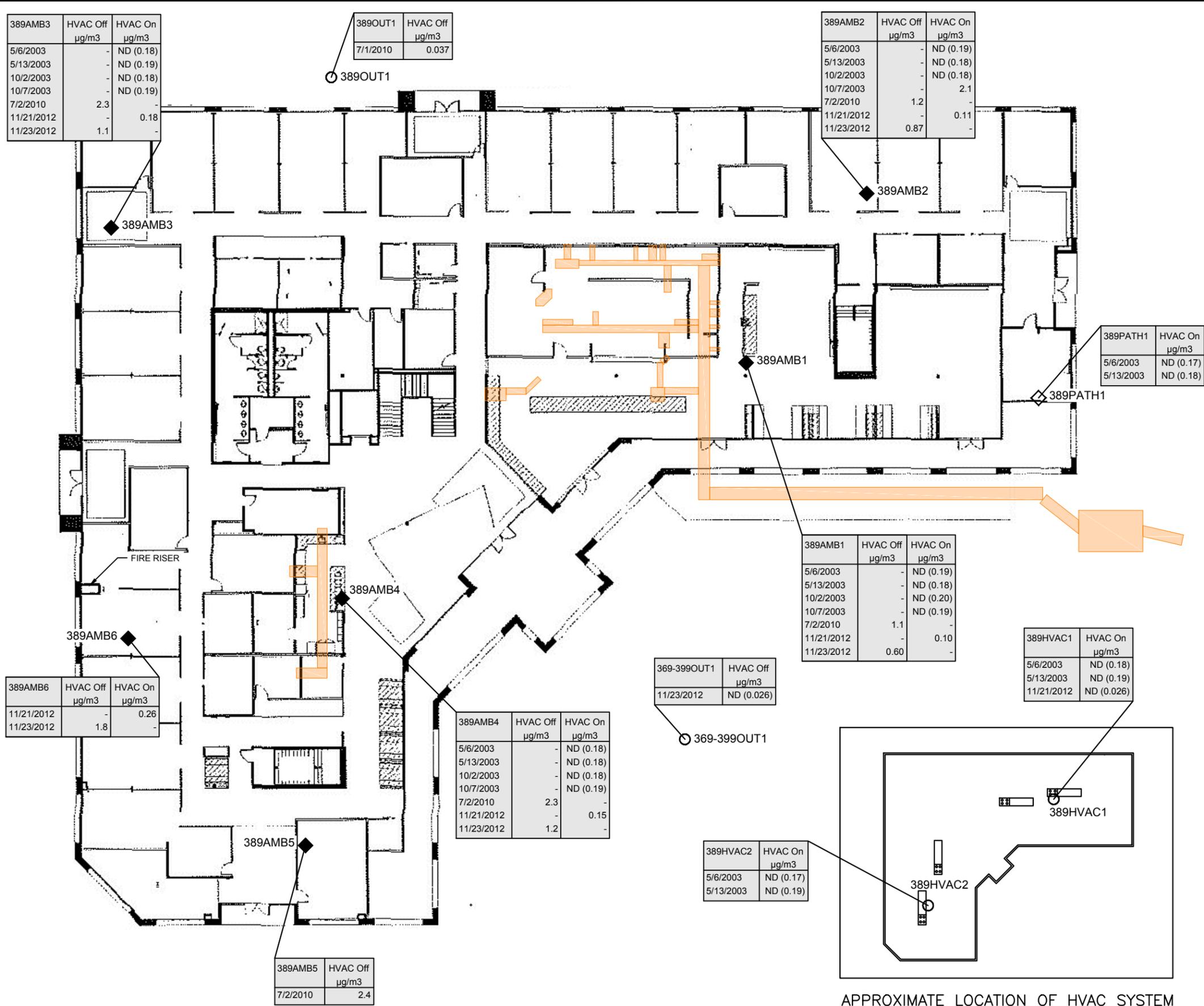


379 NORTH WHISMAN ROAD  
MOUNTAIN VIEW, CALIFORNIA

**LOCATION OF AIR SAMPLES AND TCE CONCENTRATIONS - 379 NORTH WHISMAN ROAD**

SCALE: AS SHOWN  
JANUARY 2013

G:\37498\001\CADD\DRAWINGS\37498-001-389\_N.WHISMAN ROAD (NEW INTR)-DATABOX\_R2.DWG



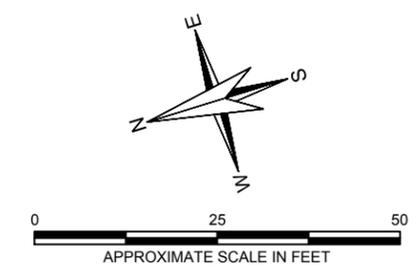
- LEGEND:**
- ◆ INDOOR AIR SAMPLING LOCATION
  - ◇ PATHWAY AIR SAMPLING LOCATION
  - OUTDOOR AIR SAMPLING LOCATION
  - ▬ UTILITY TRENCH (2012)

- NOTES:**
1. THIS FIGURE IS BASED ON IMAGES OF THE BUILDING PROVIDED BY DEVCON AND GOOGLE.
  2. ALL LOCATIONS ARE APPROXIMATE.
  3. CHEMICAL CONCENTRATIONS IN MICROGRAMS PER CUBIC METER (µg/m<sup>3</sup>).
  4. ND DENOTES CHEMICAL WAS NOT DETECTED AT THE LEVEL SHOWN.
  5. J: ESTIMATED RESULT.

**EXAMPLE DATABOX**

SAMPLE LOCATION NAME	HVAC STATUS		SAMPLE UNITS
	HVAC Off µg/m <sup>3</sup>	HVAC On µg/m <sup>3</sup>	
389AMB1	5/6/2003	-	ND (0.19)
	5/13/2003	-	ND (0.19)
	10/2/2003	-	0.53
	10/7/2003	-	1.6
	3/14/2010	4.3	-
	6/30/2010	-	3

**ANALYTE CONCENTRATIONS**

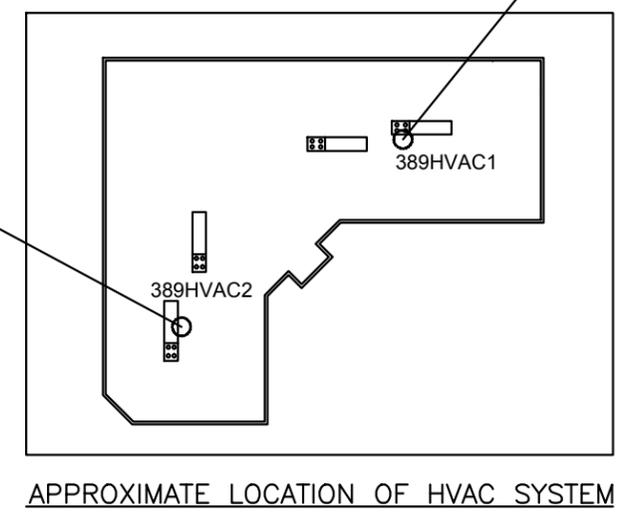


**HALEY & ALDRICH** 389 NORTH WHISMAN ROAD  
MOUNTAIN VIEW, CALIFORNIA

**LOCATION OF AIR SAMPLES AND TCE CONCENTRATIONS - 389 NORTH WHISMAN ROAD**

SCALE: AS SHOWN  
JANUARY 2013

**FIGURE 4**



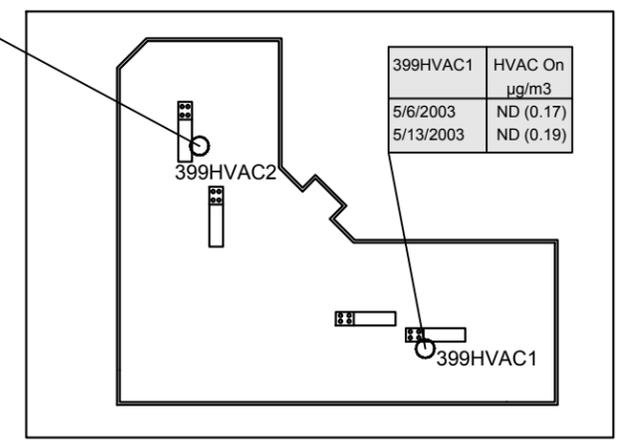
G:\37488\001\CAD\DRAWINGS\37488-001-399\_N.WHISMAN\_RD-FLOOR\_PLAN (NEW INTR)-DATABASE\_R2.DWG

**LEGEND:**

- ◆ INDOOR AIR SAMPLING LOCATION
- ◇ PATHWAY AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION
- ▬ UTILITY TRENCH (2012)

**NOTES:**

1. THIS FIGURE IS BASED ON IMAGES OF THE BUILDING PROVIDED BY DEVCON AND GOOGLE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. CHEMICAL CONCENTRATIONS IN MICROGRAMS PER CUBIC METER ( $\mu\text{g}/\text{m}^3$ ).
4. ND DENOTES CHEMICAL WAS NOT DETECTED AT THE LEVEL SHOWN.
5. J: ESTIMATED RESULT.



APPROXIMATE LOCATION OF HVAC SYSTEM

399HVAC2	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	ND (0.18)
5/13/2003	ND (0.18)
10/2/2003	ND (0.20)
10/7/2003	ND (0.20)
6/22/2010	0.013 J

399HVAC1	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	ND (0.17)
5/13/2003	ND (0.19)

399AMB3	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.17)
5/13/2003	-	ND (0.18)
10/2/2003	-	ND (0.19)
10/7/2003	-	ND (0.19)
2/21/2010	0.061	-
6/23/2010	-	ND (0.027)
11/21/2012	-	0.048
11/23/2012	0.82	-

399OUT1	HVAC Off $\mu\text{g}/\text{m}^3$
2/20/2010	0.045

369-399OUT1	HVAC Off $\mu\text{g}/\text{m}^3$
11/23/2012	ND (0.026)

399AMB1	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.19)
5/13/2003	-	ND (0.17)
10/2/2003	-	ND (0.17)
10/7/2003	-	ND (0.18)
2/21/2010	0.051	-
6/23/2010	-	0.020 J
11/21/2012	-	0.039
11/23/2012	0.32	-

399AMB5	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
2/21/2010	0.051	-
6/23/2010	-	0.026 J
11/21/2012	-	0.045
11/23/2012	0.21	-

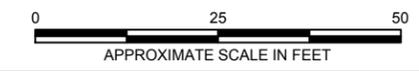
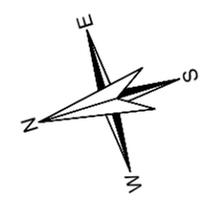
399PATH1	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	ND (0.16)
5/13/2003	ND (0.18)

399AMB4	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.18)
5/13/2003	-	ND (0.18)
10/2/2003	-	ND (0.18)
10/7/2003	-	ND (0.19)
2/21/2010	0.11	-
6/23/2010	-	0.029
11/21/2012	-	0.061
11/23/2012	0.23	-

399AMB2	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$
5/6/2003	-	ND (0.19)
5/13/2003	-	ND (0.19)
10/2/2003	-	ND (0.19)
10/7/2003	-	ND (0.18)
2/21/2010	0.054	-
6/23/2010	-	0.023 J
11/21/2012	-	0.045
11/23/2012	0.21	-

**EXAMPLE DATABASE**

SAMPLE LOCATION NAME	HVAC STATUS		SAMPLE UNITS
	HVAC Off $\mu\text{g}/\text{m}^3$	HVAC On $\mu\text{g}/\text{m}^3$	
399AMB1	5/6/2003	ND (0.19)	ANALYTE CONCENTRATIONS
	5/13/2003	ND (0.19)	
	10/2/2003	0.53	
	10/7/2003	1.6	
	3/14/2010	4.3	
	6/30/2010	3	



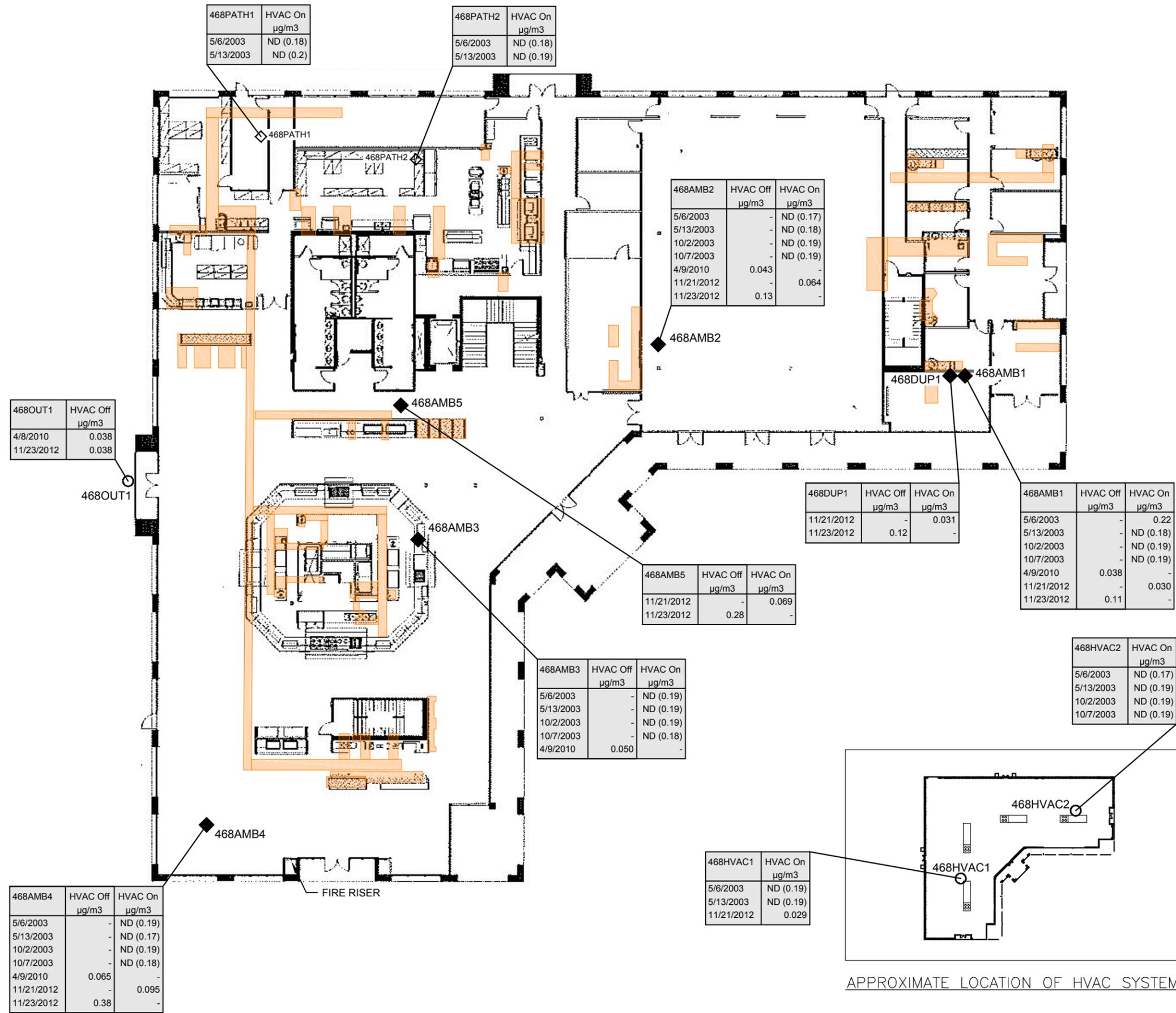
**HALEY & ALDRICH** 399 NORTH WHISMAN ROAD  
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES AND TCE CONCENTRATIONS - 399 NORTH WHISMAN ROAD

SCALE: AS SHOWN  
JANUARY 2013

FIGURE 5

G:\37498\001\CADD\DRAWINGS\37498-001-468\_ELLIS\_ST-FLOOR\_PLAN (NEW INTR)-DATABOX\_R2.DWG

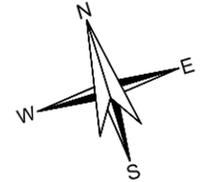


- LEGEND:**
- ◆ INDOOR AIR SAMPLING LOCATION
  - ◇ PATHWAY AIR SAMPLING LOCATION
  - OUTDOOR AIR SAMPLING LOCATION
  - ▬ UTILITY TRENCH (2012)

- NOTES:**
1. THIS FIGURE IS BASED ON IMAGES OF THE BUILDING PROVIDED BY DEVCON AND GOOGLE.
  2. ALL LOCATIONS ARE APPROXIMATE.
  3. CHEMICAL CONCENTRATIONS IN MICROGRAMS PER CUBIC METER (µg/m³).
  4. ND DENOTES CHEMICAL WAS NOT DETECTED AT THE LEVEL SHOWN.
  5. J: ESTIMATED RESULT.

**EXAMPLE DATABOX**

SAMPLE LOCATION NAME	HVAC STATUS		SAMPLE UNITS
	HVAC Off µg/m3	HVAC On µg/m3	
SAMPLE COLLECTION DATE	369AMB1	-	-
	5/6/2003	-	ND (0.19)
	5/13/2003	-	ND (0.19)
	10/2/2003	-	0.53
	10/7/2003	-	1.6
	3/14/2010	4.3	-
6/30/2010	-	3	



**HALEY & ALDRICH** 468 ELLIS STREET  
MOUNTAIN VIEW, CALIFORNIA

**LOCATION OF AIR SAMPLES AND TCE CONCENTRATIONS - 468 ELLIS STREET**

SCALE: AS SHOWN  
JANUARY 2013

**FIGURE 6**

APPROXIMATE LOCATION OF HVAC SYSTEM

**APPENDIX A**

**Building Questionnaire Formf**

# INDOOR AIR QUALITY BUILDING SURVEY



BUILDING: 369 North Whisman Road

## Owner/Developer/Property Manager

### Contact

Name: Perry Palmer, Keenan Lovewell Ventures

Address: 700 Emerson Street  
Palo Alto, CA 94301

Phone: 650.614.6224

Email: perry.palmer@mindspring.com

## Tenant

### Contact

Name: Martin Suen, Google

Address: 1600 Amphitheatre Parkway  
Mountain View, CA 94043

Phone: 415.378.9105

Email: martinsuen@google.com

## Notes

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**INDOOR AIR QUALITY BUILDING SURVEY**

**Building Construction Characteristics:**

- General description of building construction materials (Check all that apply): Concrete tilt-up  
 Reinforced concrete    Steel-framed    Wood-framed    Concrete Masonry Units (CMU)
- How many occupied stories does the building have? Two
- What year was the building constructed? 1998
- What type of basement does the building have? (Check all that apply)  
 None    Full basement    Other (specify): \_\_\_\_\_
- How is the basement used? (Check all that apply)  
 Not used    Office space    Storage Utilities    Other (specify): \_\_\_\_\_
- What are the characteristics of the basement? (Check all that apply)  
 Basement floor:    Concrete    Other (specify): \_\_\_\_\_  
 Foundation walls:    Poured concrete    Other (specify): \_\_\_\_\_  
 Moisture:    Dry    Wet    Damp    Other (specify): \_\_\_\_\_
- What are the characteristics of the floor slab? (Check all that apply)  
 Concrete     Carpeted     Tiled     Stone  
 Cracks    Seams     Other (specify): Utility trenching
- Are drains or sumps present?    Y     N \_\_\_\_\_    Describe each, including information on contents :  
Floor drains in restrooms, kitchen areas, and janitorial closet
- Are elevator shafts present?    Y     N \_\_\_\_\_    Describe each: Two-story hydraulic -  
approximately 15 feet deep to house hydraulic shaft

**INDOOR AIR QUALITY BUILDING SURVEY**

- Are there locations where chemicals were or are used or stored? Y  N

Check all that apply:

Kitchen       Janitorial Closet      Other (specify): \_\_\_\_\_

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y  N

Check all that apply:

Water       Sanitary Sewer      Communication      Gas       Electrical

Other (specify): \_\_\_\_\_

- Were foundation design specifications and as-built drawings for the facility obtained? Y  N

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab? Y  N

Describe: lime treated native soil used in lieu of 13" untreated aggregate base rock & specifically intended to reduce crack formation and thus vapor transmission

- Was a vapor barrier installed under the floor slab? Y  N

Describe: Earth Shield Barrier Film moisture barrier

- Were any other liners installed under the floor slab? Y  N

Describe: Not known

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking? Y  N

Describe: #3 rebar configured in an 8" on-center grid

- Were other techniques used to restrict vapor migration through the floor slab? Y  N

Describe: Special concrete additives to reduce cracking, permeability, and capillary channels. Sonnenbourn primer and sealer applied previously.

**Heating, Ventilation and Air Conditioning Systems (HVAC):**

- Were HVAC as-built drawings for the facility obtained? Y  N

- Is the HVAC system a zone cooling/heating system? Y  N

- If not, what type of HVAC system is used in this building? \_\_\_\_\_

**INDOOR AIR QUALITY BUILDING SURVEY**

- How Many? 7

- Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

Seven units with OSA intake and economizer. Four zone systems, 3 package units.

Also see table attached to this survey.

Other (specify and describe): \_\_\_\_\_

- Does the HVAC system have an exhaust capability? Y  N

- What other type of mechanical ventilation systems are present and/or currently operating in the building?

Mechanical fans      Open windows       Restroom vent fans      Fume Hoods

Other (specify): Kitchen exhaust fans

- Who maintains and manages the HVAC system operation? Air Systems Inc.

- Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends:

HVAC operates 24 hours a day, seven days a week.

Additional information is provided in the attached table.

- What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas      Electric      Solar      Geothermal      Other (specify): \_\_\_\_\_

- Are any other fuels or chemicals used in this building? Y  N

Describe: See list of potential chemical sources on next page

# INDOOR AIR QUALITY BUILDING SURVEY



**Sources of Chemical Contaminants:**

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints or paint thinners	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	Janitorial Closet and Kitchen
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom chemicals	
Glues	
Scented trees, wreaths, potpourri, etc.	
Other (specify):	
Other (specify):	

**INDOOR AIR QUALITY BUILDING SURVEY**

- What are the hours during which a majority of the workers are in the building during a work day?

Workers may be in the building 24 hours a day.

- Do the occupants of the building frequently have their clothes dry-cleaned? Y  N

- Was there any recent remodeling or painting done in the building? Y  N

- When and where was the most recent carpeting applied in the building? 2012, building-wide

- Were glues used to attach the carpeting to the floor slab? Y  N

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y  N

- Are there any new upholstery, drapes, or other textiles in the building? Y  N

- Has the building been treated with any insecticides/pesticides? Y  N

If so, what chemicals were used and how often were they applied? \_\_\_\_\_

**Outdoor sources of contamination:**

- Is there any stationary emission source in the vicinity of the building? GW treatment systems located nearby. Tower 19 is 400 ft NE, Tower 1 is 1200 ft north, Tower 3 is 1900 ft north.

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, Highway 101 and Ellis Street

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Utility trenching performed

during 2012 renovations.

\_\_\_\_\_

HVAC Inspection Performed by Air Systems, Inc.  
 369 North Whisman Road  
 Mountain View, California



Date	HVAC #	Make	Model	Serial Number	Disconnect On/Off	Status	OSA Intake	OSA Temp	Package Unit	OSA Damper % on Computer	Actual OSA Damper %	Static	VFD Fan Speed	Exhaust Capacity	OSA Opening Size	OSA AK	Economizer	Avg FPM using (Velgrid)	OSA CFM	Note
11/7/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73831	ON	ON	YES	61.5	NO	20%	50%	1.0	48%	YES	48X55	18.33	YES	223	4,088	
11/7/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73834	ON	ON	YES	61.5	NO	100%	100%	1.1	41%	YES	48X55	18.33	YES	347	6,361	
11/7/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73833	ON	ON	YES	61.5	NO	85%	100%	1.0	35%	YES	48X55	18.33	YES	250	4,583	
11/7/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73832	ON	ON	YES	61.5	NO	20%	20%	0.5	15%	YES	48X55	18.33	YES	67	1,228	
11/7/2012	AC 2-1	Trane	TSC048E4R0A19	120710080L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	0	0	Unit Off
11/7/2012	AC 2-2	Trane	YSC048A4RLA12	347101425L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	42	87	
11/7/2012	MAU-1	Trane	SFHJ0904FM0151	C12B00956	ON	ON	YES	N/A	YES	N/A	N/A	1%	44%	NO	63x79	34.56	YES	1,228	42,440	MAU 100% OSA
11/21/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73831	ON	ON	YES	61.5	NO	20%	50%	0.5	17%	YES	48X55	18.33	YES	168	3,079	
11/21/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73834	ON	ON	YES	61.5	NO	21%	21%	1.2	51%	YES	48X55	18.33	YES	81	1,485	
11/21/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73833	ON	ON	YES	61.5	NO	67%	100%	1.0	40%	YES	48X55	18.33	YES	74	1,356	
11/21/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73832	ON	ON	YES	61.5	NO	0%	2%	0.5	23%	YES	48X55	18.33	YES	59	1,081	
11/21/2012	AC 2-1	Trane	TSC048E4R0A19	120710080L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	0	0	Unit Off
11/21/2012	AC 2-2	Trane	YSC048A4RLA12	347101425L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	42	87	
11/21/2012	MAU-1	Trane	SFHJ0904FM0151	C12B00956	ON	ON	YES	N/A	YES	N/A	N/A	1%	44%	NO	63x79	34.56	YES	1,242	42,924	MAU 100% OSA

**Legend**

- OSA - Outside air
- VFD - Variable flow drive
- CFM - Cubic feet per minute
- FPM - Feet per minute
- OSA AK - Intake area
- MAU - Makeup air unit
- N/A - Not available

# INDOOR AIR QUALITY BUILDING SURVEY



BUILDING: 379 North Whisman Road

## Owner/Developer/Property Manager

### Contact

Name: Perry Palmer, Keenan Lovewell Ventures

Address: 700 Emerson Street  
Palo Alto, CA 94301

Phone: 650.614.6224

Email: perry.palmer@mindspring.com

## Tenant

### Contact

Name: Martin Suen, Google

Address: 1600 Amphitheatre Parkway  
Mountain View, CA 94043

Phone: 415.378.9105

Email: martinsuen@google.com

## Notes

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**INDOOR AIR QUALITY BUILDING SURVEY**

**Building Construction Characteristics:**

- General description of building construction materials (Check all that apply): Concrete tilt-up  
 Reinforced concrete    Steel-framed    Wood-framed    Concrete Masonry Units (CMU)
- How many occupied stories does the building have? Two
- What year was the building constructed? 1998
- What type of basement does the building have? (Check all that apply)  
 None    Full basement    Other (specify): \_\_\_\_\_
- How is the basement used? (Check all that apply)  
 Not used    Office space    Storage Utilities    Other (specify): \_\_\_\_\_
- What are the characteristics of the basement? (Check all that apply)  
 Basement floor:    Concrete    Other (specify): \_\_\_\_\_  
 Foundation walls:    Poured concrete    Other (specify): \_\_\_\_\_  
 Moisture:    Dry    Wet    Damp    Other (specify): \_\_\_\_\_  
 What are the characteristics of the floor slab? (Check all that apply)  
 Concrete     Carpeted     Tiled     Stone  
 Cracks    Seams     Other (specify): Utility trenching
- Are drains or sumps present?    Y     N \_\_\_\_\_    Describe each, including information on contents :  
Floor drains in restrooms, kitchen areas, and janitorial closet
- Are elevator shafts present?    Y     N \_\_\_\_\_    Describe each: Two-story hydraulic -  
approximately 15 feet deep to house hydraulic shaft

**INDOOR AIR QUALITY BUILDING SURVEY**

- Are there locations where chemicals were or are used or stored? Y  N

Check all that apply:

Kitchen       Janitorial Closet      Other (specify): \_\_\_\_\_

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y  N

Check all that apply:

Water       Sanitary Sewer      Communication      Gas       Electrical

Other (specify): \_\_\_\_\_

- Were foundation design specifications and as-built drawings for the facility obtained? Y  N

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab? Y  N

Describe: lime treated native soil used in lieu of 13" untreated aggregate base rock & specifically intended to reduce crack formation and thus vapor transmission

- Was a vapor barrier installed under the floor slab? Y  N

Describe: Earth Shield Barrier Film moisture barrier

- Were any other liners installed under the floor slab? Y  N

Describe: Not known

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking? Y  N

Describe: #3 rebar configured in an 8" on-center grid

- Were other techniques used to restrict vapor migration through the floor slab? Y  N

Describe: Special concrete additives to reduce cracking, permeability, and capillary channels. Sonnenbourn primer and sealer applied previously.

**Heating, Ventilation and Air Conditioning Systems (HVAC):**

- Were HVAC as-built drawings for the facility obtained? Y  N

- Is the HVAC system a zone cooling/heating system? Y  N

- If not, what type of HVAC system is used in this building? \_\_\_\_\_

**INDOOR AIR QUALITY BUILDING SURVEY**

- How Many? 6

- Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

Six units with OSA intake and economizer. Four zone systems, two package units.

Also see table attached to this survey.

Other (specify and describe): \_\_\_\_\_

- Does the HVAC system have an exhaust capability? Y  N

- What other type of mechanical ventilation systems are present and/or currently operating in the building?

Mechanical fans      Open windows       Restroom vent fans      Fume Hoods

Other (specify): \_\_\_\_\_

- Who maintains and manages the HVAC system operation? Air Systems Inc.

- Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends:

HVAC operates 24 hours a day, seven days a week.

Additional information is provided in the attached table.

- What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas      Electric      Solar      Geothermal      Other (specify): \_\_\_\_\_

- Are any other fuels or chemicals used in this building? Y  N

Describe: See list of potential chemical sources on next page

# INDOOR AIR QUALITY BUILDING SURVEY



## Sources of Chemical Contaminants:

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints or paint thinners	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	Janitorial Closet and Kitchen
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom chemicals	
Glues	
Scented trees, wreaths, potpourri, etc.	
Other (specify):	
Other (specify):	

**INDOOR AIR QUALITY BUILDING SURVEY**

- What are the hours during which a majority of the workers are in the building during a work day?

Workers may be in the building 24 hours a day.

- Do the occupants of the building frequently have their clothes dry-cleaned? Y  N

- Was there any recent remodeling or painting done in the building? Y  N

- When and where was the most recent carpeting applied in the building? 2012, building-wide

- Were glues used to attach the carpeting to the floor slab? Y  N

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y  N

- Are there any new upholstery, drapes, or other textiles in the building? Y  N

- Has the building been treated with any insecticides/pesticides? Y  N

If so, what chemicals were used and how often were they applied? \_\_\_\_\_

**Outdoor sources of contamination:**

- Is there any stationary emission source in the vicinity of the building? GW treatment systems located nearby. Tower 19 is 180 ft NE, Tower 1 is 1200 ft north, Tower 3 is 1900 ft north.

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, Highway 101 and Ellis Street

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Utility trenching performed during 2012 renovations.

HVAC Inspection Performed by Air Systems, Inc.  
 379 North Whisman Road  
 Mountain View, California



Date	HVAC #	Make	Model	Serial Number	Disconnect On/Off	Status	OSA Intake	OSA Temp	Package Unit	OSA Damper % on Computer	Actual OSA Damper %	Static	VFD Fan Speed	Exhaust Capacity	OSA Opening Size	OSA AK	Economizer	Avg FPM using (Velgrid)	OSA CFM	Note
11/7/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73836	ON	ON	YES	68.3	NO	100%	100%	1.1	40%	YES	48X55	18.33	YES	236	4,326	
11/7/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73823	ON	ON	YES	68.3	NO	100%	100%	0.7	50%	YES	48X55	18.33	YES	379	6,947	
11/7/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73842	ON	ON	YES	68.3	NO	100%	100%	0.5	69%	YES	48X55	18.33	YES	352	6,452	
11/7/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73835	ON	ON	YES	68.3	NO	100%	100%	1.1	69%	YES	48X55	18.33	YES	200	3,666	
11/7/2012	AC 2-2	Trane	TSC036E4R0A1AC	120710064L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	No	27x11	2.06	YES	0	0	
11/7/2012	AC 2-1	Trane	TSC036E4R0A1AC	120710074L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	No	27x11	2.06	YES	58	119	
11/21/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73836	ON	ON	YES	68.3	NO	30%	30%	0.9	36%	YES	48X55	18.33	YES	286	5,242	
11/21/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73823	ON	ON	YES	68.3	NO	30%	30%	0.5	45%	YES	48X55	18.33	YES	176	3,226	
11/21/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73842	ON	ON	YES	68.3	NO	30%	50%	0.5	40%	YES	48X55	18.33	YES	125	2,291	
11/21/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73835	ON	ON	YES	68.3	NO	30%	30%	0.5	51%	YES	48X55	18.33	YES	185	3,391	
11/21/2012	AC 2-2	Trane	TSC036E4R0A1AC	120710064L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	No	27x11	2.06	YES	0	0	
11/21/2012	AC 2-1	Trane	TSC036E4R0A1AC	120710074L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	No	27x11	2.06	YES	84	173	

**Legend**  
 OSA - Outside air  
 VFD - Variable flow drive  
 CFM - Cubic feet per minute  
 FPM - Feet per minute  
 OSA AK - Intake area  
 N/A - Not available

Historical HVAC Inspection Performed by Air Systems, Inc.  
 379 North Whisman Road  
 Mountain View, California



Date	HVAC #	Status	OSA temp	OSA Damper % on computer panel	Actual OSA Damper %	Static	VFD Fan Speed	OSA Opening Size	OSA AK	Avg FPM using (Velgrid)	OSA CFM	Note
9/7/2010	AC26-1N	On	57.5	13%	13%	1.3" IWC	N/A	N/A	N/A	N/A	N/A	HVAC in normal operation mode
9/7/2010	AC26-2N	On	57.8	13%	13%	0.9" IWC	N/A	N/A	N/A	N/A	N/A	HVAC in normal operation mode
9/7/2010	AC26-2S	On	59.3	10%	0%	1.3" IWC	N/A	N/A	N/A	N/A	N/A	1) OSA damper was locked to 0% open after the missing linkage bolt was replaced. I re-adjusted the damper position back to 10% and tried to operate the OSA Damper. The OSA damper would drive open with the 100% open command but would get stuck at 80% when the 0% command was applied. The connection between the linkage and the motor is also found to be loose and needs servicing. OSA damper is currently stuck in the 80% position with a computer reading of 10%.
9/7/2010	AC26-1S	On	59.5	14%	14%	0.8" IWC	N/A	N/A	N/A	N/A	N/A	HVAC in normal operation mode
9/8/2010	AC26-1N	On	60.6	13%	13%	1.3" IWC	N/A	N/A	N/A	N/A	N/A	HVAC in normal operation mode
9/8/2010	AC26-2N	On	60.9	13%	13%	0.9" IWC	N/A	N/A	N/A	N/A	N/A	HVAC in normal operation mode
9/8/2010	AC26-2S	On	59.5	10%	80%	1.2" IWC	N/A	N/A	N/A	N/A	N/A	Email sent to Dennis Lee on 9/8/2010 informing him about OSA damper issue.
9/8/2010	AC26-1S	On	60.9	14%	14%	0.8" IWC	N/A	N/A	N/A	N/A	N/A	HVAC in normal operation mode
10/22/2010	AC26-1N	On	61.3	0.15	15%	0.3" IWC	0	48 x 55	18.33	41	750	HVAC in normal operation mode
10/22/2010	AC26-2N	On	60.5	0.15	15%	0.3" IWC	0	48 x 55	18.33	34	625	HVAC in normal operation mode
10/22/2010	AC26-2S	On	61.2	0.1	15%	0.4" IWC	0	48 x 55	18.33	79	1,450	HVAC in normal operation mode
10/22/2010	AC26-1S	On	61.9	0.15	15%	0.2" IWC	0	48 x 55	18.33	40	735	HVAC in normal operation mode
10/22/2010	AC26-1N							78 x 36 (x2)	39	122	4,760	This is the total airflow reading for AC26-1N
10/25/2010	AC26-1N	On	52.3	10%	10%	0.9" IWC	100%	48 x 55 78 x 36 (x2)	18.33 39	204 561	3,740 21,880	HVAC at Full Capacity This is the mixed air total airflow reading for AC26-1N
10/25/2010	AC26-2N	On	52.4	10%	10%	1.2" IWC	100%	48 x 55 78 x 36 (x2)	18.33 39	328 503	6,015 19,615	HVAC at Full Capacity This is the mixed air total airflow reading for AC26-2N
10/25/2010	AC26-2S	On	53.8	10%	15%	1.6" IWC	100%	48 x 55 78 x 36 (x2)	18.33 39	471 598	8,635 23,320	HVAC at Full Capacity This is the mixed air total airflow reading for AC26-2S
10/25/2010	AC26-1S	On	54.7	12%	12%	1.0" IWC	100%	48 x 55 78 x 36 (x2)	18.33 39	208 589	3,810 22,970	HVAC at Full Capacity This is the mixed air total airflow reading for AC26-1S
10/25/2010	AC26-1N	On	52.3	13%	13%	1.4" IWC	51%	48 x 55 78 x 36 (x2)	18.33 39	51 140	935 5,460	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1N
10/25/2010	AC26-2N	On	52.4	12%	12%	1.4" IWC	53%	48 x 55 78 x 36 (x2)	18.33 39	38 74	695 2,885	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-2N
10/25/2010	AC26-2S	On	53.8	10%	10%	1.4" IWC	59%	48 x 55 78 x 36 (x2)	18.33 39	120 152	2,200 3,930	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-2S
10/25/2010	AC26-1S	On	54.7	13%	13%	1.0" IWC	64%	48 x 55 78 x 36 (x2)	18.33 39	97 237	1,780 9,245	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1S



Date	HVAC #	Status	OSA temp	OSA Damper % on computer panel	Actual OSA Damper %	Static	VFD Fan Speed	OSA Opening Size	OSA AK	Avg FPM using (Velgrid)	OSA CFM	Note
10/26/2010	AC26-1N	On	49.1	13%	13%	1.3" IWC	48%	48 x 55 78 x 36 (x2)	18.33 39	51 148	935 5,770	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1N
10/26/2010	AC26-2N	On	49.6	13%	13%	0.9" IWC	43%	48 x 55 78 x 36 (x2)	18.33 39	23 73	420 2,845	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-2N
10/26/2010	AC26-2S	On	49.8	10%	60%	1.2" IWC	56%	48 x 55 78 x 36 (x2)	18.33 39	157 155	2,875 6,045	OSA Damper stuck at 60% open. Spoke to Aaron about the issue. 10/26/2010 @ 8:30am This is the mixed air total airflow reading for AC26-2S
10/26/2010	AC26-1S	On	51.7	14%	14%	0.8" IWC	62%	48 x 55 78 x 36 (x2)	18.33 39	75 214	1,375 8,345	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1S
10/27/2010	AC26-1N	On	43.7	13%	13%	1.3" IWC	49%	48 x 55 78 x 36 (x2)	18.33 39	56 148	1,025 5,770	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1N
10/27/2010	AC26-2N	On	43.8	13%	13%	0.9" IWC	43%	48 x 55 78 x 36 (x2)	18.33 39	43 69	790 2,485	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-2N
10/27/2010	AC26-2S	On	42.6	10%	10%	1.2" IWC	56%	48 x 55 78 x 36 (x2)	18.33 39	79 150	1,450 5,850	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-2S
10/27/2010	AC26-1S	On	44.7	14%	14%	0.8" IWC	62%	48 x 55 78 x 36 (x2)	18.33 39	82 217	1,505 8,465	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1S
10/28/2010	AC26-1N	On	53.9	13%	13%	1.3" IWC	49%	48 x 55 78 x 36 (x2)	18.33 39	44 116	807 4,524	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1N
10/28/2010	AC26-2N	On	50.7	13%	13%	0.9" IWC	43%	48 x 55 78 x 36 (x2)	18.33 39	36 66	660 2,574	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-2N
10/28/2010	AC26-2S	On	53.7	10%	60%	0.9" IWC	54%	48 x 55 78 x 36 (x2)	18.33 39	176 154	3,226 6,006	OSA damper is stuck at 60% open. Called Aaron about the issue on 10/28/2010 8:50 am This is the mixed air total airflow reading for AC26-2S
10/28/2010	AC26-1S	On	50.4	14%	14%	0.8" IWC	62%	48 x 55 78 x 36 (x2)	18.33 39	65 204	1,191 7,956	HVAC in normal operation mode This is the mixed air total airflow reading for AC26-1S
10/29/2010	AC26-1N	On	N/A	N/A	N/A	N/A	N/A	48 x 55 78 x 36 (x2)	18.33 39	N/A N/A	N/A N/A	HVAC is OFF
10/29/2010	AC26-2N	On	N/A	N/A	N/A	N/A	N/A	48 x 55 78 x 36 (x2)	18.33 39	N/A N/A	N/A N/A	HVAC is OFF
10/29/2010	AC26-2S	On	N/A	N/A	N/A	N/A	N/A	48 x 55 78 x 36 (x2)	18.33 39	N/A N/A	N/A N/A	HVAC is turned OFF @ Trane human user interface.
10/29/2010	AC26-1S	On	N/A	N/A	N/A	N/A	N/A	48 x 55 78 x 36 (x2)	18.33 39	N/A N/A	N/A N/A	HVAC is OFF

**Legend**

- OSA - Outside air
- VFD - Variable flow drive
- CFM - Cubic feet per minute
- FPM - Feet per minute
- IWC - Inches of water column
- OSA AK - Intake area
- N/A - Not available

# INDOOR AIR QUALITY BUILDING SURVEY



BUILDING: 389 North Whisman Road

## Owner/Developer/Property Manager

### Contact

Name: Perry Palmer, Keenan Lovewell Ventures

Address: 700 Emerson Street  
Palo Alto, CA 94301

Phone: 650.614.6224

Email: perry.palmer@mindspring.com

## Tenant

### Contact

Name: Martin Suen, Google

Address: 1600 Amphitheatre Parkway  
Mountain View, CA 94043

Phone: 415.378.9105

Email: martinsuen@google.com

## Notes

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**INDOOR AIR QUALITY BUILDING SURVEY**

**Building Construction Characteristics:**

- General description of building construction materials (Check all that apply): Concrete tilt-up  
 Reinforced concrete    Steel-framed    Wood-framed    Concrete Masonry Units (CMU)
- How many occupied stories does the building have? Two
- What year was the building constructed? 1998
- What type of basement does the building have? (Check all that apply)  
 None    Full basement    Other (specify): \_\_\_\_\_
- How is the basement used? (Check all that apply)  
 Not used    Office space    Storage Utilities    Other (specify): \_\_\_\_\_
- What are the characteristics of the basement? (Check all that apply)  
 Basement floor:    Concrete    Other (specify): \_\_\_\_\_  
 Foundation walls:    Poured concrete    Other (specify): \_\_\_\_\_  
 Moisture:    Dry    Wet    Damp    Other (specify): \_\_\_\_\_
- What are the characteristics of the floor slab? (Check all that apply)  
 Concrete     Carpeted     Tiled     Stone  
 Cracks    Seams     Other (specify): Utility trenching
- Are drains or sumps present?    Y     N \_\_\_\_\_    Describe each, including information on contents :  
Floor drains in restrooms, kitchen areas, and janitorial closet
- Are elevator shafts present?    Y     N \_\_\_\_\_    Describe each: Two-story hydraulic -  
approximately 15 feet deep to house hydraulic shaft

**INDOOR AIR QUALITY BUILDING SURVEY**

- Are there locations where chemicals were or are used or stored? Y  N

Check all that apply:

Kitchen       Janitorial Closet      Other (specify): \_\_\_\_\_

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y  N

Check all that apply:

Water       Sanitary Sewer      Communication      Gas       Electrical

Other (specify): \_\_\_\_\_

- Were foundation design specifications and as-built drawings for the facility obtained? Y  N

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab? Y  N

Describe: lime treated native soil used in lieu of 13" untreated aggregate base rock & specifically intended to reduce crack formation and thus vapor transmission

- Was a vapor barrier installed under the floor slab? Y  N

Describe: Earth Shield Barrier Film moisture barrier

- Were any other liners installed under the floor slab? Y  N

Describe: Not known

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking? Y  N

Describe: #3 rebar configured in an 8" on-center grid

- Were other techniques used to restrict vapor migration through the floor slab? Y  N

Describe: Special concrete additives to reduce cracking, permeability, and capillary channels. Sonnenbourn primer and sealer applied previously.

**Heating, Ventilation and Air Conditioning Systems (HVAC):**

- Were HVAC as-built drawings for the facility obtained? Y  N

- Is the HVAC system a zone cooling/heating system? Y  N

- If not, what type of HVAC system is used in this building? \_\_\_\_\_

**INDOOR AIR QUALITY BUILDING SURVEY**

• How Many? 7

• Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

Seven units with OSA intake and economizer. Four zone systems, 3 package units.

Also see table attached to this survey.

Other (specify and describe): \_\_\_\_\_

• Does the HVAC system have an exhaust capability? Y  N

• What other type of mechanical ventilation systems are present and/or currently operating in the building?

Mechanical fans      Open windows       Restroom vent fans      Fume Hoods

Other (specify): Kitchen exhaust fans

• Who maintains and manages the HVAC system operation? Air Systems Inc.

• Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends:

HVAC operates 24 hours a day, seven days a week.

Additional information is provided in the attached table.

• What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas      Electric      Solar      Geothermal      Other (specify): \_\_\_\_\_

• Are any other fuels or chemicals used in this building? Y  N

Describe: See list of potential chemical sources on next page

# INDOOR AIR QUALITY BUILDING SURVEY



**Sources of Chemical Contaminants:**

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints or paint thinners	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	Janitorial Closet and Kitchen
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom chemicals	
Glues	
Scented trees, wreaths, potpourri, etc.	
Other (specify):	
Other (specify):	

**INDOOR AIR QUALITY BUILDING SURVEY**

- What are the hours during which a majority of the workers are in the building during a work day?

Workers may be in the building 24 hours a day.

- Do the occupants of the building frequently have their clothes dry-cleaned? Y  N

- Was there any recent remodeling or painting done in the building? Y  N

- When and where was the most recent carpeting applied in the building? 2012, building-wide

- Were glues used to attach the carpeting to the floor slab? Y  N

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y  N

- Are there any new upholstery, drapes, or other textiles in the building? Y  N

- Has the building been treated with any insecticides/pesticides? Y  N

If so, what chemicals were used and how often were they applied? \_\_\_\_\_

**Outdoor sources of contamination:**

- Is there any stationary emission source in the vicinity of the building? GW treatment systems located nearby. Tower 19 is immediately south of bldg, Tower 1 is 800 ft north, Tower 3 is 1500 ft north.

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, Highway 101 and Ellis Street

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Utility trenching performed

during 2012 renovations.

HVAC Inspection Performed by Air Systems, Inc.  
 389 North Whisman Road  
 Mountain View, California



Date	HVAC #	Make	Model	Serial Number	Disconnect On/Off	Status	OSA Intake	OSA Temp	Package Unit	OSA Damper % on Computer	Actual OSA Damper %	Static	VFD Fan Speed	Exhaust Capacity	OSA Opening Size	OSA AK	Economizer	Avg FPM using (Velgrid)	OSA CFM	Note
11/7/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73828	ON	ON	YES	73.4	NO	20%	20%	1.6	66%	YES	48X55	18.33	YES	130	2,383	
11/7/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73821	ON	ON	YES	71.9	NO	20%	20%	1.1	66%	YES	48X55	18.33	YES	165	3,024	
11/7/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73822	ON	ON	YES	68.3	NO	20%	20%	0.5	19%	YES	48X55	18.33	YES	127	2,328	
11/7/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73829	ON	ON	YES	67.5	NO	20%	10%	1.1	44%	YES	48X55	18.33	YES	91	1,668	
11/7/2012	MAU-1	Trane	YCH211F4V0AA	1209108Y2D	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	30x56	11.66	YES	530	6,180	100% OSA Unit
11/7/2012	AC 2-1	Trane	TSC036E4R0A1AC	120710024L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	0	0	
11/7/2012	AC 2-2	Trane	TSC036E4R0A1AC	120710044L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	35	72	
11/21/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73828	ON	ON	YES	73.4	NO	100%	100%	1.3	64%	YES	48X55	18.33	YES	339	6,214	
11/21/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73821	ON	ON	YES	71.9	NO	86%	86%	1.1	64%	YES	48X55	18.33	YES	324	5,939	
11/21/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73822	ON	ON	YES	68.3	NO	64%	64%	0.5	16%	YES	48X55	18.33	YES	171	3,134	
11/21/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73829	ON	ON	YES	67.5	NO	61%	61%	0.5	14%	YES	48X55	18.33	YES	132	2,420	
11/21/2012	MAU-1	Trane	YCH211F4V0AA	1209108Y2D	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	30x56	11.66	YES	540	6,296	100% OSA Unit
11/21/2012	AC 2-1	Trane	TSC036E4R0A1AC	120710024L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	67	138	
11/21/2012	AC 2-2	Trane	TSC036E4R0A1AC	120710044L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	0	0	

**Legend**

OSA - Outside air  
 VFD - Variable flow drive  
 CFM - Cubic feet per minute  
 FPM - Feet per minute  
 OSA AK - Intake area  
 MAU - Makeup air unit  
 N/A - Not available

# INDOOR AIR QUALITY BUILDING SURVEY



BUILDING: 399 North Whisman Road

## Owner/Developer/Property Manager

### Contact

Name: Perry Palmer, Keenan Lovewell Ventures

Address: 700 Emerson Street  
Palo Alto, CA 94301

Phone: 650.614.6224

Email: perry.palmer@mindspring.com

## Tenant

### Contact

Name: Martin Suen, Google

Address: 1600 Amphitheatre Parkway  
Mountain View, CA 94043

Phone: 415.378.9105

Email: martinsuen@google.com

## Notes

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**INDOOR AIR QUALITY BUILDING SURVEY**

**Building Construction Characteristics:**

- General description of building construction materials (Check all that apply): Concrete tilt-up  
 Reinforced concrete    Steel-framed    Wood-framed    Concrete Masonry Units (CMU)
- How many occupied stories does the building have? Two
- What year was the building constructed? 1998
- What type of basement does the building have? (Check all that apply)  
 None    Full basement    Other (specify): \_\_\_\_\_
- How is the basement used? (Check all that apply)  
 Not used    Office space    Storage Utilities    Other (specify): \_\_\_\_\_
- What are the characteristics of the basement? (Check all that apply)  
 Basement floor:    Concrete    Other (specify): \_\_\_\_\_  
 Foundation walls:    Poured concrete    Other (specify): \_\_\_\_\_  
 Moisture:    Dry    Wet    Damp    Other (specify): \_\_\_\_\_  
 What are the characteristics of the floor slab? (Check all that apply)  
 Concrete     Carpeted     Tiled     Stone  
 Cracks    Seams     Other (specify): Utility trenching
- Are drains or sumps present?    Y     N \_\_\_\_\_    Describe each, including information on contents :  
Floor drains in restrooms, kitchen areas, and janitorial closet
- Are elevator shafts present?    Y     N \_\_\_\_\_    Describe each: Two-story hydraulic -  
approximately 15 feet deep to house hydraulic shaft

**INDOOR AIR QUALITY BUILDING SURVEY**

- Are there locations where chemicals were or are used or stored? Y  N

Check all that apply:

Kitchen       Janitorial Closet      Other (specify): \_\_\_\_\_

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y  N

Check all that apply:

Water       Sanitary Sewer      Communication      Gas       Electrical

Other (specify): \_\_\_\_\_

- Were foundation design specifications and as-built drawings for the facility obtained? Y  N

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab? Y  N

Describe: lime treated native soil used in lieu of 13" untreated aggregate base rock & specifically intended to reduce crack formation and thus vapor transmission

- Was a vapor barrier installed under the floor slab? Y  N

Describe: Earth Shield Barrier Film moisture barrier

- Were any other liners installed under the floor slab? Y  N

Describe: Not known

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking? Y  N

Describe: #3 rebar configured in an 8" on-center grid

- Were other techniques used to restrict vapor migration through the floor slab? Y  N

Describe: Special concrete additives to reduce cracking, permeability, and capillary channels. Sonnenbourn primer and sealer applied previously.

**Heating, Ventilation and Air Conditioning Systems (HVAC):**

- Were HVAC as-built drawings for the facility obtained? Y  N

- Is the HVAC system a zone cooling/heating system? Y  N

- If not, what type of HVAC system is used in this building? \_\_\_\_\_

**INDOOR AIR QUALITY BUILDING SURVEY**

• How Many? 6

• Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

Six units with OSA intake and economizer. Four zone systems, two package units.

Also see table attached to this survey.

Other (specify and describe): \_\_\_\_\_

• Does the HVAC system have an exhaust capability? Y  N

• What other type of mechanical ventilation systems are present and/or currently operating in the building?

Mechanical fans      Open windows       Restroom vent fans      Fume Hoods

Other (specify): \_\_\_\_\_

• Who maintains and manages the HVAC system operation? Air Systems Inc.

• Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends:

HVAC operates 24 hours a day, seven days a week.

Additional information is provided in the attached table.

• What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas      Electric      Solar      Geothermal      Other (specify): \_\_\_\_\_

• Are any other fuels or chemicals used in this building? Y  N

Describe: See list of potential chemical sources on next page

# INDOOR AIR QUALITY BUILDING SURVEY



**Sources of Chemical Contaminants:**

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints or paint thinners	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	Janitorial Closet and Kitchen
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom chemicals	
Glues	
Scented trees, wreaths, potpourri, etc.	
Other (specify):	
Other (specify):	

**INDOOR AIR QUALITY BUILDING SURVEY**

- What are the hours during which a majority of the workers are in the building during a work day?

Workers may be in the building 24 hours a day.

- Do the occupants of the building frequently have their clothes dry-cleaned? Y  N

- Was there any recent remodeling or painting done in the building? Y  N

- When and where was the most recent carpeting applied in the building? 2012, building-wide

- Were glues used to attach the carpeting to the floor slab? Y  N

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y  N

- Are there any new upholstery, drapes, or other textiles in the building? Y  N

- Has the building been treated with any insecticides/pesticides? Y  N

If so, what chemicals were used and how often were they applied? \_\_\_\_\_

**Outdoor sources of contamination:**

- Is there any stationary emission source in the vicinity of the building? GW treatment systems located nearby. Tower 19 is 320 ft SE, Tower 1 is 650 ft NE, Tower 3 is 1400 ft NE.

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, Highway 101 and Ellis Street

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Utility trenching performed

during 2012 renovations.

HVAC Inspection Performed by Air Systems, Inc.  
 399 North Whisman Road  
 Mountain View, California



Date	HVAC #	Make	Model	Serial Number	Disconnect On/Off	Status	OSA Intake	OSA Temp	Package Unit	OSA Damper % on Computer	Actual OSA Damper %	Static	VFD Fan Speed	Exhaust Capacity	OSA Opening Size	OSA AK	Economizer	Avg FPM using (Velgrid)	OSA CFM	Note
11/7/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73830	ON	ON	YES	64.5	NO	100%	100%	0.5	42%	YES	48X55	18.33	YES	233	4,271	
11/7/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73827	ON	ON	YES	64.5	NO	83%	100%	0.5	23%	YES	48X55	18.33	YES	322	5,902	
11/7/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73825	ON	ON	YES	64.5	NO	100%	100%	0.5	47%	YES	48X55	18.33	YES	279	5,114	
11/7/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73826	ON	ON	YES	64.5	NO	100%	100%	1.0	39%	YES	48X55	18.33	YES	276	5,059	
11/7/2012	AC 2-1	Trane	TSC036E4R0A1AC0D0	120710034L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	0	0	Unit Off
11/7/2012	AC 2-2	Trane	TSC036E4R0A1AC0D0	120710054L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	90	185	
11/21/2012	AC-2	Trane	SXHFC5040P45F7AD6	J97L73830	ON	ON	YES	64.5	NO	92%	90%	1.0	57%	YES	48X55	18.33	YES	237	4,344	
11/21/2012	AC-3	Trane	SXHFC5040P45F7AD6	J97L73827	ON	ON	YES	64.5	NO	27%	27%	0.5	15%	YES	48X55	18.33	YES	81	1,485	
11/21/2012	AC-4	Trane	SXHFC5040P45F7AD6	J97L73825	ON	ON	YES	64.5	NO	48%	50%	0.5	50%	YES	48X55	18.33	YES	116	2,126	
11/21/2012	AC-1	Trane	SXHFC5040P45F7AD6	J97L73826	ON	ON	YES	64.5	NO	79%	100%	1.1	37%	YES	48X55	18.33	YES	222	4,069	
11/21/2012	AC 2-1	Trane	TSC036E4R0A1AC0D0	120710034L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	62	128	
11/21/2012	AC 2-2	Trane	TSC036E4R0A1AC0D0	120710054L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	27x11	2.06	YES	0	0	Unit Off

**Legend**

- OSA - Outside air
- VFD - Variable flow drive
- CFM - Cubic feet per minute
- FPM - Feet per minute
- OSA AK - Intake area
- N/A - Not available

# INDOOR AIR QUALITY BUILDING SURVEY



BUILDING: 468 Ellis Street

## Owner/Developer/Property Manager

### Contact

Name: Perry Palmer, Keenan Lovewell Ventures

Address: 700 Emerson Street  
Palo Alto, CA 94301

Phone: 650.614.6224

Email: perry.palmer@mindspring.com

## Tenant

### Contact

Name: Martin Suen, Google

Address: 1600 Amphitheatre Parkway  
Mountain View, CA 94043

Phone: 415.378.9105

Email: martinsuen@google.com

## Notes

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**INDOOR AIR QUALITY BUILDING SURVEY**

**Building Construction Characteristics:**

- General description of building construction materials (Check all that apply): Concrete tilt-up  
 Reinforced concrete     Steel-framed     Wood-framed     Concrete Masonry Units (CMU)
- How many occupied stories does the building have? Two
- What year was the building constructed? 1998
- What type of basement does the building have? (Check all that apply)  
 None     Full basement     Other (specify): \_\_\_\_\_
- How is the basement used? (Check all that apply)  
 Not used     Office space     Storage Utilities     Other (specify): \_\_\_\_\_
- What are the characteristics of the basement? (Check all that apply)  
 Basement floor:     Concrete     Other (specify): \_\_\_\_\_  
 Foundation walls:     Poured concrete     Other (specify): \_\_\_\_\_  
 Moisture:     Dry     Wet     Damp     Other (specify): \_\_\_\_\_  
 What are the characteristics of the floor slab? (Check all that apply)  
 Concrete      Carpeted      Tiled      Stone  
 Cracks     Seams      Other (specify): Utility trenching
- Are drains or sumps present?    Y     N \_\_\_\_\_ Describe each, including information on contents :  
Floor drains in restrooms, kitchen areas, and janitorial closet
- Are elevator shafts present?    Y     N \_\_\_\_\_ Describe each: Two-story hydraulic -  
approximately 15 feet deep to house hydraulic shaft

**INDOOR AIR QUALITY BUILDING SURVEY**

- Are there locations where chemicals were or are used or stored? Y  N

Check all that apply:

Kitchen       Janitorial Closet      Other (specify): \_\_\_\_\_

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y  N

Check all that apply:

Water       Sanitary Sewer      Communication      Gas       Electrical

Other (specify): \_\_\_\_\_

- Were foundation design specifications and as-built drawings for the facility obtained? Y  N

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab? Y  N

Describe: lime treated native soil used in lieu of 13" untreated aggregate base rock & specifically intended to reduce crack formation and thus vapor transmission

- Was a vapor barrier installed under the floor slab? Y  N

Describe: Earth Shield Barrier Film moisture barrier

- Were any other liners installed under the floor slab? Y  N

Describe: Not known

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking? Y  N

Describe: #3 rebar configured in an 8" on-center grid

- Were other techniques used to restrict vapor migration through the floor slab? Y  N

Describe: Special concrete additives to reduce cracking, permeability, and capillary channels. Sonnenbourn primer and sealer applied previously.

**Heating, Ventilation and Air Conditioning Systems (HVAC):**

- Were HVAC as-built drawings for the facility obtained? Y  N

- Is the HVAC system a zone cooling/heating system? Y  N

- If not, what type of HVAC system is used in this building? \_\_\_\_\_

**INDOOR AIR QUALITY BUILDING SURVEY**

• How Many? 7

• Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

Seven units with OSA intake and economizer. Six zone systems, one package unit.

Also see table attached to this survey.

Other (specify and describe): \_\_\_\_\_

• Does the HVAC system have an exhaust capability? Y  N

• What other type of mechanical ventilation systems are present and/or currently operating in the building?

Mechanical fans      Open windows       Restroom vent fans      Fume Hoods

Other (specify): Kitchen exhaust fans

• Who maintains and manages the HVAC system operation? Air Systems Inc.

• Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends:

HVAC operates 24 hours a day, seven days a week.

Additional information is provided in the attached table.

• What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas      Electric      Solar      Geothermal      Other (specify): \_\_\_\_\_

• Are any other fuels or chemicals used in this building? Y  N

Describe: See list of potential chemical sources on next page

# INDOOR AIR QUALITY BUILDING SURVEY



## Sources of Chemical Contaminants:

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints or paint thinners	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	Janitorial Closet and Kitchen
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom chemicals	
Glues	
Scented trees, wreaths, potpourri, etc.	
Other (specify):	
Other (specify):	

**INDOOR AIR QUALITY BUILDING SURVEY**

- What are the hours during which a majority of the workers are in the building during a work day?

Workers may be in the building 24 hours a day.

- Do the occupants of the building frequently have their clothes dry-cleaned? Y  N

- Was there any recent remodeling or painting done in the building? Y  N

- When and where was the most recent carpeting applied in the building? 2012, building-wide

- Were glues used to attach the carpeting to the floor slab? Y  N

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y  N

- Are there any new upholstery, drapes, or other textiles in the building? Y  N

- Has the building been treated with any insecticides/pesticides? Y  N

If so, what chemicals were used and how often were they applied? \_\_\_\_\_

**Outdoor sources of contamination:**

- Is there any stationary emission source in the vicinity of the building? GW treatment systems located nearby. Tower 1 is 900 ft NE, Tower 19 is 600 ft SW, Vishay system is 300 ft north.

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, Highway 101 and Ellis Street

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Utility trenching performed

during 2012 renovations.

HVAC Inspection Performed by Air Systems, Inc.  
 468 Ellis Street  
 Mountain View, California



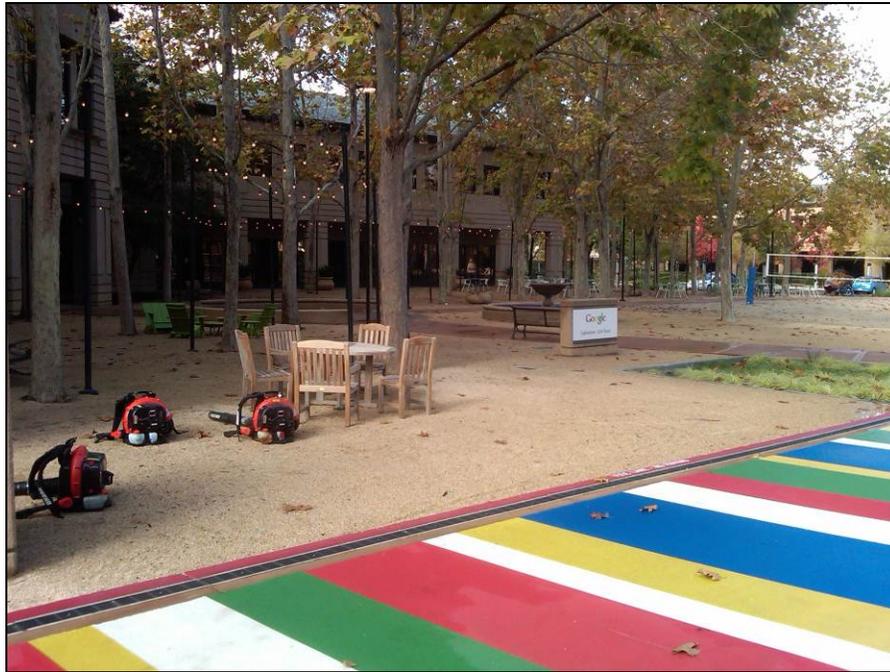
Date	HVAC #	Make	Model	Serial Number	Disconnect On/Off	Status	OSA Intake	OSA Temp	Package Unit	OSA Damper % on Computer	Actual OSA Damper %	Static	VFD Fan Speed	Exhaust Capacity	OSA Opening Size	OSA AK	Economizer	Avg FPM using (Velgrid)	OSA CFM	Note
11/7/2012	AC-1	Trane	SXHFC5540M67F	J97E71381	ON	ON	YES	66	NO	20%	0%	0.5	42%	YES	48X55	18.33	YES	0	0	
11/7/2012	AC-3	Trane	SXHFC5040M67F	J97E71373	ON	ON	YES	66	NO	20%	20%	0.5	23%	YES	48X55	18.33	YES	180	3,299	
11/7/2012	AC-4	Trane	SXHFC5040M67F	J97E71377	ON	ON	YES	66	NO	20%	20%	0.5	47%	YES	62x60	25.83	YES	169	4,365	
11/7/2012	AC-2	Trane	SXHFC5540M67F	J97E71382	ON	ON	YES	66	NO	20%	20%	1.0	39%	YES	62x60	25.83	YES	133	3,435	
11/7/2012	MAU-1	Trane	SLHRD1246D00G	C12C01772	ON	ON	YES	N/A	NO	N/A	100%	27	78%	NO	75x67	34.89	YES	1,356	47,311	MAU 100% OSA
11/7/2012	AC 2-1	Trane	THC120E4R0A0	121110889L	ON	ON	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	36x15	3.75	YES	127	476	
11/7/2012	AC-5	Trane	SXHFLF2040F37	C12001771	ON	ON	YES	N/A	NO	12	12%	1.0	82%	YES	35x32	7.77	YES	365	2,836	
11/21/2012	AC-1	Trane	SXHFC5540M67F	J97E71381	ON	ON	YES	66	NO	20%	0%	0.5	56%	YES	48X55	18.33	YES	0	0	
11/21/2012	AC-3	Trane	SXHFC5040M67F	J97E71373	ON	ON	YES	66	NO	50%	20%	1.3	41%	YES	48X55	18.33	YES	265	4,857	
11/21/2012	AC-4	Trane	SXHFC5040M67F	J97E71377	ON	ON	YES	66	NO	0%	5%	1.3	64%	YES	62x60	25.83	YES	62	1,601	
11/21/2012	AC-2	Trane	SXHFC5540M67F	J97E71382	ON	ON	YES	66	NO	20%	20%	1.3	8%	YES	62x60	25.83	YES	76	1,963	
11/21/2012	MAU-1	Trane	SLHRD1246D00G	C12C01772	ON	ON	YES	N/A	NO	N/A	100%	27	78%	NO	75x67	34.89	YES	1,363	47,555	MAU 100% OSA
11/21/2012	AC 2-1	Trane	THC120E4R0A0	121110889L	ON	OFF	YES	N/A	YES	N/A	N/A	N/A	N/A	NO	36x15	3.75	YES	0	0	Unit Off
11/21/2012	AC-5	Trane	SXHFLF2040F37	C12001771	ON	ON	YES	N/A	NO	12	12%	1.0	84%	YES	35x32	7.77	YES	365	2,836	

**Legend**

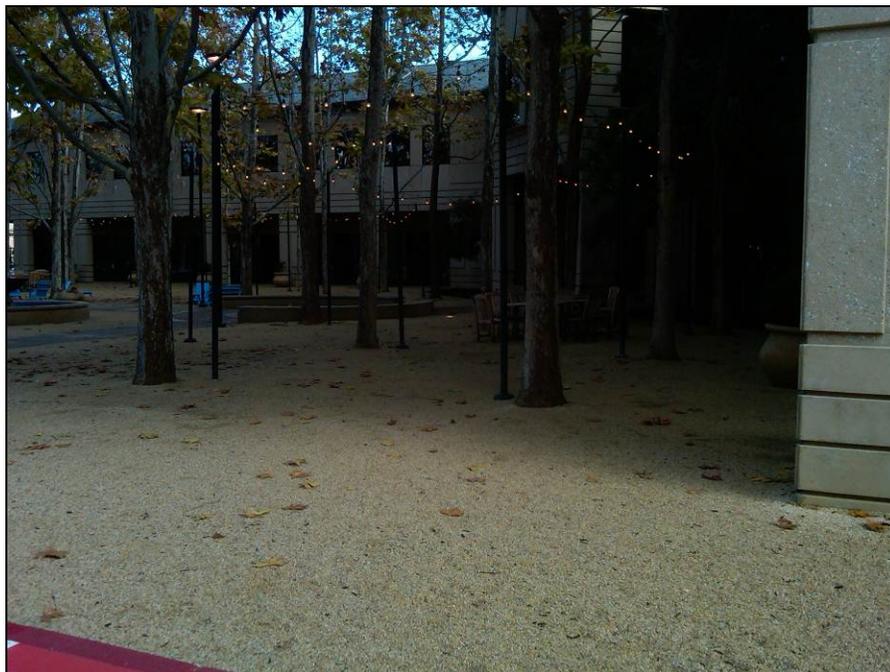
OSA - Outside air  
 VFD - Variable flow drive  
 CFM - Cubic feet per minute  
 FPM - Feet per minute  
 OSA AK - Intake area  
 MAU - Makeup air unit  
 N/A - Not available

## **APPENDIX B**

### **Photographs**



Photograph 1. View of exterior of 369 North Whisman Road.



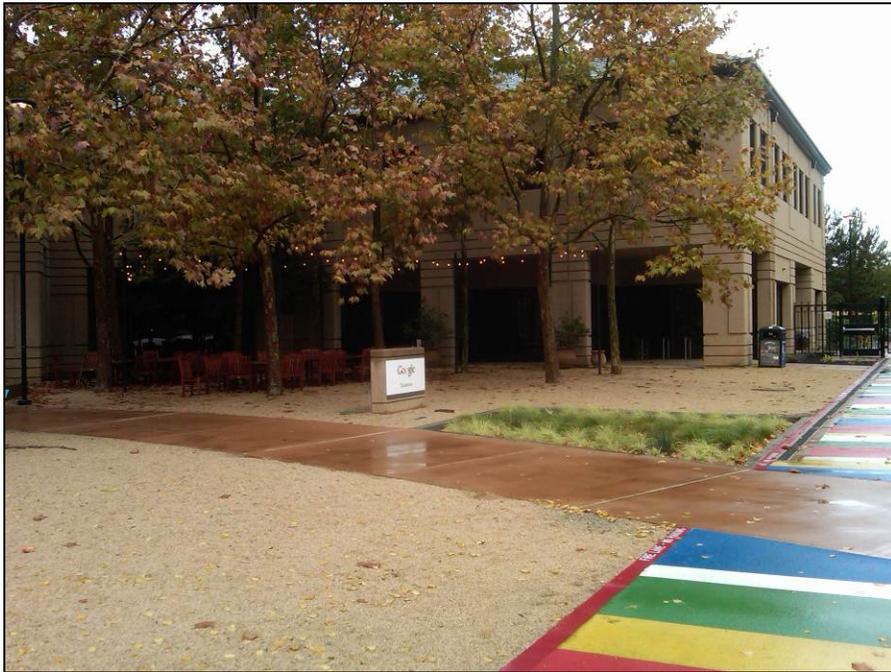
Photograph 2. View of exterior of 379 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

G:\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_01\_Building-specific\_Indoor\_Air\_Sampling\_Report\Appendices\Appendix B -  
Photographs\2013\_02\_Photographs\_369-399\_Whisman\_468\_Ellis\_vF.doc



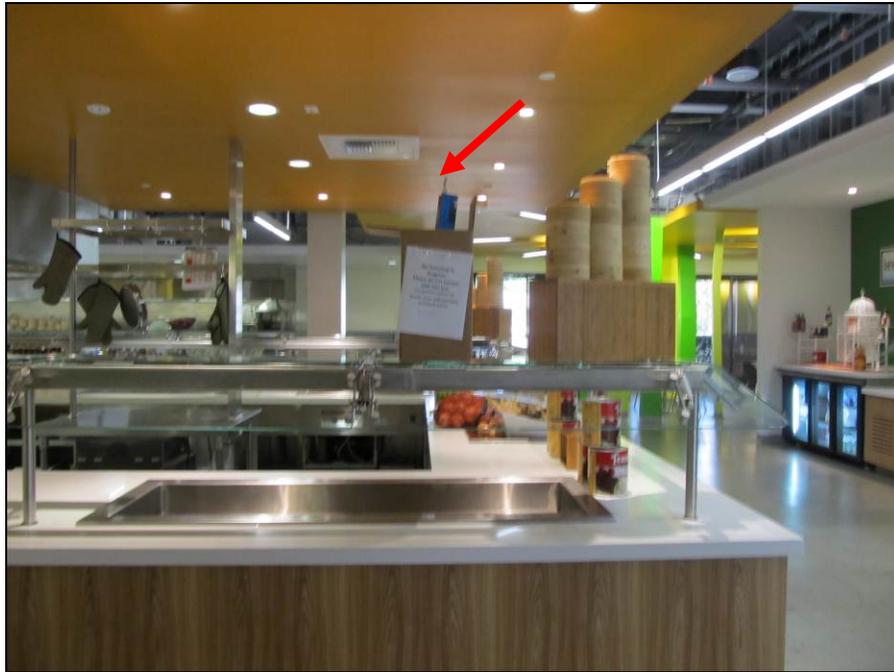
Photograph 3. View of exterior of 389 North Whisman Road.



Photograph 4. View of exterior of 399 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

G:\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_01\_Building-specific\_Indoor\_Air\_Sampling\_Report\Appendices\Appendix B -  
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Photograph 5. View of sample 369AMB3 located in a dining area near the 2012 renovation utility trench in 369 North Whisman Road.



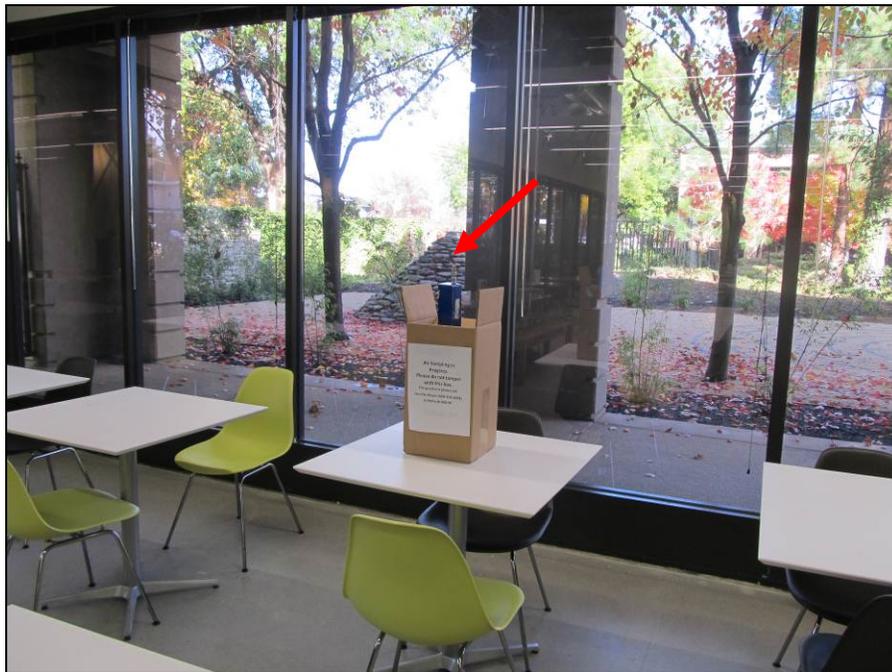
Photograph 6. View of sample 369AMB5 and duplicate located in a conference room in 369 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

G:\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_01\_Building-specific\_Indoor\_Air\_Sampling\_Report\Appendices\Appendix B -  
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Photograph 7. View of sample 369AMB6 located in a training room near the 2012 renovation utility trench in 369 North Whisman Road.



Photograph 8. View of sample 369AMB7 located in the dining area near the 2012 renovation utility trench in 369 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photograph 9. View of sample 369AMB8 located in the badging office near the fire riser in 369 North Whisman Road.



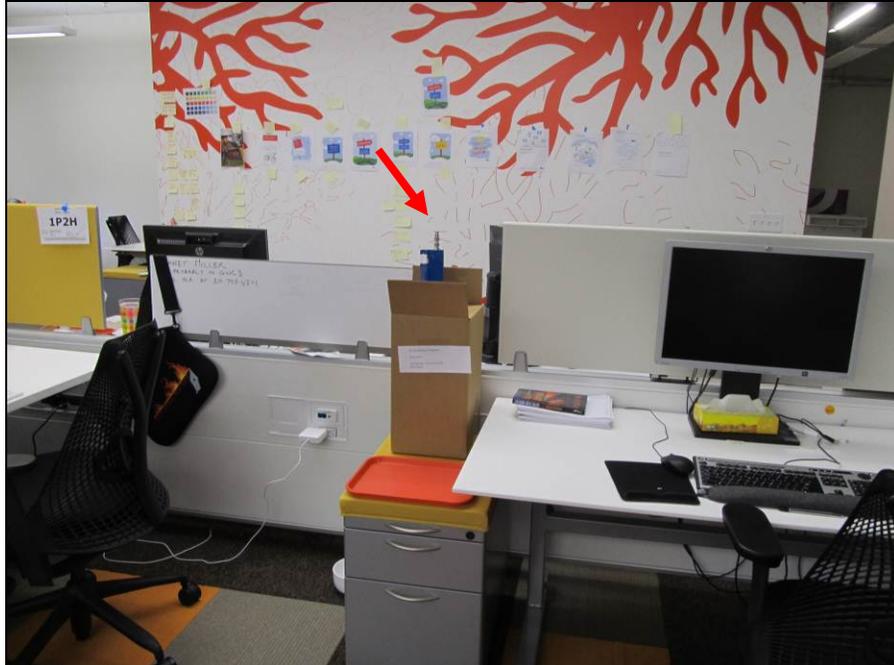
Photograph 10. View of sample 369HVAC1 located on the roof near an HVAC intake at 369 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

G:\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_01\_Building-specific\_Indoor\_Air\_Sampling\_Report\Appendices\Appendix B -  
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Photograph 11. View of sample 379AMB1 located in a hallway near the 2012 renovation utility trench in 379 North Whisman Road.



Photograph 12. View of sample 379AMB2 located in an open office area in 379 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photograph 13. View of sample 379AMB3 located in a conference room in 379 North Whisman Road.



Photograph 14. View of sample 379AMB4 located in an open office area near the 2012 renovation utility trench in 379 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photographs\2013\_02\_Photographs\_369-399\_Whisman\_468\_Ellis\_vF.doc



Photograph 15. View of sample 379AMB6 located in a hallway near a meeting area and previously sealed conduits in 379 North Whisman Road.



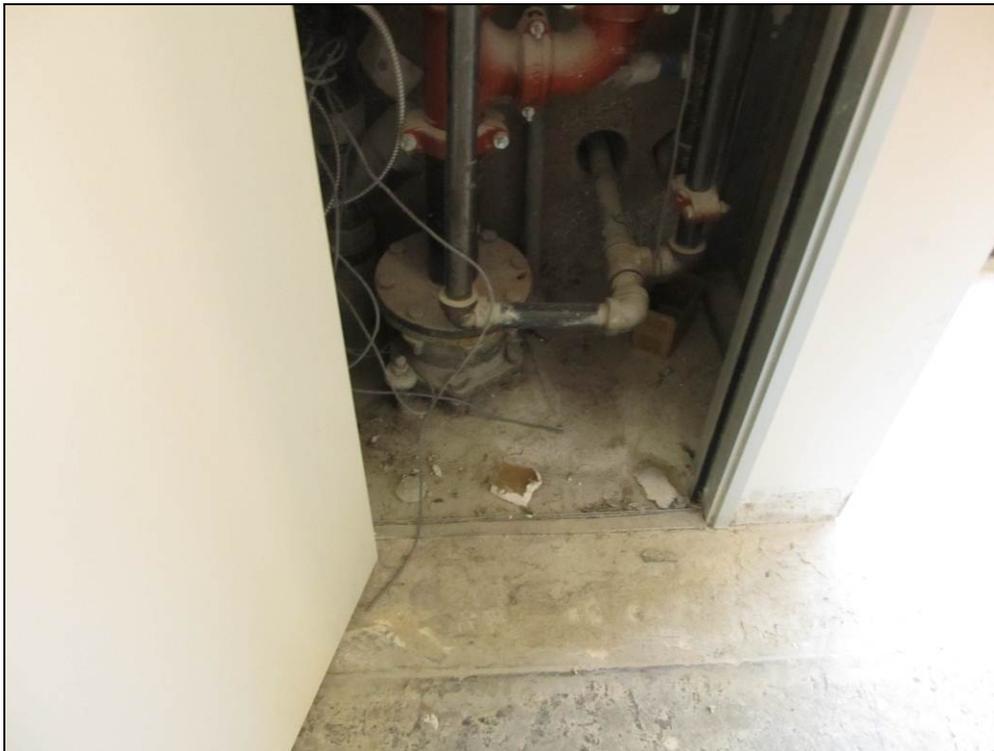
Photograph 16. View of sample 379HVAC1 located on the roof near an HVAC intake at 379 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

G:\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_01\_Building-specific\_Indoor\_Air\_Sampling\_Report\Appendices\Appendix B -  
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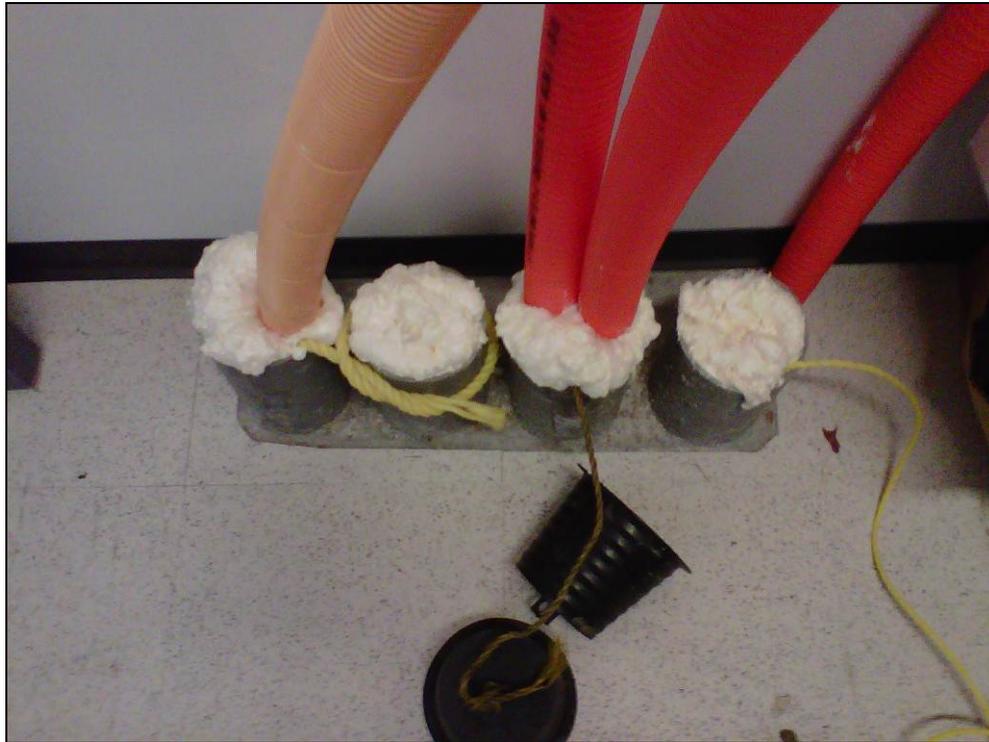
Photograph 17. View of fire riser in 379 North Whisman Road. Photo was taken prior to sealing activities performed on 2 September 2010.



Photograph 18. View of sealed fire riser in 379 North Whisman Road. Photo was taken during renovations in April 2012

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photographs\2013\_02\_Photographs\_369-399\_Whisman\_468\_Ellis\_vF.doc



Photograph 19. View of conduits sealed on 2 September 2010 in 379 North Whisman Road.



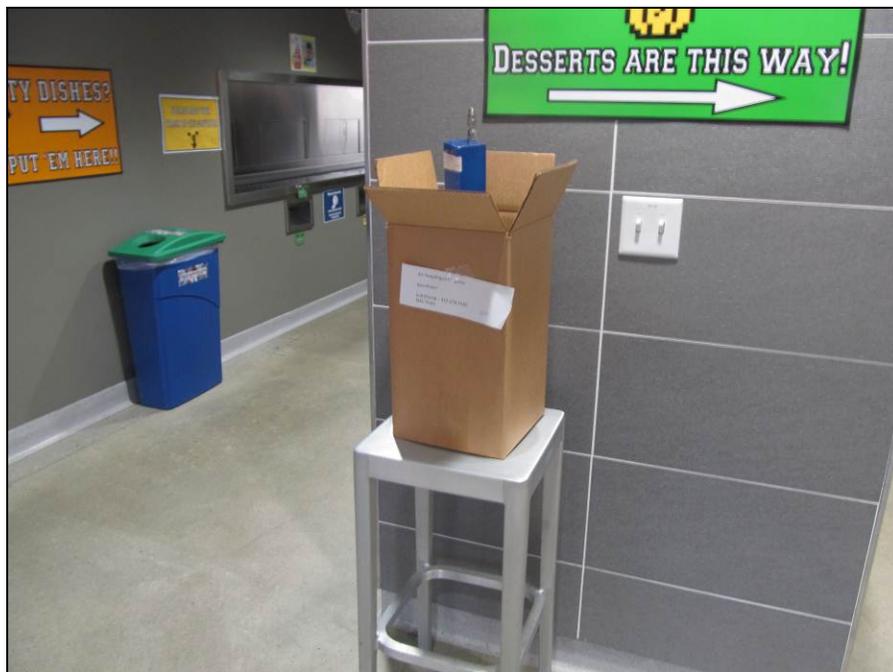
Photograph 20. View of water conduit at 379 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

G:\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_01\_Building-specific\_Indoor\_Air\_Sampling\_Report\Appendices\Appendix B -  
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Photograph 21. View of overhead sealed conduit in 379 North Whisman Road, near indoor air sample location 379AMB6.



Photograph 22. View of sample 389AMB1 located in a dining area near the 2012 renovation utility trench in 389 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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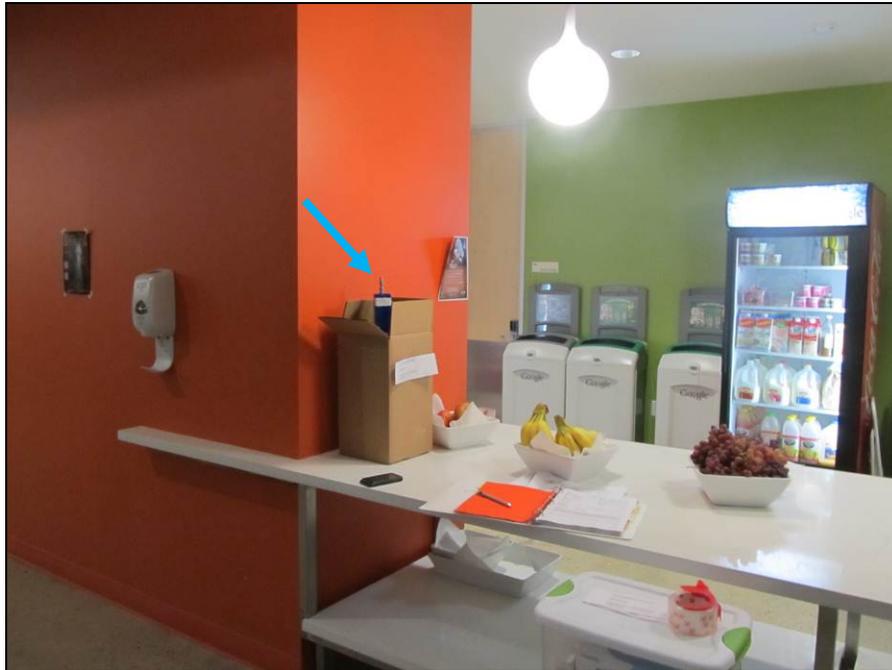
Photograph 23. View of sample 389AMB2 located in an open office area in 389 North Whisman Road.



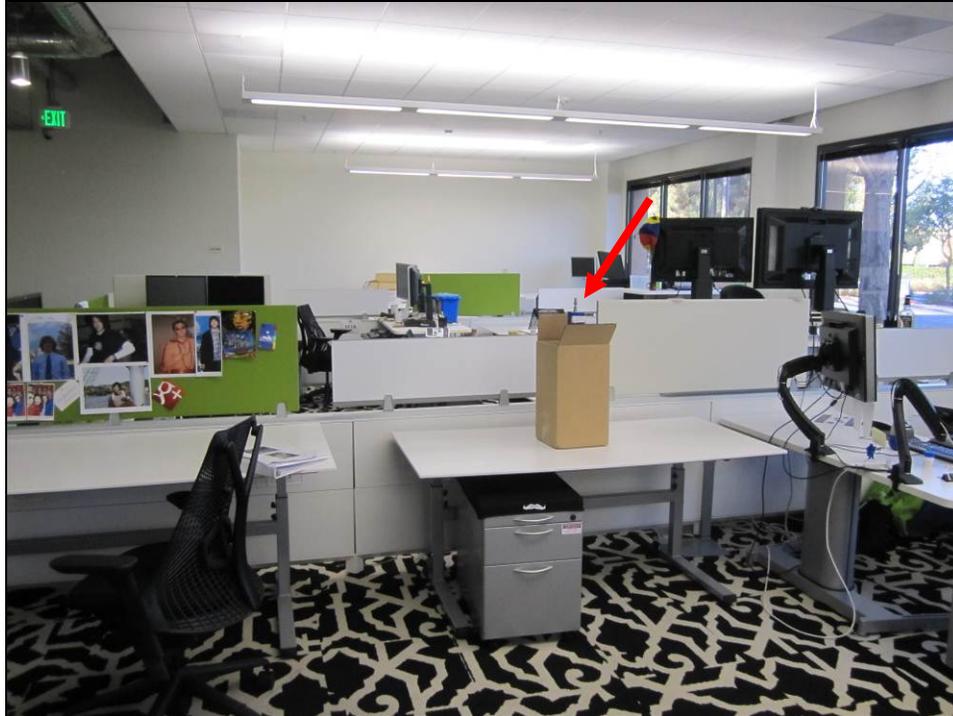
Photograph 24. View of sample 389AMB3 located in an open office/meeting area in 389 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photograph 25. View of sample 389AMB4 located in a break area near the 2012 renovation utility trench in 389 North Whisman Road.



Photograph 26. View of sample 389AMB6 located in an open office area near the fire riser.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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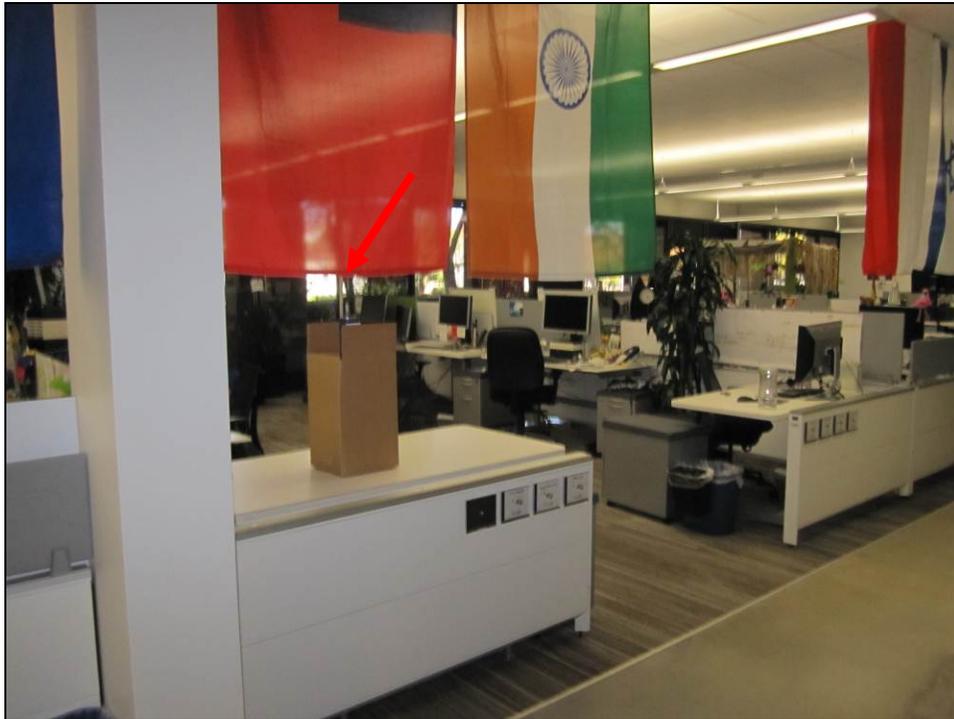
Photograph 27. View of sample 389HVAC1 located on the roof near an HVAC intake at 389 North Whisman Road.



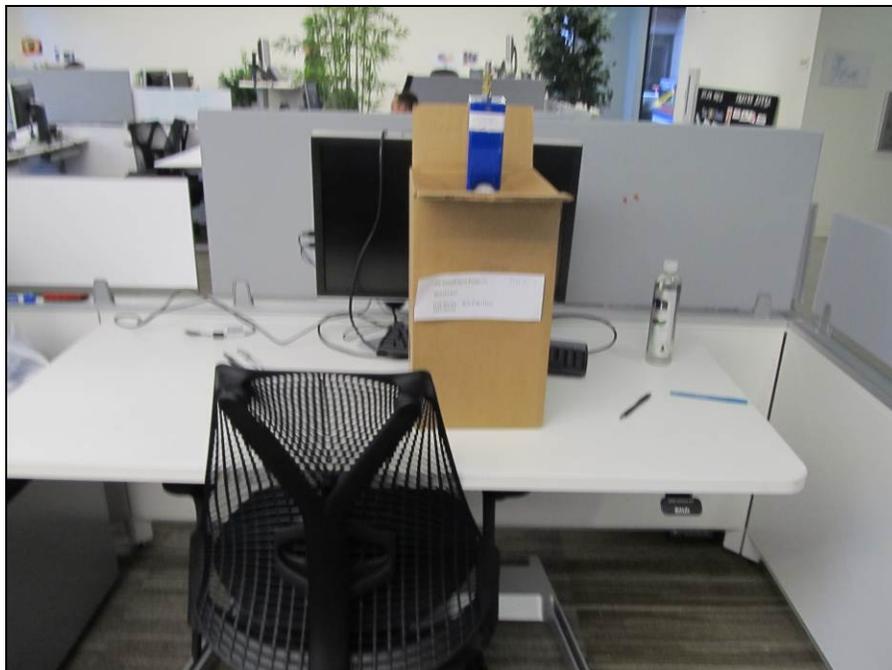
Photograph 28. View of sample 399AMB1 located in a hallway near the 2012 renovation utility trench in 399 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photograph 29. View of sample 399AMB2 located in an open office area in 399 North Whisman Road.



Photograph 30. View of sample 399AMB3 located in an open office area near the fire riser in 399 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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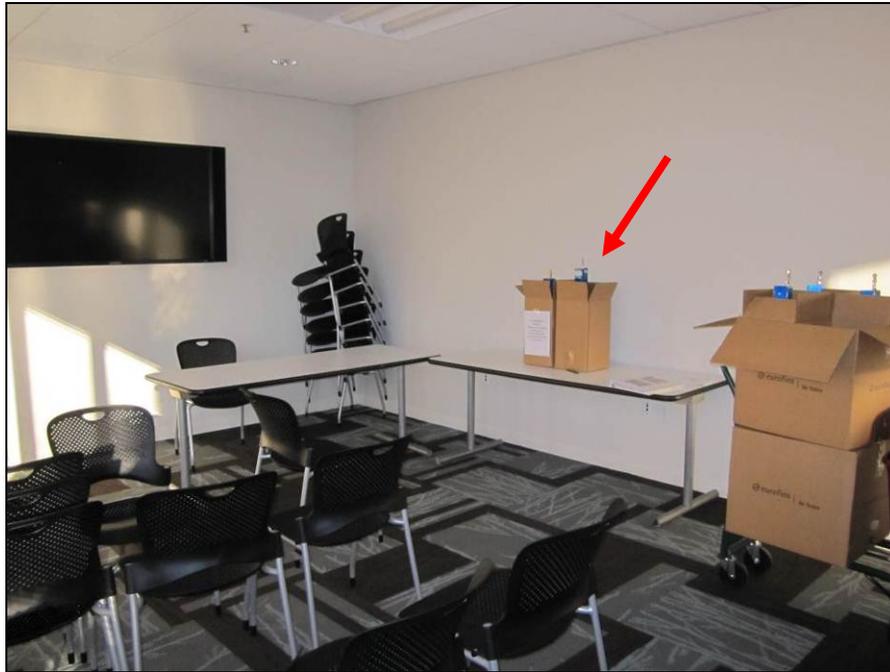
Photograph 31. View of sample 399AMB4 located in an open office area in 399 North Whisman Road.



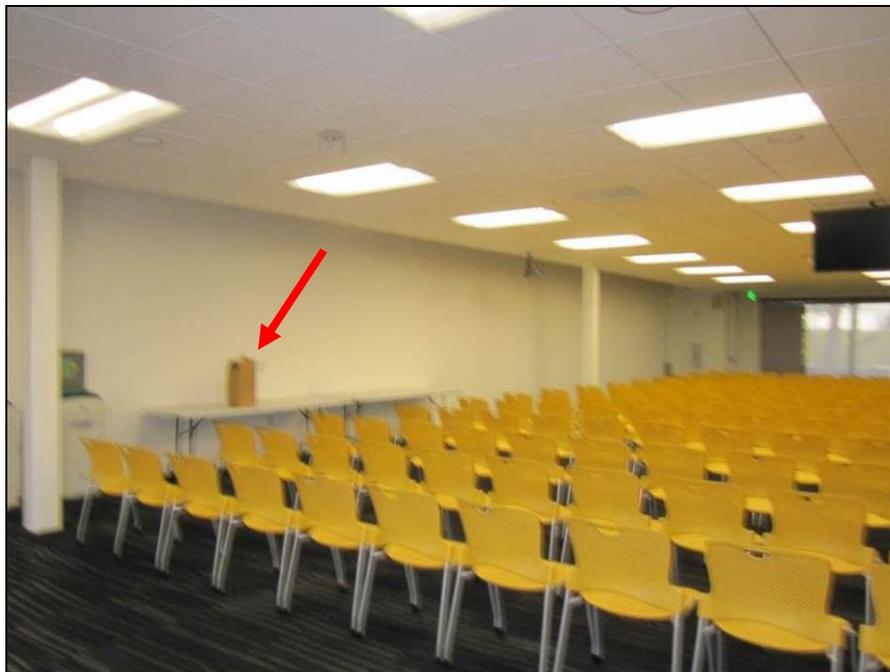
Photograph 32. View of sample 399AMB5 located in a conference room in 399 North Whisman Road.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photographs\2013\_02\_Photographs\_369-399\_Whisman\_468\_Ellis\_vF.doc



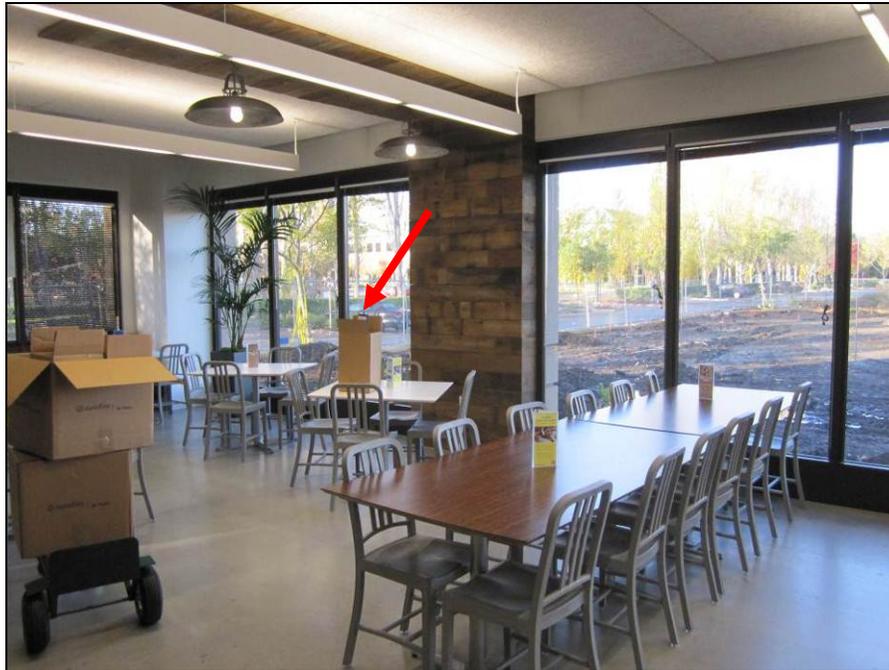
Photograph 33. View of sample 468AMB1 and duplicate located in a classroom in the wellness center near the 2012 renovation utility trench in 468 Ellis Street.



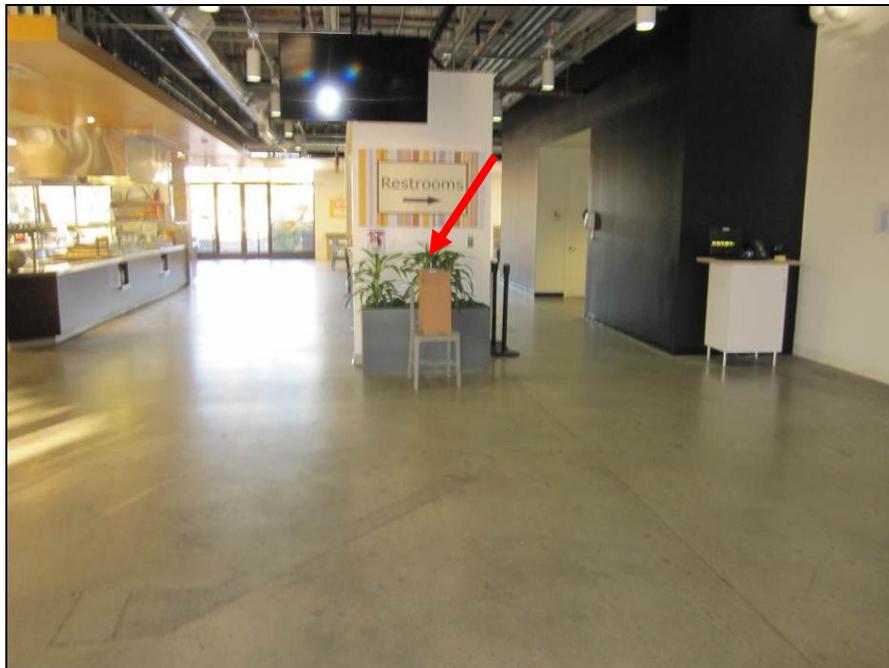
Photograph 34. View of sample 468AMB2 located in a conference room near the 2012 renovation utility trench in 468 Ellis Street.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photograph 35. View of sample 468AMB4 located in a dining area near the 2012 renovation utility trench and fire riser in 468 Ellis Street.



Photograph 36. View of sample 468AMB5 located in a dining area near the 2012 renovation utility trench in 468 Ellis Street.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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Photograph 37. View of sample 468HVAC1 located on the roof near an HVAC intake at 468 Ellis Street.



Photograph 38. 468OUT1 located in the courtyard outside 468 Ellis Street.

369-399 North Whisman Road and 468 Ellis Street  
Mountain View, California

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**APPENDIX D**

**Tier I Validation Quality Assurance/  
Quality Control Formf**

TIER I EVALUATION QUALITY ASSURANCE/QUALITY CONTROL FORM

Updated September 2012

Site: MENVI / 369 N. Whisman Rd. Project No: 37498-003

Laboratory report or WO#: 121555

Sample Date: 11/21, 11/23/2012

Report Date: 12/13/2012

Yes	No	NA	Validation Check	Comments	Reviewed By	Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Data Completeness</b> Match Chain of Custody (COC) to laboratory report	Identify any discrepancies.	SMB	12/13/12
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<b>Reporting Limits</b> Samples analyzed at a dilution factor of 1	Identify list of samples which have a dilution factor (DF) greater than 1. Identify if DF greater than 10X.	DF range from 1.55 to 1.71 No Action SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Screening Levels</b> Detection Limits below screening levels	Identify list of samples which exceed screening levels. Notify PM if TCE exceeds 5 ug/m3 immediately.	369 AMB6-112312 369 AMB B-112312 369 AMB5-112312 369 DUP 1-112312 OVER TCE screening level SMB	12/13/12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Detects below screening levels			
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Holding Times</b> Hold times met	Identify list of samples which exceed hold times.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Method Blanks</b> Contaminant free	List all contaminants and concentrations.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Surrogate/System Monitoring Compounds Recovery</b> Percent recovery criteria met	Identify all non-compliant %recoveries.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Laboratory Control Samples</b> Percent recoveries within limits	Identify all non-compliant % and RPD. VOCs Method TO-15 SIM Acceptable Criteria*: 70-130 %R (LCS Accuracy) 30 RPD (LCS Precision) *Work Plan Table F-III	SMB	12/13/12
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Laboratory Corrective Actions</b> Laboratory implemented corrective actions	Identify correction actions.	SMB	12/13/12
Data considered acceptable as reported by the laboratory if the following checklist items are marked yes: holding times, method blanks, surrogate/system monitoring compounds recovery, laboratory control samples, and laboratory corrective actions.						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Validation</b> Laboratory Report will be Tier II validated	If any of the checklist items above are marked no, data will be Tier II validated.	SMB	12/13/12

Analyte	Laboratory Reporting Limits for Selected Sampling Methods	Indoor Air Cleanup Level (ug/m3)
	EPA Method TO-15 SIM (ug/m3)	Commercial
Trichloroethene	0.18 - 0.19	5
Tetrachloroethene	0.23 - 0.24	2
cis-1,2-Dichloroethene	0.13 - 0.14	210
trans-1,2-Dichloroethene	0.67 - 0.71	210
Vinyl Chloride	0.044 - 0.046	2
1,1-Dichloroethane	0.140	6
1,1-Dichloroethene	0.068 - 0.071	700
	RLs from 2012 Analytical Lab Reports (September 2012)	Table II, 2011 Work Plan

TIER I EVALUATION QUALITY ASSURANCE/QUALITY CONTROL FORM

Updated September 2012

Site: MEW 11/379 N. Whisman Project No: 37498-003

Laboratory report or WO#: 1211548

Sample Date: 11/21; 11/23/2012

Report Date: 12/13/2012

Yes	No	NA	Validation Check	Comments	Reviewed By	Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Match Chain of Custody (COC) to laboratory report	Identify any discrepancies.	SMB	12/13/12
<input type="checkbox"/>	<input checked="" type="checkbox"/>		Samples analyzed at a dilution factor of 1	Identify list of samples which have a dilution factor (DF) greater than 1. Identify if DF greater than 10X.	DF range from 1.36 to 1.75 No Action	SMB 12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Detection Limits below screening levels	Identify list of samples which exceed screening levels. Notify PM if TCE exceeds 5 ug/m3 immediately.	379AMB7-112112 379AMB4-112312	SMB 12/13/12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Detects below screening levels	Over : 379AMB3-112312 TCE screening level	379AMB2-112312 379AMB1-112312 379AMB6-112312	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hold times met	Identify list of samples which exceed hold times.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Contaminant free	List all contaminants and concentrations.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Percent recovery criteria met	Identify all non-compliant %recoveries.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Percent recoveries within limits	Identify all non-compliant % and RPD. VOCs Method TO-15 SIM Acceptable Criteria*: 70-130 %R (LCS Accuracy) 30 RPD (LCS Precision) *Work Plan Table F-III	SMB	12/13/12
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Laboratory implemented corrective actions	Identify correction actions.	SMB	12/13/12
Data considered acceptable as reported by the laboratory if the following checklist items are marked yes: holding times, method blanks, surrogate/system monitoring compounds recovery, laboratory control samples, and laboratory corrective actions.						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Laboratory Report will be Tier II validated	If any of the checklist items above are marked no, data will be Tier II validated.	SMB	12/13/12

Analyte	Laboratory Reporting Limits for Selected Sampling Methods	Indoor Air Cleanup Level (ug/m3)
	EPA Method TO-15 SIM (ug/m3)	Commercial
Trichloroethene	0.18 - 0.19	5
Tetrachloroethene	0.23 - 0.24	2
cis-1,2-Dichloroethene	0.13 - 0.14	210
trans-1,2-Dichloroethene	0.67 - 0.71	210
Vinyl Chloride	0.044 - 0.046	2
1,1-Dichloroethane	0.140	6
1,1-Dichloroethene	0.068 - 0.071	700
	RLs from 2012 Analytical Lab Reports (September 2012)	Table II, 2011 Work Plan

TIER I EVALUATION QUALITY ASSURANCE/QUALITY CONTROL FORM

Updated September 2012

Site: MEWVI / 389 N Whisman Rd Project No: 37498-003

Laboratory report or WO#: 1211551  
 Sample Date: 11/21, 11/23/2012  
 Report Date: 12/13/2012

Yes	No	NA	Validation Check	Comments	Reviewed By	Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Data Completeness</b> Match Chain of Custody (COC) to laboratory report	Identify any discrepancies.	SMB	12/13/12
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<b>Reporting Limits</b> Samples analyzed at a dilution factor of 1	Identify list of samples which have a dilution factor (DF) greater than 1. Identify if DF greater than 10X.	DF range from 1.58 - 1.64 No Action	SMB 12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Screening Levels</b> Detection Limits below screening levels	Identify list of samples which exceed screening levels. Notify PM if TCE exceeds 5 ug/m3 immediately.		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detects below screening levels		SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Holding Times</b> Hold times met	Identify list of samples which exceed hold times.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Method Blanks</b> Contaminant free	List all contaminants and concentrations.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Surrogate/System Monitoring Compounds Recovery</b> Percent recovery criteria met	Identify all non-compliant %recoveries.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>Laboratory Control Samples</b> Percent recoveries within limits	Identify all non-compliant % and RPD. VOCs Method TO-15 SIM Acceptable Criteria*: 70-130 %R (LCS Accuracy) 30 RPD (LCS Precision) *Work Plan Table F-III	SMB	12/13/12
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Laboratory Corrective Actions</b> Laboratory implemented corrective actions	Identify correction actions.	SMB	12/13/12
Data considered acceptable as reported by the laboratory if the following checklist items are marked yes: holding times, method blanks, surrogate/system monitoring compounds recovery, laboratory control samples, and laboratory corrective actions.						
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<b>Validation</b> Laboratory Report will be Tier II validated	If any of the checklist items above are marked no, data will be Tier II validated.	SMB	12/13/12

Analyte	Laboratory Reporting Limits for Selected Sampling Methods EPA Method TO-15 SIM (ug/m3)	Indoor Air Cleanup Level (ug/m3) Commercial
Trichloroethene	0.18 - 0.19	5
Tetrachloroethene	0.23 - 0.24	2
cis-1,2-Dichloroethene	0.13 - 0.14	210
trans-1,2-Dichloroethene	0.67 - 0.71	210
Vinyl Chloride	0.044 - 0.046	2
1,1-Dichloroethane	0.140	6
1,1-Dichloroethene	0.068 - 0.071	700
	RLs from 2012 Analytical Lab Reports (September 2012)	Table II, 2011 Work Plan

TIER I EVALUATION QUALITY ASSURANCE/QUALITY CONTROL FORM

Updated September 2012

Site: MEW II / 399 N. Whisman Rd. Project No: 37498-003

Laboratory report or WO#: 1211553

Sample Date: 11/21, 11/23/2012

Report Date: 12/13/12

Yes	No	NA	Validation Check	Comments	Reviewed By	Date
<b>Data Completeness</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Match Chain of Custody (COC) to laboratory report	Identify any discrepancies.	SMB	12/13/12
<b>Reporting Limits</b>						
<input type="checkbox"/>	<input checked="" type="checkbox"/>		Samples analyzed at a dilution factor of 1	Identify list of samples which have a dilution factor (DF) greater than 1. Identify if DF greater than 10X.	DF Range from 1.61 - 1.96 No Action	SMB 12/13/12
<b>Screening Levels</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Detection Limits below screening levels	Identify list of samples which exceed screening levels. Notify PM if TCE exceeds 5 ug/m3 immediately.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detects below screening levels			
<b>Holding Times</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hold times met	Identify list of samples which exceed hold times.	SMB	12/13/12
<b>Method Blanks</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Contaminant free	List all contaminants and concentrations.	SMB	12/13/12
<b>Surrogate/System Monitoring Compounds Recovery</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Percent recovery criteria met	Identify all non-compliant %recoveries.	SMB	12/13/12
<b>Laboratory Control Samples</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Percent recoveries within limits	Identify all non-compliant % and RPD. VOCs Method TO-15 SIM Acceptable Criteria*: 70-130 %R (LCS Accuracy) 30 RPD (LCS Precision) *Work Plan Table F-III	SMB	12/13/12
<b>Laboratory Corrective Actions</b>						
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Laboratory implemented corrective actions	Identify correction actions.	SMB	12/13/12
Data considered acceptable as reported by the laboratory if the following checklist items are marked yes: holding times, method blanks, surrogate/system monitoring compounds recovery, laboratory control samples, and laboratory corrective actions.						
<b>Validation</b>						
<input type="checkbox"/>	<input checked="" type="checkbox"/>		Laboratory Report will be Tier II validated	If any of the checklist items above are marked no, data will be Tier II validated.	SMB	12/13/12

Analyte	Laboratory Reporting Limits for Selected Sampling Methods	Indoor Air Cleanup Level (ug/m3)
	EPA Method TO-15 SIM (ug/m3)	Commercial
Trichloroethene	0.18 - 0.19	5
Tetrachloroethene	0.23 - 0.24	2
cis-1,2-Dichloroethene	0.13 - 0.14	210
trans-1,2-Dichloroethene	0.67 - 0.71	210
Vinyl Chloride	0.044 - 0.046	2
1,1-Dichloroethane	0.140	6
1,1-Dichloroethene	0.068 - 0.071	700
RLs from 2012 Analytical Lab Reports (September 2012)		Table II, 2011 Work Plan

TIER I EVALUATION QUALITY ASSURANCE/QUALITY CONTROL FORM

Updated September 2012

Site: MEW VI / 468 Ellis St. Project No: 37498-003

Laboratory report or WO#: 1211549  
 Sample Date: 11/21, 11/23/2012  
 Report Date: 12/13/2012

Yes	No	NA	Validation Check	Comments	Reviewed By	Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Match Chain of Custody (COC) to laboratory report	Identify any discrepancies.	SMB	12/13/12
<input type="checkbox"/>	<input checked="" type="checkbox"/>		Samples analyzed at a dilution factor of 1	Identify list of samples which have a dilution factor (DF) greater than 1. Identify if DF greater than 10X.	DF range from 1.55 - 1.68 No Action	SMB 12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Detection Limits below screening levels	Identify list of samples which exceed screening levels. Notify PM if TCE exceeds 5 ug/m3 immediately.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detects below screening levels			
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hold times met	Identify list of samples which exceed hold times.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Contaminant free	List all contaminants and concentrations.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Percent recovery criteria met	Identify all non-compliant % recoveries.	SMB	12/13/12
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Percent recoveries within limits	Identify all non-compliant % and RPD. VOCs Method TO-15 SIM Acceptable Criteria*: 70-130 %R (LCS Accuracy) 30 RPD (LCS Precision) *Work Plan Table F-III	SMB	12/13/12
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Laboratory implemented corrective actions	Identify correction actions.	SMB	12/13/12
<input type="checkbox"/>	<input checked="" type="checkbox"/>		Laboratory Report will be Tier II validated	If any of the checklist items above are marked no, data will be Tier II validated.	SMB	12/13/12

Data considered acceptable as reported by the laboratory if the following checklist items are marked yes: holding times, method blanks, surrogate/system monitoring compounds recovery, laboratory control samples, and laboratory corrective actions.

Analyte	Laboratory Reporting Limits for Selected Sampling Methods	Indoor Air Cleanup Level (ug/m3)
	EPA Method TO-15 SIM (ug/m3)	Commercial
Trichloroethene	0.18 - 0.19	5
Tetrachloroethene	0.23 - 0.24	2
cis-1,2-Dichloroethene	0.13 - 0.14	210
trans-1,2-Dichloroethene	0.67 - 0.71	210
Vinyl Chloride	0.044 - 0.046	2
1,1-Dichloroethane	0.140	6
1,1-Dichloroethene	0.068 - 0.071	700
	RLs from 2012 Analytical Lab Reports (September 2012)	Table II, 2011 Work Plan

**APPENDIX E**

**Data Usability Summary Reportf**

**Data Usability Summary Report (DUSR)**  
**MEW VI / 369 N. Whisman Rd.**  
**Analytical Laboratory: Air Toxics – Folsom, CA**  
**Sample Delivery Group # 1211555**

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006) and method protocol criteria where applicable as prescribed by “Test Methods for Evaluating Solid Waste”, SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID	Sample ID
369HVAC1-112112	369AMB5-112112
369DUP1-112112	
369AMB6-112112	
369AMB8-112112	
369AMB7-112112	
369AMB3-112112	
369AMB6-112312	
369AMB8-112312	
369AMB7-112312	
369AMB3-112312	
369AMB5-112312	
369DUP1-112312	
369-399OUT1-112312	

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA TO-15	30 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Field Duplicate Sample Analysis
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

**Preservation and Holding Times**

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

**Project-specific Reporting Limits**

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). No qualification of the data is recommended.

### **GC/MS Instrument Performance Check**

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

### **Initial Calibration Procedures**

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

### **Continuing Calibration Procedures**

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

### **Blank Sample Analysis**

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target analytes were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples. No qualification of the data is recommended.

### **System Monitoring Compound Recoveries**

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

### **Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries**

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended.

### **Internal Standard Recoveries**

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and - 50% of the corresponding CCV standard. No qualification of the data is recommended.

### **Field Duplicate Sample Analysis**

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives, with the exception of results shown in the table(s) below:

Target Analyte(s)	Original Sample ID.	FD Sample ID.	%RPD	Flag Original and FD sample results with:
	369AMB5-112312	369DUP1-112312		
Tetrachloroethene	0.16 ug/m3	0.12 ug/m3	29%	
cis-1,2-Dichloroethene	0.13 U ug/m3	0.13 U ug/m3	0%	
trans-1,2-Dichloroethene	0.65 U ug/m3	0.64 U ug/m3	2%	
Vinyl chloride	0.042 U ug/m3	0.041 U ug/m3	2%	
1,1-Dichloroethane	0.13 U ug/m3	0.13 U ug/m3	0%	
1,1-Dichloroethene	0.32 ug/m3	0.31 ug/m3	3%	
Trichloroethene	13 ug/m3	12 ug/m3	8%	

Target Analyte(s)	Original Sample ID.	FD Sample ID.	%RPD	Flag Original and FD sample results with:
	369AMB5-112112	369DUP1-112112		
Tetrachloroethene	0.081 ug/m3	0.078 ug/m3	4%	
cis-1,2-Dichloroethene	0.13 U ug/m3	0.12 U ug/m3	8%	
trans-1,2-Dichloroethene	0.65 U ug/m3	0.61 U ug/m3	6%	
Vinyl chloride	0.042 U ug/m3	0.04 U ug/m3	5%	
1,1-Dichloroethane	0.13 U ug/m3	0.12 U ug/m3	8%	
1,1-Dichloroethene	0.065 U ug/m3	0.061 U ug/m3	6%	
Trichloroethene	1.4 ug/m3	1.5 ug/m3	7%	

Action:

*If the sample RPD is greater than 30% of the original sample, results are noted.*

**Target Compound Identification**

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

**Sample Data Reporting Format**

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

**Data Qualifiers**

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

**Summary**

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

**Data Usability Summary Report (DUSR)**  
**MEW VI / 379 N. Whisman**  
**Analytical Laboratory: Air Toxics – Folsom, CA**  
**Sample Delivery Group # 1211548**

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006)

and method protocol criteria where applicable as prescribed by “Test Methods for Evaluating Solid Waste”, SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
379AMB1-112112
379AMB2-112112
379AMB4-112112
379AMB6-112112
379HVAC1-112112
379AMB4-112312
379AMB2-112312
379AMB1-112312
379AMB6-112312
379AMB3-112312

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA TO-15	30 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoverie
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

**Preservation and Holding Times**

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

**Project-specific Reporting Limits**

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). No qualification of the data is recommended.

### **GC/MS Instrument Performance Check**

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

### **Initial Calibration Procedures**

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

### **Continuing Calibration Procedures**

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

### **Blank Sample Analysis**

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target analytes were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples. No qualification of the data is recommended.

### **System Monitoring Compound Recoveries**

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

### **Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries**

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended.

### **Internal Standard Recoveries**

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and - 50% of the corresponding CCV standard. No qualification of the data is recommended.

### **Target Compound Identification**

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

### **Sample Data Reporting Format**

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

### **Data Qualifiers**

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

### **Summary**

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

\\SJC\common\36067\_STC\_MEW\_VI\369-399 N. Whisman Rd\2013\_01\_Building-specific\_Indoor\_Air\_Sampling\_Report\Data Validation\1211 Date: 12/19/2012

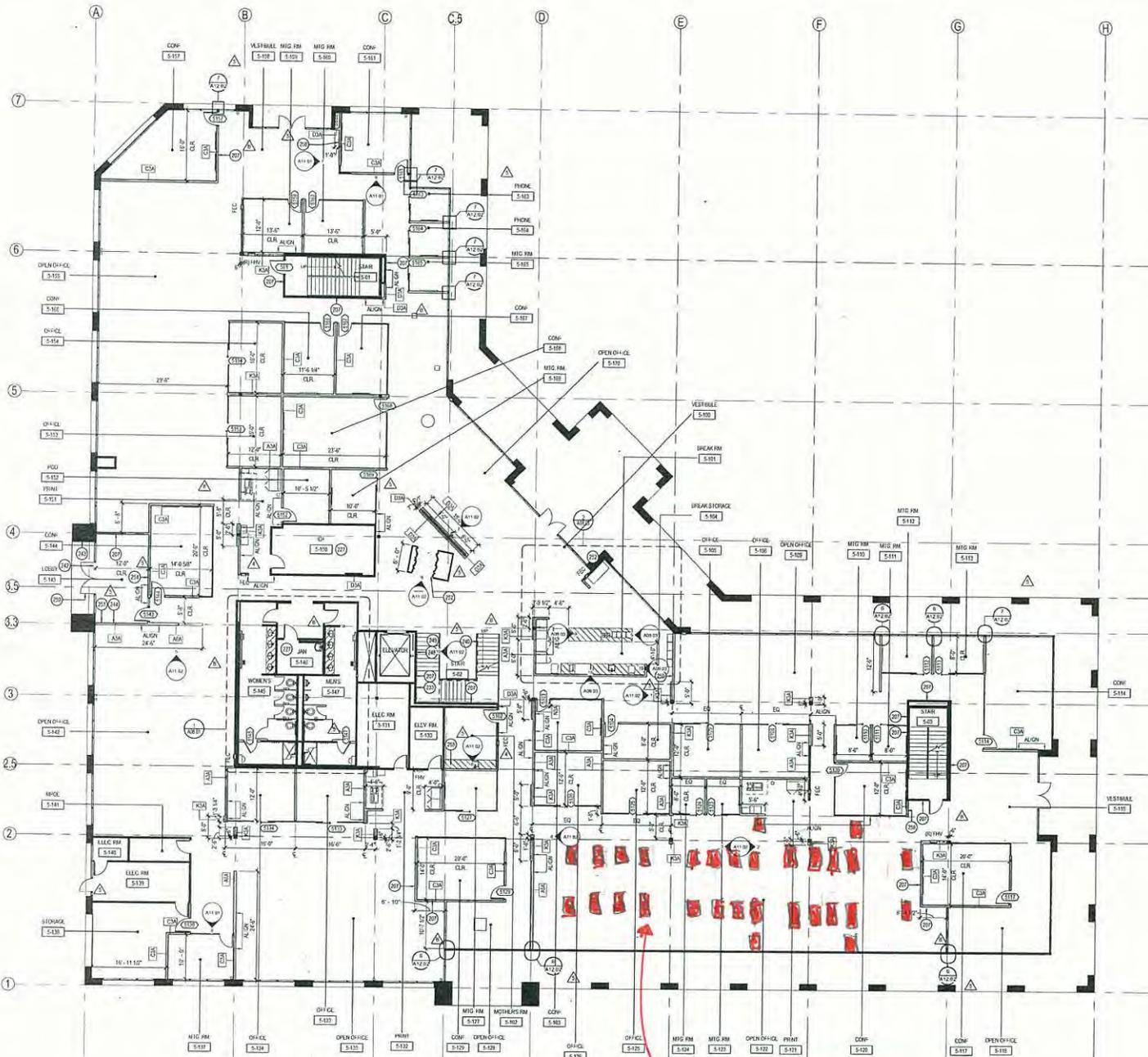
## **APPENDIX F**

### **Field Maps**









**KEYNOTES**

- 227 PROVIDE LEVEL 5 FINISH AT THIS LOCATION COORDINATE WITH FINISH PLAN
- 227 G.C TO VERIFY THAT ALL WALLS ARE FULL HEIGHT UPDATES (E) WALLS TO FULL HEIGHT AS REQUIRED
- 233 G.C TO PROVIDE & INSTALL IN ADA COMPLIANT 3/8" MINIMUM RIE 6" FINISH
- 240 4" FINISH STAINLESS STEEL CORNER RAIL RE. 10442.30
- 242 LOCATION OF THE ADDRESS SIGNAGE SIGNAGE VENDOR TO PROVIDE & INSTALL ADDRESS SHALL BE MIN. OF 8" HIGH WITH A MIN. STROKE WIDTH OF 1/2"
- 243 G.C TO PROVIDE & INSTALL IN KINK BOX
- 244 LOCATION OF THE FIRE PANEL
- 248 G.C TO PROVIDE & INSTALL 1/2" GA METAL BACKING W/ 1/2" OFF ED OVER TOP TO PROVIDE SUPPORT FOR WALL HANG BRACKETS
- 249 G.C TO PROVIDE WALL HANG ULTRA SPACE SHIRT HANG BRACKETS
- 250 LOCATION OF WALL MOUNTED CINTAS 1ST ADKIT
- 251 LOCATION OF AID
- 252 SOLUTION WALL WORKS BENCH WITH WATER SINK LINED WITH FALPET TO BE COORDINATED WITH FALPET FABRICATOR
- 254 WATER DISPENSER LOCATION
- 255 LADDER/CHAIR REPROVIDER
- 256 LOCATION OF BENCH/SEAT HOOKS BY OTHERS
- 258 LOCATION OF "PURPLE TIE BOX"
- 259 LOCATION OF RESET HAZARD FOR UNSTAFFED LOBBY SIGNAGE

**LEGEND**

- AREA NOT IN CONTRACT
- SEPARATION TO REMAIN
- IN PARTITION
- PER PERMITTED PARTITION
- PARTITION TYPE - PER FLOOR SHEET A12.20 FOR FURTHER DETAILS
- NEW MELLORCK
- DOOR NUMBER
- FINISH UNDESIGNED WHERE HATCHED PER EXTERIOR SHEET
- RELOCATED - PER ROSE VALVE

**SHEET NOTES**

- A REFER TO SHEETS A50.0 AND A50.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
- B ALL PARTITIONS TO BE TYPE AKA 10.11
- C REFER TO SHEET A12.10 FOR PARTITION TYPES
- D UNLESS OTHERWISE NOTED, LOCATE HINGE, EDGE OF ALL DOORS 4" FROM RELOCATED PERIMETER (A) PARTITION
- E ALL GYF COLORS SHALL BEING INTO THE DIRECTION OF THE EXIT PATH OF TRAVEL
- F CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL WALL MOUNTED EQUIPMENT
- G ALL DIMENSIONS ARE BASED OFF OF FACE OF FINISH OR UNDESIGNED - G.C TO VERIFY VALIDITY OF DIMENSIONS IN FIELD AND ADVISE ARCHITECT OF ANY VARIANCES
- H SMOOTH & PREPARE SURFACE FOR NEW FINISHES WHERE GENERAL DIMENSIONS COINCIDE
- J G.C TO PROVIDE BACKING AT ALL MELLORCK & WHITEBOARD - COORDINATE WITH MELLORCK
- K RELOCATE EXISTING THERMOSTATS AS REQ'D - PROVIDE NEW AS NECESSARY
- L PROVIDE LEVEL 5 FINISH AT ALL GYF - NO CEILING & PARTITIONS W/ ACCENT COLORS RE SCP & FINISH PLANS FOR ADDITIONAL INFO
- M ALL CURVED WALLS & SOFFITS TO RECEIVE LEVELS SMOOTH FINISH WITH 1/8" RADIUS CORNERS
- N REFER DETAILS TO A12.10 FOR TYPICAL MOUNTING LOCATIONS AND ELEMENTS
- O G.C TO PROVIDE WATERLINES & DRAINS AS REQUIRED FOR ALL BREAK ROOM EQUIPMENT
- P PROVIDE NEW FREE EXTINGUISHERS PER CLIENT SPEC
- Q PROVIDE LEVEL 5 FINISH AT ALL GRAPHIC WALLS RE FINISH PLANS FOR ADDITIONAL INFO
- R RE MEP - STRUCTURAL & FOOD SERVICE DIMGS FOR ADDITIONAL INFO
- S PROVIDE IMPRESTICE 4# FILMAT ALL EXTERIOR WINDOWS
- T ALL CORNER/ANGLE BY TURN GLASS CORNER TO BE MOUNTED W/ VERTICAL MULLION

**Google**  
**BUILDING 05**  
 399 Whisman Road  
 Mountain View, CA 94043

225 West Santa Clara Street,  
 Suite 1100  
 San Jose, CA 95113  
 Telephone: 408.885.8199  
 Facsimile: 408.885.8299

**Gensler**

Issue	Date	Issue Description	By	Check
6	01/22/12	Issue for Permet	Team	Team
5	01/22/12	Issue for Construction	Team	Team
4	11	02/12/12 - Plan Check Response	Team	Team
3	12	02/12/12 - Updates	Team	Team
2	11	02/12/12 - Issue for Health Dept	Team	Team
1	10	02/12/12 - Graphics Operations		

Project Name  
 BUILDING 05

Project Number  
 22 024 002

Drawings  
 CONSTRUCTION PLAN - LEVEL 05

Scale  
 1/8" = 1'-0"

**A02.01**



APPENDIX B  
Photographic Logs

**15 December 2012**

Initial walk-through and sealing of conduits  
at 369 and 379 N. Whisman Road



Photograph 1. Crack in floor, caulk missing, 379 N. Whisman Road.



Photograph 2. Conduit penetration, 379 N. Whisman Road.



Photograph 3. Top of conduit, 379 N. Whisman Road.



Photograph 4. Top of conduit, 379 N. Whisman Road.



Photograph 5. Electrical box in floor of conference room, 379 N. Whisman Road.



Photograph 6. Cabinet with pens, 369 N. Whisman Road.



Photograph 7. Dry cleaning drop off, 369 N. Whisman Road



Photograph 8. Fire riser, 369 N. Whisman Road.



Photograph 9. Kitchen Storage Area, 369 N. Whisman Road.



Photograph 10. Kitchen Storage Area, 369 N. Whisman Road.



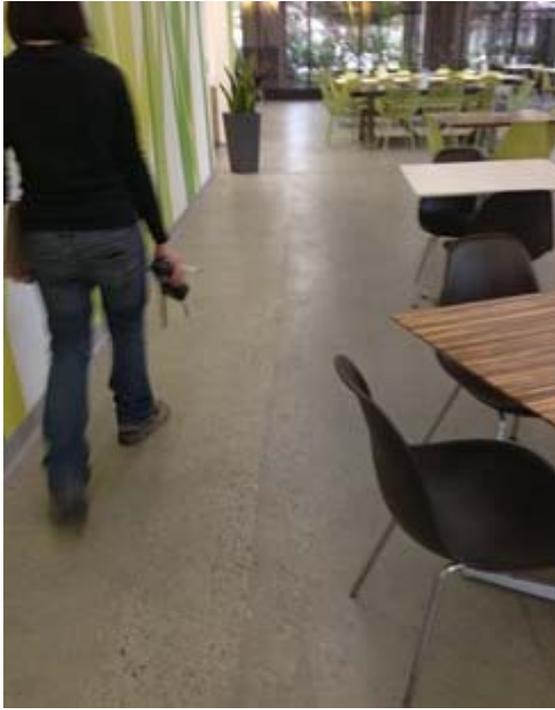
Photograph 11. Utility room, 369 N. Whisman Road.



Photograph 12. Kitchen drain, 369 N. Whisman Road.



Photograph 13. Kitchen drain, 369 N. Whisman Road.



Photograph 14. Dining area bare concrete floors, 369 N. Whisman Road.



Photograph 15. Cabinets in dining area, 369 N. Whisman Road.



Photograph 16. Conference room electrical box, 379 N. Whisman Road.



Photograph 17. Dry cleaning station, 379 N. Whisman Road.



Photograph 18. Conference room 379 N. Whisman Road.



Photograph 19. Conference room, 379 N. Whisman Road.



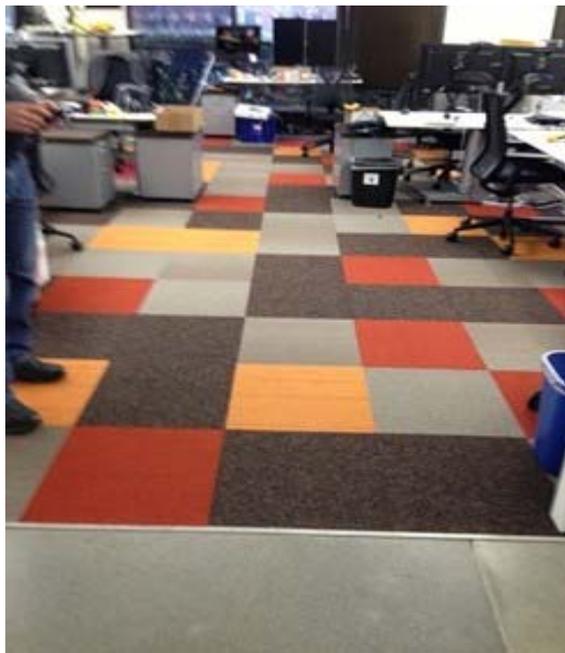
Photograph 20. Conference room, 379 N. Whisman Road.



Photograph 21. Conference room, 379 N. Whisman Road.



Photograph 22. Column in electrical room, 379 N. Whisman Road.



Photograph 23. Carpet – new, 379 N. Whisman Road.



Photograph 24. Conference room, 379 N. Whisman Road.



Photograph 25. Conference room, 379 N. Whisman Road.



Photographs 26 and 27. Same as 1 before and after caulk, 379 N. Whisman Road.



Photograph 28. Conduits in electrical room, 379 N. Whisman Road.

**27 December 2012**

Sealing of conduit groups on the west side of  
379 N. Whisman Road and on the east side  
of 369 N. Whisman Road



Photograph 1. Conduits in 369 N. Whisman Road prior to sealing activities.



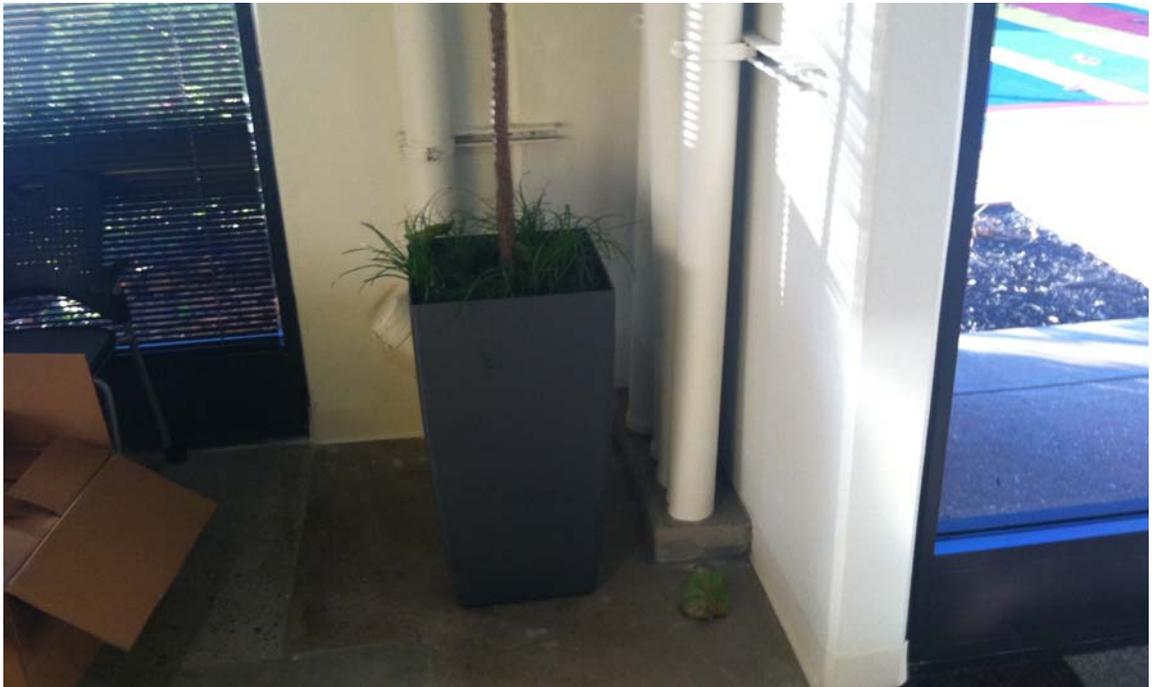
Photograph 2. Conduits in 379 N. Whisman Road prior to sealing activities.



Photograph 3. Sealed conduits in 369 N. Whisman Road.



Photograph 4. Sealed conduits in 379 N. Whisman Road.



Photograph 5. Sealed conduits in 379 N. Whisman Road.

**12 January 2013**

Additional walk-through and sealing of  
conduits at 369 and 379 N. Whisman Road



Photograph 1. Overhead conduits along west wall in common area outside of room 1T6, 379 N. Whisman Road.



Photograph 2. Overhead conduits in center of common area outside of room 1T6, 379 N. Whisman Road.



Photograph 3. Overhead conduits in electrical room 1P7, 379 N. Whisman Road.



Photograph 4. Conduits in external subsurface vault running towards 379 N. Whisman Road. Vault is located between 369 and 379 N. Whisman Road.



Photograph 5. Conduits in external subsurface vault running towards 369 N. Whisman Road. Vault is located between 369 and 379 N. Whisman Road.



Photograph 6. Overhead conduits in IDF room, 369 N. Whisman Road.

APPENDIX D  
Tier I Validation  
Quality Assurance/Quality Control Forms

**DATA QUALITY CONTROL REVIEW**

REVIEWER: \_Nate Mullaugh\_\_\_\_\_

Review date: \_\_\_1/3/13\_\_\_\_\_

PROJECT/PHASE/TASK NO.: \_\_\_\_\_WR1133A-06\_\_\_\_\_

Site: \_\_\_\_\_MEW Fairchild\_\_\_\_\_

Sample date: \_\_\_\_\_12/29/12\_\_\_\_\_

Laboratory report or WO#: \_\_\_\_\_340-5598-1\_\_\_\_\_

Report date: \_\_\_\_\_1/3/13\_\_\_\_\_

*Answer all questions "Yes" or "No." Any answer in a box requires comment (e.g., explanation, reference to laboratory narrative, and/or identification of qualifiers for data tables).*

Review Item	Yes	No	Comments
All data requested received:	<u>X</u>	<input type="checkbox"/>	_____
All analytes within holding times:	<u>X</u>	<input type="checkbox"/>	_____
Compounds detected below reporting limits:	<input type="checkbox"/>	<u>X</u>	_____
Minimum 1 surrogate within control for each sample:	<u>X</u>	<input type="checkbox"/>	_____
Reporting limits elevated by greater than 10X:	<input type="checkbox"/>	<u>X</u>	_____
Reporting limits above screening levels:	<input type="checkbox"/>	<u>X</u>	_____
Matrix spike (MS)/matrix spike duplicate (MSD) within recovery control limits (%):	<u>X</u>	<input type="checkbox"/>	_____
Relative percent difference (RPD) within control limits based on MS/MSD results:	<u>X</u>	<input type="checkbox"/>	_____
Laboratory check sample (LCS) within control limits:	<u>X</u>	<input type="checkbox"/>	_____
Continuing calibration verification (CCV) within control limits:	<u>X</u>	<input type="checkbox"/>	_____
Chemicals detected above reporting limits in field, equipment, travel, or laboratory blank samples:	<input type="checkbox"/>	<u>X</u>	_____
Volatile analysis container(s) free of headspace	_____	<input type="checkbox"/>	<u>Not Applicable</u>

Laboratory corrective actions implemented: \_\_\_\_\_

Are data acceptable quality (if "No," note qualifiers for data tables in "Comments"): X  \_\_\_\_\_

Additional notes to Project Manager \_\_\_\_\_

**RETURN THIS SHEET TO TASK MANAGER WHEN COMPLETE**

**DATA QUALITY CONTROL REVIEW**

REVIEWER: \_Nate Mullaugh\_\_\_\_\_

Review date: \_\_\_1/7/13\_\_\_\_\_

PROJECT/PHASE/TASK NO.: \_\_\_\_\_WR1133A-06\_\_\_\_\_

Site: \_\_\_\_\_MEW Fairchild\_\_\_\_\_

Sample date: \_\_\_\_\_1/1/13\_\_\_\_\_

Laboratory report or WO#: \_\_\_\_\_340-5615-1\_\_\_\_\_

Report date: \_\_\_\_\_1/7/13\_\_\_\_\_

*Answer all questions "Yes" or "No." Any answer in a box requires comment (e.g., explanation, reference to laboratory narrative, and/or identification of qualifiers for data tables).*

Review Item	Yes	No	Comments
All data requested received:	<u>X</u>	<input type="checkbox"/>	_____
All analytes within holding times:	<u>X</u>	<input type="checkbox"/>	_____
Compounds detected below reporting limits:	<input type="checkbox"/>	<u>X</u>	_____
Minimum 1 surrogate within control for each sample:	<u>X</u>	<input type="checkbox"/>	_____
Reporting limits elevated by greater than 10X:	<input type="checkbox"/>	<u>X</u>	_____
Reporting limits above screening levels:	<input type="checkbox"/>	<u>X</u>	_____
Matrix spike (MS)/matrix spike duplicate (MSD) within recovery control limits (%):	<u>X</u>	<input type="checkbox"/>	_____
Relative percent difference (RPD) within control limits based on MS/MSD results:	<u>X</u>	<input type="checkbox"/>	_____
Laboratory check sample (LCS) within control limits:	<u>X</u>	<input type="checkbox"/>	_____
Continuing calibration verification (CCV) within control limits:	<u>X</u>	<input type="checkbox"/>	_____
Chemicals detected above reporting limits in field, equipment, travel, or laboratory blank samples:	<input type="checkbox"/>	<u>X</u>	_____
Volatile analysis container(s) free of headspace	_____	<input type="checkbox"/>	Not Applicable

Laboratory corrective actions implemented: \_\_\_\_\_

Are data acceptable quality (if "No," note qualifiers for data tables in "Comments"): X  \_\_\_\_\_

Additional notes to Project Manager \_\_\_\_\_

**RETURN THIS SHEET TO TASK MANAGER WHEN COMPLETE**

**DATA QUALITY CONTROL REVIEW**

REVIEWER:     Karen Bechard      
 PROJECT/PHASE/TASK NO.:     WR1133A, phase 06    

Review date:     4-February, 2013    

Site:     MEW Fairchild      
 Laboratory report or WO#:     1301377    

Sample date:     22-January, 2013      
 Report date:     25-January, 2013    

*Answer all questions "Yes" or "No." Any answer in a box requires comment (e.g., explanation, reference to laboratory narrative, and/or identification of qualifiers for data tables).*

Review Item	Yes	No	Comments
All data requested received:	<u>    X    </u>	<input type="checkbox"/>	
All analytes within holding times:	<u>    X    </u>	<input type="checkbox"/>	
Compounds detected below reporting limits:	<input type="checkbox"/>	<u>    X    </u>	
Minimum 1 surrogate within control for each sample:	<u>    X    </u>	<input type="checkbox"/>	
Reporting limits elevated by greater than 10X:	<input type="checkbox"/>	<u>    X    </u>	
Reporting limits above screening levels:	<input type="checkbox"/>	<u>    X    </u>	
Matrix spike (MS)/matrix spike duplicate (MSD) within recovery control limits (%):		<input type="checkbox"/>	<u>    Not applicable. No MS/MSD collected/reported    </u>
Relative percent difference (RPD) within control limits based on MS/MSD results:	<u>    X    </u>	<input type="checkbox"/>	<u>    No MS/MSD collected/reported. RPDs of LCS/LCSD would likely be within range. Unable to completely check since concentrations not reported (only % recoveries).    </u>
Laboratory check sample (LCS) within control limits:	<u>    X    </u>	<input type="checkbox"/>	
Continuing calibration verification (CCV) within control limits:	<u>    X    </u>	<input type="checkbox"/>	
Chemicals detected above reporting limits in field, equipment, travel, or laboratory blank samples:	<input type="checkbox"/>	<u>    X    </u>	<u>    Only laboratory blanks reported.    </u>
Volatile analysis container(s) free of headspace		<input type="checkbox"/>	<u>    Not applicable (air sample).    </u>
RPDs of duplicate samples within project criteria:	<u>    X    </u>	<input type="checkbox"/>	<u>    No detections in either (379 AMB6 or DUP-01)    </u>
Laboratory corrective actions implemented:	<u>    Not applicable.    </u>		
Are data acceptable quality (if "No," note qualifiers for data tables in "Comments"):	<u>    X    </u>	<input type="checkbox"/>	

Additional notes to Project Manager     Lab noted a discrepancy between CoC and label on Summa Canister for sample 369 AMB5. Resolved by Client communication (canister information used for reporting).    

**RETURN THIS SHEET TO TASK MANAGER WHEN COMPLETE**