2013 ANNUAL VAPOR INTRUSION PROGRESS REPORT
MIDDLEFIELD-ELLIS-WHISMAN (MEW) AREA AND MOFFETT FIELD
MOUNTAIN VIEW, CALIFORNIA

by

Haley & Aldrich, Inc.
San Jose, California

File No. 36067-051
15 April 2014

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15 April 2014
File No. 36067-051

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: 2013 Annual Vapor Intrusion Progress Report
Middlefield-Ellis-Whisman Area and Moffett Field, California

Dear Ms. Lee:

Please find enclosed the 2013 Annual Vapor Intrusion Progress Report for the Regional buildings included within the Middlefield-Ellis-Whisman Area and Moffett Field, California. This Annual Progress Report documents the work activities performed between 1 January and 31 December 2013 and was prepared pursuant to the United States Environmental Protection Agency's 16 September 2011 Statement of Work, Section 2.6.2.

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

Sincerely yours,
HALEY & ALDRICH, INC.

Jennifer Boyer
Project Manager

Elie H. Haddad, PE
Senior Vice President

Enclosures

c: MEW Distribution List

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LIST OF ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
Annual Progress Report	Annual Vapor Intrusion Progress Report
COCs	chemicals of concern
EPA	United States Environmental Protection Agency
Haley & Aldrich	Haley & Aldrich, Inc.
HVAC	heating, ventilation, and air conditioning
LST	Land Science™ Technologies
MEW	Middlefield-Ellis-Whisman
OM&M	operations, maintenance, and monitoring
PCE	tetrachloroethene
QA/QC	quality assurance/quality control
ROD	Record of Decision Amendment for the Vapor Intrusion Pathway
RPD	relative percent difference
SOW	United States Environmental Protection Agency's Vapor Intrusion Statement of Work
SSD	sub-slab depressurization
SSV	sub-slab ventilation
TCE	trichloroethene
Tiering Work Plan	"Site-wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering"
Unsampled Buildings Work Plan	"Indoor Air Sampling and Analysis Work Plan for Existing, Unsampled Buildings"
VI	vapor intrusion
VI Study Area	the Middlefield-Ellis-Whisman (MEW) Superfund Area in Mountain View, California, and parts of Moffett Field

1. INTRODUCTION

Haley & Aldrich, Inc., (Haley & Aldrich) prepared this Annual Vapor Intrusion Progress Report (Annual Progress Report) to document the vapor intrusion (VI) related work activities performed in 2013 by the regional program for the Middlefield-Ellis-Whisman (MEW) Superfund Area in Mountain View, California, and parts of Moffett Field (collectively referred to as the VI Study Area; Figure 1). This Annual Progress Report was prepared pursuant to the United States Environmental Protection Agency's (EPA's) 16 September 2011 Statement of Work (SOW) Section 2.6.2 (EPA, 2011). Annual progress reports are provided under separate cover by each potentially responsible party for its respective VI work.

As discussed in this Annual Progress Report, collected air samples were analyzed for the chemicals of concern (COCs) listed in the "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). The COCs are tetrachloroethene (PCE); trichloroethene (TCE); 1,1-dichloroethane; cis-1,2-dichloroethene; trans-1,2-dichloroethene; 1,1-dichloroethene; and vinyl chloride. In the commercial buildings sampled, only TCE and PCE were detected above their respective long-term commercial indoor air cleanup levels established in the ROD Amendment of 5 micrograms per cubic meter ($\mu g/m^3$) and 2 $\mu g/m^3$, respectively. In the residential structures sampled, only TCE was detected above its long-term residential cleanup level established in the ROD Amendment of 1 $\mu g/m^3$. Therefore this Annual Progress Report focuses on TCE and PCE.

In 2013, eight commercial and two residential buildings were sampled by the regional program. A summary of findings is provided below. A summary of the sampling conducted in all regional buildings is provided in Table I. Analytical results and sample locations associated with the 2013 VI work are provided in Tables II through XI and Figures 4 through 11, respectively. Specific details for each building are provided in Section 2.2.

- Air samples collected in four commercial buildings (480/488 Ellis Street, suite 480; 340 East Middlefield Road; 460 East Middlefield Road; and 331 Fairchild Drive) showed no COCs above their EPA long-term commercial cleanup levels with the heating, ventilation, and air conditioning (HVAC) systems on and off.
- Three commercial buildings (440 East Middlefield Road, 455/465 National Avenue, and 615 National Avenue) had indoor air samples with TCE concentrations below the long-term commercial indoor air cleanup level on weekdays during normal occupancy; however, the concentration of TCE detected was above its long-term commercial indoor air cleanup level on the weekend when the HVAC systems are off and when the buildings are not typically occupied. Mitigation measures were implemented in these buildings to successfully reduce the concentration of TCE to below its long-term commercial indoor air cleanup level during "off-hours." Additionally PCE was detected in air samples collected from the building located at 455/465 National, however this was found to be related to an internal source.
- Indoor air samples collected in three of the five suites in the commercial building located at 612-620 National Avenue had TCE concentrations above its long-term commercial indoor air cleanup level during normal occupancy (i.e., with the HVAC system operational) and with the HVAC system off. After receipt of access in 2013, mitigation measures were implemented that successfully reduced the TCE concentrations to below its long-term commercial indoor air

cleanup level with the HVAC system on. The thermostats were replaced to allow for a programmable fan option and the fan continuously operates during occupancy.

- Indoor air and crawlspace air samples collected in two residential buildings (Residence 44 and Residence 49) showed TCE concentrations above its long-term residential indoor air cleanup level of 1 $\mu g/m^3$. Mitigation measures were implemented (e.g., ventilation systems) that successfully reduced the TCE concentrations in indoor air to below its cleanup level.

The table below lists the requirements of the Annual Progress Report as described in the SOW and identifies where in this report these requirements are addressed.

ITEM	**LOCATION IN REPORT**
Description of the VI work and activities taken to comply with the SOW during the reporting period (2013 for this Annual Progress Report), including a general description of all activities conducted during the reporting period.	Section 2 and Table I
Work activities, including but not limited to: fieldwork, sampling, data collection, reporting, community involvement and meetings, laboratory results, interim VI measures, and remedial design and remedial action activities.	Section 2 and Table I
Summary of all results of sampling and monitoring data results by building or property address, including sampling location maps and figures, and data summary tables.	Section 2, Tables II through XI, and Figures 4 through 13
Annual reassessment of the extent of the VI Study Area using the most recent shallow A Zone groundwater concentration data and other lines of evidence, as appropriate. Updated shallow A aquifer zone TCE iso-concentration maps should be provided in the Annual Progress Report.	Section 3
Interpretation or explanation of the data collected during that period, including summary table updates of the response action tiering status of all buildings/properties.	Section 2; no tiers have been determined for existing buildings in the VI Study Area. A revised "Site-wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering" (Tiering Work Plan) was submitted to EPA on 22 March 2013.
Description of VI work planned for the next reporting period, with updated schedules that show overall VI work completed, VI work planned for the next reporting period, and the overall project schedule for VI work task completion.	Table I and Section 5
Description of all issues/problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated delays.	Section 4
Recommendations, follow-up actions, and proposed work schedules to address problems encountered.	Table I and Section 5

Information on the background of the VI Study Area is provided in the "Final Supplemental Remedial Investigation Report for Vapor Intrusion Pathway" (Haley & Aldrich, 2009) and is included herein by reference.

2. VAPOR INTRUSION WORK ACTIVITIES

Haley & Aldrich obtained access, scheduled and performed walkthroughs, and collected indoor air samples in eight commercial and two residential buildings in the VI Study Area during 2013. Haley & Aldrich also submitted four building-specific work plans to EPA. Table I provides a status of these activities conducted in the regional program buildings. Figures 2 and 3 show the sampling status of all buildings in the VI Study Area. EPA was notified in advance of field work and accompanied Haley & Aldrich on some walkthroughs.

2.1 Reporting

VI work activities performed in 2013 were documented in the following reports submitted to EPA.

- "Monthly Vapor Intrusion Field Activity and Progress Report," dated 12 February 2013, 12 March 2013, 9 April 2013, 14 May 2013, 11 June 2013, 9 July 2013, 13 August 2013, 10 September 2013, 9 October 2013, 12 November 2013, 10 December 2013, 14 January 2014, 11 February 2014, 11 March 2014, and 11 April 2014 (Haley & Aldrich, 2013a through 2013k, 2014a through 2014d).
- "2012 Annual Vapor Intrusion Progress Report, Middlefield-Ellis-Whisman Area and Moffett Field, California," dated 15 April 2013 (Haley & Aldrich, 2013m).
- "2013 Revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering, Middlefield-Ellis-Whisman Superfund Area, Mountain View, California," dated 22 March 2013 (Haley & Aldrich, 2013oo). As of the date of this submittal, EPA has not provided comments or approved this work plan.
- Building-specific work plans describing planned air sampling activities for the following buildings:
  - 340 East Middlefield Road: "Building-specific Vapor Intrusion Sampling and Analysis Work Plan" dated 16 July 2013 (Haley & Aldrich, 2013n); EPA approved this work plan on 18 July 2013;
  - 460 East Middlefield Road: "Building-specific Vapor Intrusion Sampling and Analysis Work Plan" dated 31 October 2013 (Haley & Aldrich, 2013o); EPA approved this work plan on 25 November 2013;
  - 331 Fairchild Drive: "Building-specific Vapor Intrusion Sampling and Analysis Work Plan" dated 18 September 2013 (Haley & Aldrich, 2013p); EPA approved this work plan on 21 September 2013; and
  - Buildings 20, 109, 152, 547B, 547D, 572, and 945, Moffett Field: "Building-specific Vapor Intrusion Sampling and Analysis Work Plan" dated 3 September 2013 (Haley & Aldrich, 2013q). Building 153 was appended to the work plan via an email transmittal to the EPA on 30 January 2014. As of the date of this submittal, EPA has not provided comments or approved this work plan.

- Indoor air sampling reports documenting the air sampling activities and results for the following buildings:
  - 340 East Middlefield Road: "Indoor Air Confirmation Sampling Results" dated 19 September 2013 (Haley & Aldrich, 2013r);
  - 440 East Middlefield Road: "Building-specific Indoor Air Sampling Report" dated 11 February 2013 (Haley & Aldrich, 2013s);
  - 460 East Middlefield Road: "Building-specific Indoor Air Sampling Report" dated 12 February 2014 (Haley & Aldrich, 2014e);
  - 490 East Middlefield Road: "Building-specific Indoor Air Sampling Report" dated 8 January 2013 (Haley & Aldrich, 2013t);
  - 480/488 Ellis Street: "Building-specific Indoor Air Sampling Report" dated 11 February 2013 (Haley & Aldrich, 2013u);
  - 500 Ellis Street: "Building-specific Indoor Air Sampling Report" dated 15 January 2013 (Haley & Aldrich, 2013v);
  - 515 Ellis Street: "Building-specific Indoor Air Sampling Report" dated 14 January 2013 (Haley & Aldrich, 2013w);
  - 550 Ellis Street: "Building-specific Indoor Air Sampling Report" dated 15 January 2013 (Haley & Aldrich, 2013x);
  - 555 Ellis Street: "Building-specific Indoor Air Sampling Report" dated 8 January 2013 (Haley & Aldrich, 2013y);
  - 299 Fairchild Drive: "Building-specific Indoor Air Sampling Report" dated 8 January 2013 (Haley & Aldrich, 2013z);
  - 415 Fairchild Drive: "Building-specific Indoor Air Sampling Report" dated 10 April 2014 (Haley & Aldrich, 2014f);
  - 455/465 National Avenue: "Building-specific Indoor Air Sampling Report" dated 14 May 2013 (Haley & Aldrich, 2013aa);
  - 625/627 National Avenue: "Building-specific Indoor Air Sampling Report" dated 14 January 2013 (Haley & Aldrich, 2013bb); and
  - 645 National Avenue: "Building-specific Indoor Air Sampling Report" dated 28 January 2013 (Haley & Aldrich, 2013cc).

In addition to the reports listed above, the following submittals were provided to EPA for the buildings listed:

- 455/465 National Avenue:
  - "Sub-slab Depressurization Pilot Test Work Plan, 455/465 National Avenue, Mountain View, California," dated 17 July 2013 (Haley & Aldrich, 2013gg);
  - "Sub-slab Depressurization Pilot Test Results Memorandum, 455/465 National Avenue, Mountain View, California," dated 14 November 2013 (Haley & Aldrich, 2013mm);

- "Response to EPA Comments on the Sub-slab Depressurization Pilot Test Results, 455/465 National Avenue, Mountain View, California," dated 11 December 2013 (Haley & Aldrich, 2013pp); and
- "Update on Vapor Intrusion Activities Performed November 2013 and December 2013, 455/465 National Avenue, Mountain View, California," dated 4 February 2014 (Haley & Aldrich, 2014g).

- 612-620 National Avenue: "Vapor Intrusion Activities Performed February 2013 to May 2013, 612/620 National Avenue, Mountain View, California," dated 26 June 2013 (Haley & Aldrich, 2013nn).
- 615 National Avenue: "Vapor Intrusion Activities, 615 National Avenue, Mountain View, California," dated 29 April 2013 (Haley & Aldrich, 2013hh).
- 440 East Middlefield Road: "Sub-slab Depressurization Pilot Test Work Plan, 440 East Middlefield Road, Mountain View, California," dated 17 September 2013 (Haley & Aldrich, 2013ii).
- 480/488 Ellis Street: "Update on Vapor Intrusion Activities Performed March 2013 to April 2013, 480 Ellis Street, Mountain View, California," dated 28 May 2013 (Haley & Aldrich, 2013jj).
- 331 Fairchild Drive: "Building-specific Long-term Vapor Intrusion Operation, Maintenance, and Monitoring Plan, 331 Fairchild Drive, Mountain View, California," dated 27 November 2013 (Haley & Aldrich, 2013qq).
- Residence 44:
  - "Notification of Intent to Implement Vapor Intrusion Mitigation, Residence 44, Mountain View, California," dated 24 January 2013 (Haley & Aldrich, 2013dd); and
  - "Residence 44 Vapor Intrusion Activities, Residence 44, Mountain View, California," dated 10 July 2013 (Haley & Aldrich, 2013ee).
- Residence 49:
  - "Residence 49 Crawlspace Ventilation Work Plan, Residence 49, Mountain View," dated 20 March 2013 (Haley & Aldrich, 2013kk); and
  - "Residence 49 Vapor Intrusion Activities, Residence 49, Mountain View, California," dated 9 September 2013 (Haley & Aldrich, 2013ff).

2.2 Summary of Work Activities

Haley & Aldrich collected air samples in eight commercial and two residential buildings within the VI Study Area in 2013. The following is a summary of VI work activities, findings, and mitigation measures, if any. Details of the VI work are provided in reports listed above.

- **340 East Middlefield Road**

  The building was constructed with a vapor barrier and passive sub-slab ventilation (SSV) system. After completion of building construction but prior to building occupancy, air samples were collected on 21 and 24 July 2013 with the HVAC system off and on, respectively. As shown in Table II with respective sample locations presented on Figure 4, all indoor air samples showed COC concentrations below their respective long-term commercial indoor air

cleanup levels. A report detailing findings was submitted to EPA on 19 September 2013 (Haley & Aldrich, 2013r). Haley & Aldrich will submit the "Building-specific Long-term Vapor Intrusion Operations, Maintenance, and Monitoring Plan" to EPA following the recording of the access agreement between the property owner and the MEW responsible parties. Under the operations, maintenance, and monitoring (OM&M) plan, confirmation air samples will be collected in 2014.

- **440 East Middlefield Road**

With the HVAC system on and during normal building occupancy, indoor air samples have shown that COC concentrations were below their respective long-term commercial indoor air cleanup levels adopted in the EPA's ROD Amendment. The building was sampled on 13 January 2013 with the HVAC system off to confirm the November 2012 HVAC off air sampling results. As shown in Table III and with respective sample locations presented on Figure 5, the 13 January 2013 sampling event showed TCE concentrations above its long-term commercial indoor air cleanup level; no other COCs were detected above their respective long-term commercial indoor air cleanup levels. A report detailing findings was submitted to EPA on 11 February 2013 (Haley & Aldrich, 2013s).

As an interim mitigation measure, since receipt of the January 2013 sampling results, the tenant has extended the operations of the HVAC system to include Saturdays and Sundays when the building is occupied. Indoor air concentrations from vapor intrusion would therefore be below the commercial indoor air cleanup levels when people are in the building, as demonstrated by the 13 November 2012 HVAC on sampling results.

Sub-slab depressurization (SSD) is proposed as a long-term mitigation measure for the building. A "Sub-slab Depressurization Pilot Test Work Plan" was submitted to the EPA on 17 September 2013 (Haley & Aldrich, 2013ii). EPA conditionally approved the work plan on 27 November 2013 with comments to which Haley & Aldrich responded on 19 December 2013. Haley & Aldrich has worked with the owner and tenant to review the work activities, and access was received to conduct the SSD pilot test in April 2014.

- **460 East Middlefield Road**

After several attempts to obtain access, all of which were documented and provided to EPA, Haley & Aldrich secured access and collected indoor air samples in the building on 13 and 15 December 2013 with the HVAC system on and off, respectively. All indoor air samples showed COCs concentrations below their respective long-term commercial indoor air cleanup level. Sampling results are shown in Table IV and with respective sample locations presented on Figure 6. A report detailing findings was submitted to EPA on 12 February 2014 (Haley & Aldrich, 2014e).

- **480/488 Ellis Street**

As presented in Table V and with respective sample locations presented on Figure 7, in November 2012, indoor air samples were collected from both 480 and 488 Ellis suites with the HVAC system on and off. During this sampling event, the indoor air samples collected in the 488 Ellis Street suite (with HVAC system on and off) showed no COC concentrations exceeding their respective long-term commercial indoor air cleanup levels adopted in EPA's

ROD Amendment. However, TCE was detected at concentrations above its commercial indoor air cleanup level (5 $\mu g/m^3$), in the indoor air samples collected in the 480 Ellis suite with the HVAC system on and off.

On 11 and 13 January 2013 with the HVAC system on and off, respectively, the 480 Ellis Street suite was sampled to confirm the November 2012 sampling results. The January 2013 sampling results showed that TCE concentrations were still above its EPA long-term commercial indoor air cleanup level with the HVAC system on and off (see Table V).

On 28 January 2013, with the building owner's permission, Haley & Aldrich modified the HVAC system operations at the 480 Ellis Street suite to allow for an average air exchange rate of 1.5 exchanges per hour in the warehouse/laboratory and 1 exchange per hour in the office/cubicle area. Additionally, on 11 February 2013, the thermostats were replaced to allow for a programmable fan option. The fans were programmed to operate from 7:00 AM until 6:00 PM Monday through Friday, providing approximately 1 to 1.5 air exchanges per hour during these working hours.

Following the HVAC modifications, Haley & Aldrich learned the tenant at the 480 Ellis Street suite had moved its laboratory testing operations off-site. Haley & Aldrich collected air samples in the partially occupied 480 Ellis Street suite on 8 March 2013 with the HVAC system on, and on 10 March 2013 with the HVAC system off, approximately 40 hours after turning off the HVAC system. As shown on Table V, the March 2013 confirmation air samples, which were collected after the suite was partially vacated, showed that all COC concentrations were below their long-term commercial indoor air cleanup level with the HVAC system off. PCE was detected above the long-term commercial indoor air cleanup level of 2 $\mu g/m^3$ in one sample with the HVAC system on; however, PCE is not detected in groundwater in wells near the building and therefore, PCE is likely a result of indoor sources.

An additional round of air samples was collected in the 480 Ellis Street suite on 7 April 2013, with the sampling initiated after the HVAC system had been turned off for 48 hours. As shown in Table V, no COCs were detected in the indoor air samples indicating that the vapor intrusion pathway in the building is not significant, even with the absence of engineering controls (e.g., HVAC off). It also provides further evidence that the source of TCE detected at the 480 Ellis Street suite in November 2012 and January 2013 was likely associated with the tenant's laboratory operations. A report detailing findings was submitted to EPA on 28 May 2013 (Haley & Aldrich, 2013jj).

- **277 Fairchild Drive**

In 2012, air samples were collected in the convenience store, and TCE was detected above the commercial indoor air cleanup level established in the EPA's ROD Amendment. No other COCs were detected above their respective cleanup level. In August 2012, a crawlspace ventilation system was installed and operated to address the TCE concentrations in indoor air and crawlspace air. The convenience store was vacated in October 2012. Since the convenience store is unoccupied, the crawlspace ventilation system was shut down in April 2013. When the store is reoccupied, the crawlspace ventilation system will be turned on and indoor air sampling will resume in accordance with the Haley & Aldrich "Building-specific Long-term Vapor Intrusion Operations, Maintenance, and Monitoring (OM&M) Plan" submitted to the EPA on 25 September 2012 (Haley & Aldrich, 2012).

- **331 Fairchild Drive**

In 2012 and 2013, a new building was constructed with a vapor barrier and passive SSV system on the 331 Fairchild Drive property. Prior to occupancy and after the building was constructed air samples (sample locations are presented on Figure 8) were collected on 23 and 25 September 2013 with the HVAC system off and on, respectively. As shown in Table VI, the air sampling results showed that no COCs were detected above their respective long-term commercial indoor air cleanup level. On 27 November 2013, Haley & Aldrich submitted a "Building-specific Long-term Vapor Intrusion Operations, Maintenance, and Monitoring Plan" to EPA. In accordance with the OM&M plan, air sampling was conducted on 17 and 19 January 2014 with the HVAC system on and off, respectively. The air sampling results (see Table VI) showed that no COCs were detected above the respective long-term commercial indoor air cleanup level.

- **455/465 National Avenue**

The building was sampled on 11 and 27 January 2013 with the HVAC system on and off, respectively. As shown in Table VII with respective sample locations presented on Figure 9, with the HVAC system operating and under normal occupancy, only one indoor air sample had a COC (PCE) detected above its long-term commercial indoor air cleanup level of 2 $\mu g/m^3$. Haley & Aldrich reviewed Material Safety Data Sheets for chemicals stored and used in the building and the findings revealed that a chemical containing 10 to 30 percent of PCE (Sheila Shine) is stored in the warehouse and dry-cleaned uniforms potentially containing PCE are stored in the building. In addition, groundwater concentrations in nearby monitoring wells do not show detections of PCE in the groundwater. Therefore, PCE in indoor air is attributed to indoor chemical use or storage, and not to vapor intrusion.

With the HVAC system off, air sampling showed TCE concentrations above its long-term commercial indoor air cleanup level. However, the HVAC system normally operates seven days a week while workers are in the building. Indoor air concentrations from vapor intrusion would therefore be below the commercial indoor air cleanup levels when people are in the building, as demonstrated by the 11 January 2013 HVAC on sampling results

Haley & Aldrich submitted a "Sub-slab Depressurization Pilot Test Work Plan" to the EPA for approval on 17 July 2013 (Haley & Aldrich, 2013gg). EPA approved the work plan on 19 August 2013 and the pilot test was performed on 5 and 6 October 2013. Based on results of the pilot test, Haley & Aldrich concluded that SSD was not a feasible VI mitigation measure (Haley & Aldrich, 2013mm) for this building. Therefore, HVAC modifications were proposed (Haley & Aldrich, 2013pp). On 4 and 5 December 2013, the HVAC system was modified to allow for continuous fan operation with an average air exchange rate of one exchange per hour during occupancy Thermostats were also locked to prevent tampering (Haley & Aldrich, 2014g). Following HVAC modifications, on 13 December 2013, Haley & Aldrich collected confirmation indoor air samples with the HVAC system on. Since the HVAC system operates every day, HVAC off samples cannot be taken in accordance with procedures accepted by EPA (e.g., minimal HVAC shutdown time). As shown on Table VII, no COCs were detected above their respective long-term commercial indoor air cleanup levels indicating HVAC modifications are effective in reducing TCE concentrations in the building to below its long-term commercial indoor air cleanup level. An updated report detailing findings was submitted to EPA on 4 February 2014 (Haley & Aldrich, 2014g).

- **612-620 National Avenue**

Air samples collected in 2012 had shown TCE concentrations above its long-term commercial indoor air cleanup level in the 616, 618, and 620 National Avenue suites (see Table VIII, with respective locations presented on Figure 10). Because studies showed that an SSD system would not be feasible in the building (Haley & Aldrich, 2013nn), after obtaining access from the property owner, Haley & Aldrich modified the HVAC system operations in the three suites to allow for an average air exchange rate of approximately 1 exchange per hour and installed thermostats with a programmable fan option. The fans were programmed to operate when the suites are occupied: from 8:00 AM until 11:00 PM seven days per week in 616 National Avenue; from 7:00 AM until 5:00 PM Monday through Friday in 618 National Avenue; and from 10:00 AM until 9:00 PM Monday through Saturday in 620 National Avenue. Based on the information obtained from the tenants, the suites are not occupied at other times.

Following the HVAC modifications, indoor air samples were collected in the three suites as follows:

- Indoor air samples were collected at the 616 National Avenue suite on 22 April 2013 with the HVAC system on. As shown on Table VIII, no COCs were detected at levels above their respective commercial indoor air cleanup levels.

- On 17 and 21 April 2013, indoor air samples were collected at the 618 National Avenue suite with the HVAC system on and off, respectively. As shown on Table VIII, with the HVAC system on and when the suite is occupied, no COCs were detected at levels above their respective EPA commercial long-term cleanup levels. However, with HVAC system off, the TCE concentration detected was 52 $\mu g/m^3$ (618AMB-1); no other COCs were detected above their respective commercial indoor air cleanup levels. Although the 618 National Avenue suite is not typically occupied on the weekends, the hours of operation of the HVAC system were modified on 1 May 2013 to operate from 6:00 AM until 6:00 PM seven days per week.

- On 17 April 2013, the 620 National Avenue suite was sampled with the HVAC systems on. As shown on Table VIII, no COCs were detected above their respective commercial indoor air cleanup levels.

A report detailing findings was submitted to EPA on 26 June 2013 (Haley & Aldrich, 2013nn).

This building has been sold and is planned to be demolished in 2014. A new building will be constructed on the contiguous properties at 401/612-620/630/640 National Avenue.

- **615 National Avenue**

As presented in Table IX, indoor air samples collected in the building (see Figure 11) have shown that with the HVAC system on, and during normal building occupancy, all COCs were below their respective commercial indoor air cleanup levels. Samples collected on weekends with the HVAC system off showed TCE and PCE concentrations above their respective long-term commercial indoor air cleanup levels.

In November 2012, the owner notified Haley & Aldrich of plans to perform tenant improvements in the first floor, including installation of new carpeting. Once the old carpeting was removed, Haley & Aldrich visually examined the exposed concrete floor and observed the presence of many cracks and caulking in some expansion joints was either missing or had deteriorated. Haley & Aldrich notified EPA of plans to seal these potential conduits on 12 December 2012. In December 2012, under the direction of Haley & Aldrich, American Industrial Coatings (an application contractor licensed by Land Science™ Technologies [LST] of San Clemente, California) applied a Retro-Coat™ floor coating system manufactured by LST to seal the cracks and joints in the exposed floor.

After sealing the cracks and joints as described above, air samples were collected in the building with the HVAC system off for approximately 42 hours as follows:

- With the restroom exhaust fans on (normal weekend building conditions), Haley & Aldrich collected 8-hour integrated indoor and outdoor air samples on Sunday, 13 January 2013. As shown in Table IX, all COC concentrations were below their commercial indoor air cleanup levels at all samples locations.

- To determine if TCE concentrations could be further decreased by turning off the restroom exhaust fan over the weekend, Haley & Aldrich requested that the restroom exhaust fans be turned off (by turning off the circuit breaker) on Friday, 25 January 2013 at 5:00 PM. On Sunday, 27 January 2013, Haley & Aldrich collected 8-hour integrated indoor and outdoor air samples. These samples showed TCE concentrations in indoor air slightly above the commercial indoor air cleanup level at two locations (AMB-2 and AMB-3) in the building; no other COCs exceeded their commercial long term cleanup levels. Following the sampling activities, the power was restored to the restroom exhaust fan.

- To confirm that the TCE concentrations are below the commercial indoor air cleanup levels with the HVAC system off and with the restroom exhaust fan on (normal weekend building conditions), Haley & Aldrich collected 8-hour integrated indoor and outdoor air samples on Sunday, 3 February 2013 starting 42 hours after shutdown of the HVAC system. The concentrations of all COCs were below their respective EPA site-specific commercial indoor air cleanup levels at all samples locations.

As documented in a report submitted to EPA on 29 April 2013 (Haley & Aldrich, 2013hh), sealing the potential conduits in the exposed concrete floor reduced TCE concentrations in the building to below the long-term commercial indoor air cleanup level. No other COCs were detected above their respective long-term commercial indoor air cleanup levels.

- **Residence 44**

Air samples collected by EPA in January 2013 as part of EPA's residential indoor air sampling effort detected TCE concentrations above its long-term residential indoor air cleanup level of 1 μg/m^3,[1]. As a response action measure, a crawlspace ventilation system was installed in January 2013. On 3 and 14 February 2013, Haley & Aldrich conducted confirmation indoor air sampling. As shown on Table X, although there was a significant reduction in the TCE concentrations detected, the levels were still slightly above the TCE cleanup level. The crawlspace ventilation system was therefore modified to optimize vapor intrusion mitigation performance. Confirmation sampling (Table X with respective locations presented on Figure 12) performed on 7 May 2013 showed that all COC concentrations, including TCE, were below their respective long-term residential indoor air cleanup levels. Subsequent confirmation samples collected on 7 November 2013 also showed that all COC concentrations were below their respective long-term residential indoor air cleanup levels.

As documented in the report submitted to EPA on 10 July 2013 (Haley & Aldrich, 2013ee), an evaluation of the data collected at Residence 44 indicated that installation and operation of the crawlspace ventilation system was effective in reducing TCE concentrations in the building and in the crawlspace to below the long-term residential indoor air cleanup level.

- **Residence 49**

Residence 49 is a multi-unit residential structure. Air samples collected by the EPA in January 2013 as part of EPA's routine residential indoor air sampling effort showed TCE concentrations above its long-term residential indoor air cleanup level of 1 μg/m^3 in one unit and in the crawlspace[1]. Subsequently, Haley & Aldrich installed a crawlspace ventilation system in May 2013, and collected confirmation air samples on 10 June 2013. As shown in Table XI with respective locations presented on Figure 13, TCE was detected at concentrations equal to or slightly greater than the residential TCE indoor air cleanup level in two of three crawlspace samples; no other COCs were detected above their respective long-term residential indoor air cleanup levels. Haley & Aldrich optimized the crawlspace ventilation system airflow on 26 June 2013, and collected confirmation samples in indoor air and the crawlspace on 10 July 2013. The July 2013 sampling (see Table XI) showed all COC concentrations in indoor air and the crawlspace were below their respective long-term residential indoor air cleanup levels). A report detailing findings was submitted to EPA on 9 September 2013 (Haley & Aldrich, 2013ff).

[1] Details of EPA's sampling results, including laboratory reports, have not been provided to Haley & Aldrich and therefore the results are not included in the table or figure.

2.3 Quality Assurance/Quality Control Activities

Quality assurance/quality control (QA/QC) activities, which include data verification[2] and data validation[3], complied with the requirements detailed in the Tiering Work Plan (Haley & Aldrich, 2013oo). No deviations or discrepancies were identified for field techniques or sampling protocol. The laboratory followed media preparation procedures for the sampling canisters and the sample analysis.

The minimum requirements for the data validation and verification are specified in the Tiering Work Plan were met, additional validation and verification was performed based on detected COC concentrations in the indoor air samples (i.e., a Stage II evaluation was performed when COC concentrations were above the long-term indoor air cleanup levels). As presented below, the required validation was performed on the collected data.

	% of Selected Data Validated **Subjected to Stage I Evaluation**	**% of Selected Data Validated** **Subjected to Stage II Evaluation**	**% of Selected Data Validated** **Subjected to Stage III Evaluation**
Requirement per Tiering Work Plan	80%	20%	0%
2013 Reporting Period	100% (169 of 169 samples)	50% (84 of 169 samples)	0% (0 of 169 samples)

2.3.1 Stage I Evaluation

Stage I data review included the verification of the precision, accuracy, representativeness, completeness, comparability, and sensitivities parameters, including an evaluation of accuracy and precision indicators such as:

- Holding times;
- Reporting limits;
- Laboratory control sample, matrix spike/matrix spike duplicate recoveries;
- Data qualifiers;
- Blank sample analysis;
- System monitoring compound recoveries; and
- Field and laboratory duplicate results.

[2] A process for evaluating the completeness, correctness, and conformance/compliance of a specific data set against the method, procedural, or contractual requirements.
[3] An analyte and sample-specific process that extends the evaluation of data beyond method, procedural, or contractual compliance (i.e., data verification) to determine the analytical quality of a specific data set.

2.3.2 Stage II Evaluation

Stage II data validation is an increasingly more stringent review of the data. Stage II data review is an intermediate level of data validation that include the elements of Stage I plus a more detailed review of summarized calibration and instrument performance criteria, as well as the option to focus validation review on specific analytes of interest or task-specific data quality objectives including:

- Associated calibration summaries;
- Target compound identification;
- Lab bench sequence logs; and
- Instrument performance summaries such as gas chromatography-mass spectroscopy tuning, interference checks, and internal standards.

Haley & Aldrich generates a data usability summary report for Stage II validation, which are included in each Building-specific report.

2.3.3 Stage III Evaluation

Stage III data review is the most stringent level of data evaluation and includes all the elements of Stage II plus a review of the laboratory instrument raw data used to calculate and report the analysis results. Stage III is not required; however, if necessary, will be performed on a subset of the data.

2.3.4 Field QC Procedures

One hundred and sixty-nine indoor and outdoor air samples, including 19 field duplicates (11% of samples), were collected from 10 buildings in the VI Study Area. 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. No data were rejected during the data validation process. However, the "J" qualifier was applied to seven samples to denote that RPD between primary and duplicate samples was greater than the project data quality objective of 30%.

2.4 Community Involvement and Meetings

Community involvement and meetings continue to be performed by EPA, including meetings with the Moffett Field Restoration Advisory Board.

3. VAPOR INTRUSION STUDY AREA

The extent of the VI Study Area is presented on Figures 1, 2 and 3. This area is in accordance to maps posted by EPA on its website (www.epa.gov/region9/mew).

Updated TCE concentration contours for the A Zone are provided in the groundwater monitoring report "2013 Annual Progress Report" prepared by Geosyntec Consultants (Geosyntec; Geosyntec Consultants, 2014), which Geosyntec is submitting concurrently with this Annual Progress Report.

4. DELAYS ENCOUNTERED 2013

- Delays are encountered in implementing the "Site-wide Vapor Intrusion Work Plan for Response Action Tiering" because EPA has not provided approval or comments on the revised Tiering Work Plan (Haley & Aldrich, 2013oo), which was submitted to EPA on 22 March 2013. Implementation of the Tiering Work Plan will begin upon EPA's approval of the revised work plan.

- Delays are encountered in implementing the revised "Building-specific Vapor Intrusion Sampling and Analysis Work Plan" for Buildings 20, 109, 152, 547B, 547D, 572, and 945 located on Moffett Field because EPA has not provided approval or comments on the plan, which was submitted to EPA on 3 September 2013 (Haley & Aldrich, 2013q). Sampling will commence in these buildings, and Building 153 which was included in a revised work plan, upon EPA's approval of the revised work plan.

- Securing access delayed implementation of the SSD pilot test at 440 East Middlefield Road. EPA was informed of the access status periodically. Access from the tenant was granted in March 2014 and the SSD pilot test will be implemented in April 2014.

- The "Building-specific Long-term Vapor Intrusion Operations, Maintenance, and Monitoring Plan" for 340 East Middlefield Road will be submitted to the EPA following the recording of the access agreement between the property owner and the MEW responsible parties.

5. ANTICIPATED ACTIVITIES PLANNED FOR 2014

The following activities are anticipated for 2014:

- Haley & Aldrich submitted a revised Tiering Work Plan to EPA on 22 March 2013 (Haley & Aldrich, 2013oo). Pending EPA's comments and/or approval, the work plan may be finalized in 2014. Subsequently, the MEW responsible parties will begin implementing tiering-related work as described in the EPA-approved Tiering Work Plan.

- In accordance with Section 2.3 of the SOW, a Site-Wide Long Term Vapor Intrusion Operations, Maintenance, Monitoring, and Management Plan, and a Site-Wide Institutional Controls Implementation, Management, and Monitoring Plan will be submitted to EPA 60 days after EPA's approval of the Tiering Work Plan.

- Monthly Vapor Intrusion Field Activity and Progress Reports will be submitted to EPA on the second Tuesday of each month in accordance with Section 2.6.2 of the VI SOW.

- Building-specific work:
  - Collect indoor and outdoor air samples at Buildings 20, 109, 152, 153, 547B, 547D, 572, and 945 located within Moffett Field subsequent to EPA's approval of the building-specific work plan submitted to EPA on 3 September 2013 and updated on 30 January 2014 to include Building 153. A building-specific indoor air sampling report will be submitted to EPA within 60 days of completing the sampling.
  - After obtaining access to 450 National Avenue, a walkthrough will be performed and a building-specific work plan will be prepared. Then, in accordance with the EPA-approved building-specific work plan, indoor and outdoor air samples will be collected and a building-specific indoor air sampling report will be submitted to EPA within 60 days of completing the sampling.
  - Indoor and outdoor air samples were collected at 415 Fairchild Drive on 7 and 9 February 2014. A building-specific indoor air sampling report was submitted to EPA on 10 April 2014 (Haley & Aldrich, 2014f).
  - Implement ongoing building-specific OM&M activities developed for buildings located at 331 Fairchild Drive and 340 East Middlefield Road.
  - Collect confirmation indoor and outdoor air samples at 455/465 National Avenue in July 2014 and December 2014.
  - Implement ongoing building-specific OM&M activities for the crawlspace ventilation systems installed at Residence 4, Residence 44, and Residence 49. Confirmation indoor and outdoor air samples will be collected at Residence 44 in April 2014.
  - Pending the 440 East Middlefield Road SSD pilot test results, it is anticipated that design and implementation of an SSD system will be performed in this building in 2014.
  - Provide non-routine assistance with continued operation of the HVAC system at 612-620 National Avenue on an as needed basis.

REFERENCES

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4. Haley & Aldrich, Inc., 2011b, "Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering, Vapor Intrusion Study Area, Middlefield-Ellis-Whisman Superfund Area, Mountain View, California," 29 September 2011.

5. Haley & Aldrich, Inc., 2012, "Building-Specific Long-Term Vapor Intrusion Operations, Maintenance, and Monitoring (OM&M) Plan, 277 Fairchild Drive, Mountain View, California," 25 September 2012.

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7. Haley & Aldrich, Inc., 2013b, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 12 March 2013.

8. Haley & Aldrich, Inc., 2013c, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 9 April 2013.

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10. Haley & Aldrich, Inc., 2013e, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 11 June 2013.

11. Haley & Aldrich, Inc., 2013f, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 9 July 2013.

12. Haley & Aldrich, Inc., 2013g, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 13 August 2013.

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14. Haley & Aldrich, Inc., 2013i, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 9 October 2013.

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17. Haley & Aldrich, Inc., 2014a, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 14 January 2014.

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19. Haley & Aldrich, Inc., 2014c, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 11 March 2014.

20. Haley & Aldrich, Inc., 2014d, "Monthly Vapor Intrusion Field Activity and Progress Report, Middlefield-Ellis-Whisman (MEW) Area and Moffett Field, California," 11 April 2014.

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30. Haley & Aldrich, Inc., 2013u, "Building-specific Indoor Air Sampling Report, 480/488 Ellis Street, Mountain View, California," 11 February 2013.

31. Haley & Aldrich, Inc., 2013v, "Building-specific Indoor Air Sampling Report, 500 Ellis Street, Mountain View, California," 15 January 2013.

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33. Haley & Aldrich, Inc., 2013x, "Building-specific Indoor Air Sampling Report, 550 Ellis Street, Mountain View, California," 15 January 2013.

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TABLES

TABLE I
STATUS OF AIR SAMPLING
MOUNTAIN VIEW, CALIFORNIA

Building Address	Access Received	Building Walkthrough Performed	Work Plan Submitted	EPA's Approval of Work Plan	Work Plan Implemented (60 days after EPA approval of Work Plan)	Report Submitted (60 days after completion of sampling)	Comments & Notes
North Whisman Road							
265/275 N. Whisman Rd.	3/7/2011	4/20/2011	7/24/2011	2/17/2012	3/30/2012	5/29/2012	
276 N. Whisman Rd.	1/17/2011	2/23/2011	7/24/2011	2/17/2012	3/20/2012	5/18/2012	
301 N. Whisman Rd.	8/1/2011	8/16/2011	8/30/2011	2/17/2012	4/27/2012, 4/29/2012	6/26/2012	
310 N. Whisman Rd.	2/9/2011	4/20/2011	8/1/2011	2/17/2012	3/20/2012	5/18/2012	
425 N. Whisman Rd. #100-800	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012	6/12/2012	
435 N. Whisman Rd. #100-400	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012	6/12/2012	
445 N. Whisman Rd. #100-400	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012	6/12/2012	
455 N. Whisman Rd. #100-400	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012, 4/16/2012	6/12/2012	
465 N. Whisman Rd. #100-600	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012	6/12/2012	
475 N. Whisman Rd. #100-400	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012	6/12/2012	
485 N. Whisman Rd. #100-400	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012	6/12/2012	
495 N. Whisman Rd. #100-500	3/11/2011	4/20/2011	8/1/2011	2/17/2012	4/13/2012, 4/15/2012, 4/16/2012	6/12/2012	
East Middlefield Road							
295 E. Middlefield Rd.	2/4/2011	2/23/2011	7/24/2011	2/17/2012	3/20/2012	5/18/2012	
325 E. Middlefield Rd.	3/5/2011	4/20/2011	8/1/2011	2/17/2012	3/30/2012	5/29/2012	
335 E. Middlefield Rd.	8/1/2011	8/16/2011	8/30/2011	2/17/2012	4/27/2012, 4/29/2012	6/26/2012	
340 E. Middlefield Rd.	7/2/2013	7/2/2013	7/16/2013	7/18/2013	7/21/2013, 7/24/2013	9/23/2013	Building was constructed with a vapor barrier and a passive SSV system and it is now occupied. Air samples collected on 21 July 2013 (HVAC off) and on 24 July 2013 (HVAC on) did not have detected concentrations of COCs (including TCE) above the long-term commercial indoor air cleanup levels adopted in the EPA's ROD Amendment. An *Indoor Air Confirmation Sampling Results* report documenting the results was submitted to the EPA on 23 September 2013. The next indoor air sampling event will be performed during the first quarter of 2014.
345 E. Middlefield Rd.	8/1/2011	8/16/2011	8/30/2011	2/17/2012	5/23/2012, 6/3/2012	7/23/2012	
440 E. Middlefield Rd.	8/30/2012	9/19/2012	10/18/2012	10/26/2012	11/11/2012, 11/13/2012	2/11/2013	An access agreement with property owner has been executed. An *SSD Pilot Test Work Plan* was submitted to EPA on 17 September 2013, and conditionally approved by the EPA on 27 November 2013. The SSD pilot test will be implemented during the first quarter of 2014.
448/450 E. Middlefield Rd.	1/28/2011	2/23/2011	8/1/2011	2/17/2012	3/16/2012, 3/18/2012	5/15/2012	
460 E. Middlefield Rd.	9/3/2013	9/9/2013	10/31/2013	11/25/2013	12/13/2013, 12/15/2013	--	
490 E. Middlefield Rd.	8/30/2012	9/19/2012	10/18/2012	10/26/2012	11/9/2012, 11/11/2012	1/8/2013	

TABLE I
STATUS OF AIR SAMPLING
MOUNTAIN VIEW, CALIFORNIA

Building Address	Access Received	Building Walkthrough Performed	Work Plan Submitted	EPA's Approval of Work Plan	Work Plan Implemented (60 days after EPA approval of Work Plan)	Report Submitted (60 days after completion of sampling)	Comments & Notes
Ellis Street							
480/488 Ellis St.	9/4/2012	9/20/2012	10/18/2012	10/26/2012	11/9/2012, 11/11/2012	2/11/2013	The building is in the process of being sold.
500 Ellis St.	9/20/2012	9/20/2012	10/18/2012	10/26/2012	11/16/2012, 11/18/2012	1/15/2013	
515 Ellis St.	9/5/2012	9/19/2012	10/18/2012	10/26/2012	11/15/2012, 11/18/2012	1/14/2013	
550 Ellis St.	9/20/2012	9/20/2012	10/18/2012	10/26/2012	11/16/2012, 11/18/2012	1/15/2013	
555 Ellis St.	9/5/2012	9/19/2012	10/18/2012	10/26/2012	11/9/2012, 11/11/2012	1/8/2013	
605 Ellis St.	1/13/2011	2/1/2011	7/24/2011	2/17/2012	3/16/2012, 3/18/2012	5/15/2012	
625 Ellis St.	1/4/2011	2/1/2011	7/24/2011	2/17/2012	3/23/2012, 3/25/2012	5/22/2012	
636 Ellis St./491 Fairchild Dr.	8/1/2011	8/16/2011	8/30/2011	2/17/2012	5/23/2012, 6/3/2012	7/23/2012	
645 Ellis St.	1/4/2011	2/23/2011	7/24/2011	2/17/2012	3/23/2012, 3/25/2012	5/22/2012	
Fairchild Drive							
277 Fairchild Dr. - Convenience Store	3/21/2011	4/8/2011	8/1/2011	2/17/2012	3/20/2012	5/18/2012	Since the convenience store is unoccupied, the crawlspace ventilation system was shut down in April 2013. When the store is reoccupied, the crawlspace ventilation system will be turned on and indoor air sampling will resume in accordance with the *Building-specific Long-term Vapor Intrusion Operations, Maintenance, and Monitoring (OM&M) Plan* submitted to the EPA on 25 September 2012.
299 Fairchild Dr.	9/6/2012	9/19/2012	10/18/2012	10/26/2012	11/9/2012, 11/11/2012	1/8/2013	
331/333 Fairchild Dr.	--	8/14/2013, 9/16/2013	9/18/2013	9/21/2013	9/23/2013, 9/25/2013	--	Building was constructed with a vapor barrier and a passive SSV system. In accordance with the 18 September 2013 *Building-specific Vapor Intrusion Indoor Air Sampling and Analysis Work Plan*, air samples were collected on 23 September 2013 (HVAC off) and on 25 September 2013 (HVAC on). The collected air samples did not have detected concentrations of COCs (including TCE) above the long-term commercial indoor air cleanup levels adopted in the EPA's ROD Amendment. In accordance with the SOW, a *Building-specific Vapor Intrusion Response Action Implementation Report* containing the results will be submitted to the EPA by 31 January 2014. The Building-specific OM&M Plan was submitted to the EPA on 27 November 2013. The next indoor air sampling event is scheduled for January 2014.
411/415 Fairchild Dr.	1/21/2011	2/1/2011, 1/7/2014	7/24/2011	2/17/2012	4/13/2012, 4/15/2012	6/12/2012	Remodeling has been completed in the 415 Fairchild Drive suite, and the suite was occupied in September 2013. A walkthrough will be performed in the 415 Fairchild Drive suite on 7 January 2014 and subsequent air sampling will be performed in January 2014 in accordance with the existing EPA-approved work plan.
465 Fairchild Dr.	2/10/2011	4/8/2011	8/1/2011	2/17/2012	3/23/2012, 3/25/2012	5/22/2012	

TABLE I
STATUS OF AIR SAMPLING
MOUNTAIN VIEW, CALIFORNIA

Building Address	Access Received	Building Walkthrough Performed	Work Plan Submitted	EPA's Approval of Work Plan	Work Plan Implemented (60 days after EPA approval of Work Plan)	Report Submitted (60 days after completion of sampling)	Comments & Notes
National Avenue							
455/465 National Ave.	11/13/2012	11/8/2012	11/15/2012	12/3/2012	1/11/2013, 1/27/2013	5/14/2013	With the HVAC system on and during building occupancy, TCE concentrations were below the long-term commercial indoor air cleanup level adopted in the EPA's ROD Amendment. With the HVAC off, the TCE concentrations were measured slightly above the long-term commercial indoor air cleanup level. The property owner operates the HVAC system when the building is occupied. Based on the HVAC off sampling results, an *SSD Pilot Test Work Plan* was submitted to the EPA on 17 July 2013 and conditionally approved by the EPA on 19 August 2013. The pilot test was implemented on 5 October 2013, and a *Pilot Test Work Plan Memorandum* (Memorandum) was submitted to the EPA on 14 November 2013. The EPA provided comments on the Memorandum on 27 November 2013, and a response to comments was submitted to the EPA on 11 December 2013. A report documenting HVAC modifications and the results of confirmation samples collected on 13 December 2013 will be submitted to the EPA by 4 February 2014.
612/614/616/618/620 National Ave.	1/12/2011	2/23/2011	8/1/2011	2/17/2012	3/23/2012, 3/25/2012	5/22/2012	The HVAC system is operating during building occupancy to reduce TCE concentrations in the 616, 618, and 620 National Avenue suites to below the long-term commercial indoor air cleanup level adopted in the EPA's ROD Amendment.
615 National Ave	3/14/2012	3/26/2012	3/22/2012	3/22/2012	4/1/2012	5/31/2012	Potential conduits, such as cracks and joints in the floor, were sealed in December 2012. Subsequent confirmation samples collected with HVAC off and under normal building conditions showed TCE below the long-term commercial indoor air cleanup level adopted in the EPA's ROD Amendment.
625/627 National Ave.	9/24/2012	10/4/2012	10/18/2012	10/26/2012	11/15/2012, 11/19/2012	1/14/2013	The building was sold in 2013, and the 627 National Avenue suite was remodeled.
630/634 National Ave.	2/1/2011	2/23/2011	7/24/2011	2/17/2012	3/16/2012, 3/19/2012	5/15/2012	The building is currently unoccupied and is pending sale and redevelopment.
640 National Ave.	2/27/2011	4/8/2011	7/24/2011	2/17/2012	3/20/2012	5/18/2012	The building was sold and it is pending redevelopment.
645 National Ave.	9/6/2012	9/20/2012	10/18/2012	10/26/2012	11/29/2012, 12/02/2012	1/28/2013	
Moffett Field							
20	5/6/2013	6/7/2013	9/3/2013	--	--	--	
23	6/15/2011	6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/14/2011	9/13/2011	
48	6/15/2011	6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/13/2011	9/13/2011	
109	4/11/2013	5/1/2013	9/3/2013	--	--	--	
146	6/15/2011	6/23/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/13/2011	9/13/2011	

TABLE I
STATUS OF AIR SAMPLING
MOUNTAIN VIEW, CALIFORNIA

Building Address	Access Received	Building Walkthrough Performed	Work Plan Submitted	EPA's Approval of Work Plan	Work Plan Implemented (60 days after EPA approval of Work Plan)	Report Submitted (60 days after completion of sampling)	Comments & Notes
Moffett Field							
152	3/7/2013	3/14/2013, 4/1/2013	9/3/2013	--	--	--	
154	11/9/2011	11/29/2011	12/20/2011	2/17/2012	4/2/2012	6/1/2012	
503	6/15/2011	6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/12/2011	9/13/2011	
543	6/15/2011	6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/14/2011	9/13/2011	
547B	4/11/2013	5/1/2013	9/3/2013	--	--	--	
547D	4/11/2013	5/1/2013	9/3/2013	--	--	--	
554	6/15/2011	6/23/2011, 6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/12/2011	9/13/2011	
569	6/15/2011	7/1/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/14/2011	9/13/2011	
572	4/11/2013	5/1/2013	9/3/2013	--	--	--	
583A	6/15/2011	6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans were not submitted to EPA.		7/11/2011	9/13/2011	
583B	6/15/2011	6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/11/2011	9/13/2011	
583C	6/15/2011	6/23/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/11/2011	9/13/2011	
596	6/15/2011	6/24/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/12/2011	9/13/2011	
944	6/15/2011	7/1/2011	Sample location/duration approved by EPA during walkthroughs. Per agreement with EPA, building-specific work plans will not be submitted to EPA.		7/13/2011	9/13/2011	
945	4/11/2013	5/1/2013	9/3/2013	--	--	--	

TABLE I
STATUS OF AIR SAMPLING
MOUNTAIN VIEW, CALIFORNIA

Building Address	Access Received	Building Walkthrough Performed	Work Plan Submitted	EPA's Approval of Work Plan	Work Plan Implemented (60 days after EPA approval of Work Plan)	Report Submitted (60 days after completion of sampling)	Comments & Notes
Residences							
Residence 38	7/16/2012	11/29/2012	12/4/2012	12/4/2012	12/9/2012	12/19/2012	
Residence 44	1/27/2013	1/21/2013	1/24/2013	1/25/2013	1/29/2013	7/10/2013	A crawlspace ventilation system is currently operating. Indoor air samples collected on 16/17 April 2013, 7/8 May 2013, and 7/8 November 2013 showed all the COCs are below the long-term residential indoor air cleanup levels adopted in the EPA's ROD Amendment.
Residence 49	3/21/2011	6/12/2012	6/26/2012	6/27/2012	7/10/2012	9/11/2012	A crawlspace ventilation system is currently operating. Indoor air samples collected on 10 June 2013 and 11 July 2013 showed all the COCs are below the long-term residential indoor air cleanup levels adopted in the EPA's ROD Amendment.

Notes:
HVAC - Heating, ventilation, and air conditioning
SSD - Sub-slab depressurization
SSV - Sub-slab ventilation
COC - chemicals of concern listed in the EPA's Record of Decision (ROD) Amendment for the vapor intrusion pathway including tetrachloroethene (PCE); trichloroethene (TCE); 1,1-dichloroethane; cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); 1,1-dichloroethene; and vinyl chloride
SOW - EPA's Statement of Work, Remedial Design and Remedial Action to Address the Vapor Intrusion Pathway

TABLE II
AIR SAMPLING RESULTS
340 EAST MIDDLEFIELD ROAD
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC On)											
340AMB1	07/24/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.11	<0.051
340AMB1 (340DUP1)	07/24/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	0.12	<0.051
340AMB2	07/24/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
340AMB3	07/24/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
340AMB4	07/24/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.12	<0.051
340HVAC1	07/24/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
Air Sampling Results (HVAC Off)											
340AMB1	07/21/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.17	1.1	0.45	<0.051
340AMB1 (340DUP1)	07/21/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	0.14	1.1	0.45	<0.051
340AMB2	07/21/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	1.1	0.40	<0.051
340AMB3	07/21/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	1.1	0.39	<0.051
340AMB4	07/21/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	1.0	0.42	<0.051
340HVAC1	07/21/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
	Long-term Commercial Indoor Air Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter ($\mu g/m^3$).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

TABLE III
AIR SAMPLING RESULTS
440 EAST MIDDLEFIELD ROAD
MOUNTAIN VIEW, CALIFORNIA

Location / Sample ID	Sample Date	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
Air Sampling Results (HVAC On)											
440AMB1	10/07/2009	Indoor	10	Primary	<0.020	<0.040	<0.055	0.35	<0.055	0.78	<0.013
440AMB1 (DUPLICATE)	10/07/2009	Indoor	10	Duplicate	<0.020	<0.040	<0.055	0.38	<0.055	0.81	<0.013
440AMB1	11/13/2012	Indoor	8	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	0.93	<0.044
440AMB1 (440DUP1)	11/13/2012	Indoor	8	Duplicate	<0.14	<0.068	<0.14	<0.23	<0.68	0.92	<0.044
440AMB2	10/07/2009	Indoor	10	Primary	<0.020	<0.040	<0.055	0.36	<0.055	0.34	<0.013
440AMB3	10/07/2009	Indoor	10	Primary	<0.020	<0.040	<0.055	0.48	<0.055	0.30	<0.013
440AMB3	11/13/2012	Indoor	8	Primary	<0.14	<0.067	<0.13	<0.23	<0.67	0.64	<0.043
440AMB4	10/07/2009	Indoor	10	Primary	<0.020	<0.040	<0.055	0.32	<0.055	0.27	<0.013
440AMB4	11/13/2012	Indoor	8	Primary	<0.14	<0.067	<0.13	<0.23	<0.67	0.53	<0.043
440AMB5	11/13/2012	Indoor	8	Primary	<0.14	<0.067	<0.13	<0.23	<0.67	0.94	<0.043
440HVAC1	10/07/2009	Outdoor	10	Primary	<0.020	<0.040	<0.056	0.20	<0.056	0.080	<0.013
440HVAC1	11/13/2012	Outdoor	8	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
Air Sampling Results (HVAC Off)											
440AMB1	11/11/2012	Indoor	8	Primary	<0.14	<0.068	<0.14	0.74	<0.68	8.0	<0.044
440AMB1 (440DUP1)	11/11/2012	Indoor	8	Duplicate	<0.14	<0.068	<0.14	0.75	<0.68	7.9	<0.044
440AMB1	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.94	<0.079	13	<0.051
440AMB3	11/11/2012	Indoor	8	Primary	<0.13	<0.065	<0.13	0.66	<0.65	7.2	<0.042
440AMB3	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.93	<0.079	12	<0.051
440AMB4	11/11/2012	Indoor	8	Primary	<0.14	<0.067	<0.13	0.66	<0.67	6.6	<0.043
440AMB4	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.73	<0.079	10	<0.051
440AMB5	11/11/2012	Indoor	8	Primary	<0.14	<0.069	<0.14	0.72	<0.69	7.8	<0.045
440AMB5	01/13/2013	Indoor	8	Primary	<0.081	<0.079	0.080	0.97	<0.079	14	<0.051
440OUT1	11/11/2012	Outdoor	8	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
440OUT1	01/13/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
	Long-term Commercial Indoor Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter (µg/m^3).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in
EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

TABLE IV
AIR SAMPLING RESULTS
460 EAST MIDDLEFIELD ROAD
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC Off)											
460AMB1	12/15/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.22	<0.079	<0.11	<0.051
460AMB2	12/15/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.31	<0.079	<0.11	<0.051
460AMB2 (460DUP1)	12/15/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	0.30	<0.079	<0.11	<0.051
460AMB3	12/15/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.29	<0.079	<0.11	<0.051
460AMB4	12/15/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.38	<0.079	<0.11	<0.051
Air Sampling Results (HVAC On)											
460AMB1	7/8/2004	Indoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
460AMB1	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.46	<0.079	<0.11	<0.051
460AMB2	7/8/2004	Indoor	10	Primary	<0.13	<0.065	<0.13	<0.22	<0.65	<0.18	<0.042
460AMB2	7/14/2004	Indoor	10	Primary	<0.10	<0.10	<0.10	<0.17	NT	<0.135	<0.065
460AMB2	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	1.1	<0.079	0.11	<0.051
460AMB2 (460DUP1)	12/13/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	0.39	<0.079	<0.11	<0.051
460AMB3	7/8/2004	Indoor	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
460AMB3	7/14/2004	Indoor	10	Primary	<0.10	<0.10	<0.10	<0.17	NT	<0.135	<0.065
460AMB3	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.69	<0.079	<0.11	<0.051
460AMB4	7/8/2004	Indoor	10	Primary	<0.14	<0.069	<0.14	<0.24	<0.69	<0.19	<0.044
460AMB4 (DUP)	7/8/2004	Indoor	10	Duplicate	<0.12	<0.061	<0.12	1.1	<0.61	<0.17	<0.039
460AMB4	7/14/2004	Indoor	10	Primary	<0.10	<0.10	<0.10	<0.17	NT	<0.135	<0.065
460AMB4	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.20	<0.079	<0.11	<0.051
460AMB4A	7/8/2004	Indoor	10	Primary	<0.10	<0.10	<0.10	<0.17	-	<0.135	<0.065
460HVAC1	7/8/2004	Outdoor	10	Primary	<0.13	<0.062	<0.12	<0.21	<0.62	<0.17	<0.040
460HVAC1	7/14/2004	Outdoor	10	Primary	<0.10	<0.10	<0.10	<0.17	NT	<0.135	<0.065
460HVAC1	12/13/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.12	<0.051
460PATH1	7/8/2004	Pathway	10	Primary	<0.13	<0.064	<0.13	<0.22	<0.64	<0.17	<0.041
460PATH1	7/14/2004	Pathway	10	Primary	<0.10	<0.10	<0.10	0.45	NT	<0.135	<0.065
	Long-term Commercial Indoor Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter (µg/m^3).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in
EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene
NT = Not tested

TABLE V
AIR SAMPLING RESULTS
480/488 ELLIS STREET
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC On)											
488AMB1	10/02/2009	Indoor	10	Primary	<0.020	<0.040	0.013 J	0.15	<0.055	0.12	<0.013
488AMB1	11/09/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.3	<0.051
488AMB1 (488DUP1)	11/09/2012	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	2.5	<0.051
488AMB2	10/02/2009	Indoor	10	Primary	<0.020	<0.040	<0.055	0.14	<0.055	0.079	<0.013
488AMB2	11/09/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.5	<0.051
480AMB3	11/09/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	20	<0.051
480AMB3	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.30 J	<0.079	0.88	<0.051
480AMB3 (480DUP1)	01/11/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	0.57 J	<0.079	0.94	<0.051
480AMB3	03/08/2013[a]	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480AMB3 (480DUP1)	03/08/2013[a]	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480AMB4	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	9.3	<0.051
480AMB4	03/08/2013[a]	Indoor	8	Primary	<0.081	<0.079	<0.079	2.3	<0.079	0.66	<0.051
480-488OUT1	11/09/2012	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480-488OUT1	01/11/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	0.28	<0.079	0.18	<0.051
480-488OUT1	03/08/2013[a]	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
Air Sampling Results (HVAC Off)											
488AMB1	11/11/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.6	<0.051
488AMB1 (488DUP1)	11/11/2012	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	2.5	<0.051
488AMB2	11/11/2012	Indoor	8	Primary	<0.14	<0.068	<0.14	<0.23	<0.68	2.5	<0.044
480AMB3	11/11/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	13	<0.051
480AMB3	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	11	<0.051
480AMB3 (480DUP1)	01/13/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	11	<0.051
480AMB3	03/10/2013[a]	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.13	<0.051
480AMB3 (480DUP1)	03/10/2013[a]	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	0.14	<0.051
480AMB3	04/07/2013[a]	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480AMB3 (480DUP1)	04/07/2013[a]	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480AMB4	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.14	<0.079	19	<0.051
480AMB4	03/10/2013[a]	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480AMB4	04/07/2013[a]	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051

TABLE V
AIR SAMPLING RESULTS
480/488 ELLIS STREET
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC Off)											
480-488OUT1	11/11/2012	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480-488OUT1	01/13/2013	Outdoor	8	Primary	<0.081	<0.079	0.083	0.56	<0.079	0.75	<0.051
480-488OUT1	03/10/2013[a]	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
480-488OUT1	04/07/2013[a]	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
	Long-term Commercial Indoor Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter (µg/m^3).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in
EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.

J - Denotes estimated result
DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

Samples 488AMB1 and 488AMB2 were collected in 488 Ellis Street suite, and samples 480AMB3 and 480AMB4 collected in 480 Ellis Street suite.
[a]Between January and March 2013, tenant at 480 Ellis Street suite moved its laboratory operations off-site.

TABLE VI
AIR SAMPLING RESULTS
331 FAIRCHILD DRIVE
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC Off)											
331AMB1	9/23/2013	Indoor	8	Primary	<0.037	<0.037	<0.037	0.047	<0.037	0.70	<0.037
331AMB1 (331DUP1)	9/23/2013	Indoor	8	Duplicate	<0.038	<0.038	<0.038	0.042	<0.038	0.70	<0.038
331AMB2	9/23/2013	Indoor	8	Primary	<0.040	<0.040	<0.040	0.045	<0.040	0.87	<0.040
331AMB3	9/23/2013	Indoor	8	Primary	<0.036	<0.036	<0.036	<0.036	<0.036	0.64	<0.036
331AMB4	9/23/2013	Indoor	8	Primary	<0.038	<0.038	<0.038	<0.038	<0.038	0.52	<0.038
331HVAC1	9/23/2013	Outdoor	8	Primary	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035
Air Sampling Results (HVAC On)											
331AMB1	9/25/2013	Indoor	8	Primary	<0.060	<0.060	<0.060	0.068	<0.060	<0.060	<0.060
331AMB1 (331DUP1)	9/25/2013	Indoor	8	Duplicate	<0.033	<0.033	<0.033	0.055	<0.033	<0.033	<0.033
331AMB2	9/25/2013	Indoor	8	Primary	<0.037	<0.037	<0.037	<0.037	<0.037	0.043	<0.037
331AMB3	9/25/2013	Indoor	8	Primary	<0.037	<0.037	<0.037	<0.037	<0.037	0.069	<0.037
331AMB4	9/25/2013	Indoor	8	Primary	<0.037	<0.037	<0.037	<0.037	<0.037	0.058	<0.037
331HVAC1	9/25/2013	Outdoor	8	Primary	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
	Long-term Commercial Indoor Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter ($\mu g/m^3$).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

TABLE VII
AIR SAMPLING RESULTS
455/465 NATIONAL AVENUE
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC Off)											
455AMB1	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.19	<0.079	1.1	<0.051
455AMB1 (455DUP1)	01/27/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	0.18	<0.079	1.1	<0.051
455AMB2	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.32	0.22	5.6	<0.051
455AMB3	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.35	<0.079	6.4	<0.051
455AMB4	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	1.2	<0.079	4.2	<0.051
455AMB5	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.85	<0.079	0.64	<0.051
455AMB6	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	1.2	<0.079	2.4	<0.051
455OUT1	01/27/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	0.76	<0.079	<0.11	<0.051
Air Sampling Results (HVAC On)											
455AMB1	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	2.3	<0.079	0.62	<0.051
455AMB1	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.14	<0.051
455AMB1 (455DUP1)	12/13/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	0.14	0.078	0.15	<0.051
455AMB2	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.70	<0.079	1.8	<0.051
455AMB2	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.14	<0.051
455AMB3	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.74	<0.079	1.3	<0.051
455AMB3	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.11	<0.051
455AMB4	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.71	<0.079	1.9	<0.051
455AMB4	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
455AMB5	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.54	<0.079	0.38	<0.051
455AMB5	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.13	<0.051
455AMB6	01/11/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.80	<0.079	4.3	<0.051
455AMB6	12/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.21	<0.079	0.78	<0.051
455HVAC1	01/11/2013	Outdoor	8	Primary	<0.081	<0.079	0.12	0.16	<0.079	<0.11	<0.051
455OUT1	12/13/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	0.29	<0.079	<0.11	<0.051
	Long-term Commercial Indoor Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter ($\mu g/m^3$).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in
EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.
* HVAC modification on 5 December 2013

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

TABLE VIII
AIR SAMPLING RESULTS
612-620 NATIONAL AVENUE
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC Off)											
612AMB-1	03/25/2012	Indoor	10	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.045	<0.013
614AMB-1	03/25/2012	Indoor	10	Primary	<0.020	<0.040	<0.056	0.78	<0.056	0.22	<0.013
616AMB-1	03/25/2012	Indoor	10	Primary	0.26	0.40	0.40	0.51	<0.11	18	<0.026
616AMB-1 (616DUP-1)	03/25/2012	Indoor	10	Duplicate	0.27	0.40	0.37	0.55	<0.11	20	<0.026
618AMB-1	03/25/2012	Indoor	10	Primary	0.084	0.18	0.39	<0.53	<0.22	39	<0.050
618AMB-1 [a]	04/21/2013	Indoor	8	Primary	<0.26	<0.26	0.54	0.47	<0.26	52	<0.17
612-620OUT-1	03/25/2012	Outdoor	10	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.11	<0.013
612-620OUT-1	04/21/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.30	<0.051
Sampling Results (HVAC On)											
612AMB-1	03/23/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.045	<0.013
614AMB-1	03/23/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	0.34	<0.056	0.074	<0.013
616AMB-1	03/23/2012	Indoor	8	Primary	0.22	0.36	0.33	0.51	<0.056	14	<0.013
616AMB-1 (616DUP-1)	03/23/2012	Indoor	8	Duplicate	0.22	0.40	0.29	0.38	<0.056	13	0.016
616AMB-1	04/22/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.25	<0.051
616AMB-1 (616DUP-1)	04/22/2013	Indoor	8	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	0.24	<0.051
618AMB-1	03/23/2012	Indoor	8	Primary	<0.040	<0.078	0.12	<0.27	<0.11	10	<0.025
618AMB-1	04/17/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.3	<0.051
620AMB-1	03/23/2012	Indoor	8	Primary	<0.020	<0.040	0.16	0.35	<0.056	9.4	<0.013
620AMB-1	04/17/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.23	<0.079	1.7	<0.051
612-620OUT-1	03/23/2012	Outdoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.089	<0.013
612-620OUT-1	04/17/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.19	<0.051
612-620OUT-1	04/22/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.21	<0.051
	Long-term Commercial Indoor Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter (µg/m^3).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in
EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.
The HVAC system was modified between 25 and 27 March 2013 to allow for an average air exchange rate of 1 exchange per hour.
[a]Denotes sample collected on a Sunday when the suite is not occupied. Regardless, the HVAC system in the suite was modified to operate seven days a week.

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

TABLE IX
AIR SAMPLING RESULTS
615 NATIONAL AVENUE
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC On)											
615AMB-1	09/29/2009	Indoor	10	Primary	<0.020	<0.040	0.011 J	0.060 J	<0.055	0.51	<0.013
615AMB-1	06/08/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.46	<0.013
615AMB-2	09/29/2009	Indoor	10	Primary	<0.020	<0.040	<0.055	0.062 J	<0.055	0.46	<0.013
615AMB-2	06/08/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.32	<0.013
615AMB-3	09/29/2009	Indoor	10	Primary	<0.020	<0.040	<0.056	0.077 J	<0.056	0.52	<0.013
615AMB-3	06/08/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.36	<0.013
615AMB-4	06/08/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.36	<0.013
615AMB-4[a]	09/23/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.9	<0.051
615AMB-4[a]	10/07/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.0	<0.051
615HVAC-1	09/29/2009	Outdoor	10	Primary	<0.020	<0.040	<0.055	0.061 J	<0.055	0.13	<0.013
615HVAC-1	06/08/2012	Outdoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.089	<0.013
Air Sampling Results (HVAC Off)											
615AMB-1	04/01/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	0.15	<0.056	12	<0.013
615AMB-1	06/10/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	0.14	<0.056	7.5	<0.013
615AMB-1	11/04/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	5.7	<0.051
615AMB-1	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.3	<0.051
615AMB-1[b]	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.0	<0.051
615AMB-1	02/03/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
615AMB-2	04/01/2012	Indoor	8	Primary	<0.020	<0.040	0.063	7.9	<0.056	21	<0.013
615AMB-2	06/10/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	0.15	<0.056	9.8	<0.013
615AMB-2	11/04/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	0.23	<0.079	14	<0.051
615AMB-2	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.16	<0.079	4.1	<0.051
615AMB-2[b]	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	5.8	<0.051
615AMB-2	02/03/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	4.4	<0.051
615AMB-3	04/01/2012	Indoor	8	Primary	<0.020	<0.040	0.070	0.26	<0.056	27	<0.013
615AMB-3	06/10/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	0.15	<0.056	9.8	<0.013
615AMB-3	11/04/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	0.34	<0.079	16	<0.051
615AMB-3	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.8	<0.051
615AMB-3[b]	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	0.68	<0.079	6.4	<0.051

TABLE IX
AIR SAMPLING RESULTS
615 NATIONAL AVENUE
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
Air Sampling Results (HVAC Off)											
615AMB-3	02/03/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.8	<0.051
615AMB-4	04/01/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	6.5	<0.013
615AMB-4	06/10/2012	Indoor	8	Primary	<0.020	<0.040	<0.056	0.19	<0.056	6.6	<0.013
615AMB-4	11/04/2012	Indoor	8	Primary	<0.081	<0.079	<0.079	0.26	<0.079	2.7	<0.051
615AMB-4	01/13/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.1	<0.051
615AMB-4[b]	01/27/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	4.5	<0.051
615AMB-4	02/03/2013	Indoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.1	<0.051
615OUT-1	04/01/2012	Outdoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.033	<0.013
615OUT-1	06/10/2012	Outdoor	8	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.045	<0.013
615OUT-1	11/04/2012	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
615OUT-1	01/13/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
615OUT-1[b]	01/27/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
615OUT-1	02/03/2013	Outdoor	8	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
	Long-term Commercial Indoor Cleanup Level				6	700	210	2	210	5	2

Notes:
All units are micrograms per cubic meter ($\mu g/m^3$).
[a] - Denotes sample was collected during HVAC pulsing, where the HVAC system fan was programmed to operate for a two hour interval every Saturday.
[b] - Denotes sample was collected with the restroom exhaust fan off.
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
J - Denotes estimated result.
Chemicals of Concern and Long-term Commercial Indoor Air Cleanup Levels as defined in EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.
Potential conduits such as cracks and joints in the floor were sealed in December 2012. Confirmation samples collected on 13 January 2013 and 3 February 2013 with HVAC off and under normal building conditions showed TCE below EPA's commercial indoor air cleanup level.

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

TABLE X
AIR SAMPLING RESULTS
RESIDENCE 44
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
RES44AMB1	02/03/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.1	<0.051
RES44AMB1	02/14/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.22	<0.079	1.6	<0.051
RES44AMB1[a]	03/18/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.8	<0.051
RES44AMB1[b]	04/01/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.83	<0.079	1.3	<0.051 J
RES44AMB1[b]	04/16/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.14	<0.079	0.84	<0.051
RES44AMB1(RES44DUP1)[b]	04/16/2013	Indoor	24	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	0.75	<0.051
RES44AMB1[b]	05/07/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.56	<0.051
RES44AMB1(RES44DUP1)[b]	05/07/2013	Indoor	24	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	0.50	<0.051
RES44AMB1[b]	11/07/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.14	<0.079	0.22	<0.051
RES44AMB2	02/03/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.5	<0.051
RES44AMB2	02/14/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.18	<0.079	1.9	<0.051
RES44AMB2[a]	03/18/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.7	<0.051
RES44AMB2[b]	04/01/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.90	<0.079	1.5	<0.051 J
RES44AMB2[b]	04/16/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.13	<0.079	0.83	<0.051
RES44AMB2[b]	05/07/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.49	<0.051
RES44AMB2[b]	11/07/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.14	<0.079	0.20	<0.051
RES44AMB3	02/14/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.13	<0.051
RES44AMB3[a]	03/18/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	1.1	<0.051
RES44AMB3[b]	04/01/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	0.67	<0.079	0.41	<0.051 J
RES44AMB3[b]	04/16/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.37	<0.051
RES44AMB3[b]	05/07/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.42	<0.051
RES44AMB3[b]	11/07/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.95	<0.051
RES44CRAWL1	02/03/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	23	<0.051
RES44CRAWL1	02/14/2013	Crawlspace	24	Primary	<0.081	<0.079	0.10	0.13	<0.079	17	<0.051
RES44CRAWL1[a]	03/18/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	2.3	<0.051
RES44CRAWL1[b]	04/01/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	0.79	<0.079	0.58	<0.051 J
RES44CRAWL1[b]	04/16/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.35	<0.051
RES44CRAWL1[b]	05/07/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.24	<0.051

TABLE X
AIR SAMPLING RESULTS
RESIDENCE 44
MOUNTAIN VIEW, CALIFORNIA

					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**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**
RES44CRAWL1[b]	11/07/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.18	<0.051
RES44CRAWL2	02/03/2013	Crawlspace	24	Primary	<0.081	<0.079	0.083	<0.14	<0.079	27	<0.051
RES44CRAWL2	02/14/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	0.24	<0.079	15	<0.051
RES44CRAWL2[a]	03/18/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.7	<0.051
RES44CRAWL2[b]	04/01/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	0.68	<0.079	0.89	<0.051 J
RES44CRAWL2[b]	04/16/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	1.2	<0.051
RES44CRAWL2[b]	05/07/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.45	<0.051
RES44CRAWL2[b]	11/07/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.27	<0.051
RES44OUT1	02/03/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.68	<0.051
RES44OUT1	02/14/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.15	<0.051
RES44OUT1[a]	03/18/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES44OUT1[b]	04/01/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	0.64	<0.079	<0.11	<0.051 J
RES44OUT1[b]	04/16/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES44OUT1[b]	05/07/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES44OUT1[b]	11/07/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
	Long-term Residential Indoor Air Cleanup Level				2	210	60	0.4	60	1	0.2

Notes:
All units are micrograms per cubic meter (µg/m^3).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
J - Denotes estimated result
Chemicals of Concern and Long-term Residential Indoor Air Cleanup Levels are defined in EPA's "Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010
[a]Denotes sample collected after crawlspace ventilation airflow reversed.
[b]Denotes sample collected after additional vents installed and louvers replaced with screens.

DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

TABLE XI
AIR SAMPLING RESULTS
RESIDENCE 49
MOUNTAIN VIEW, CALIFORNIA

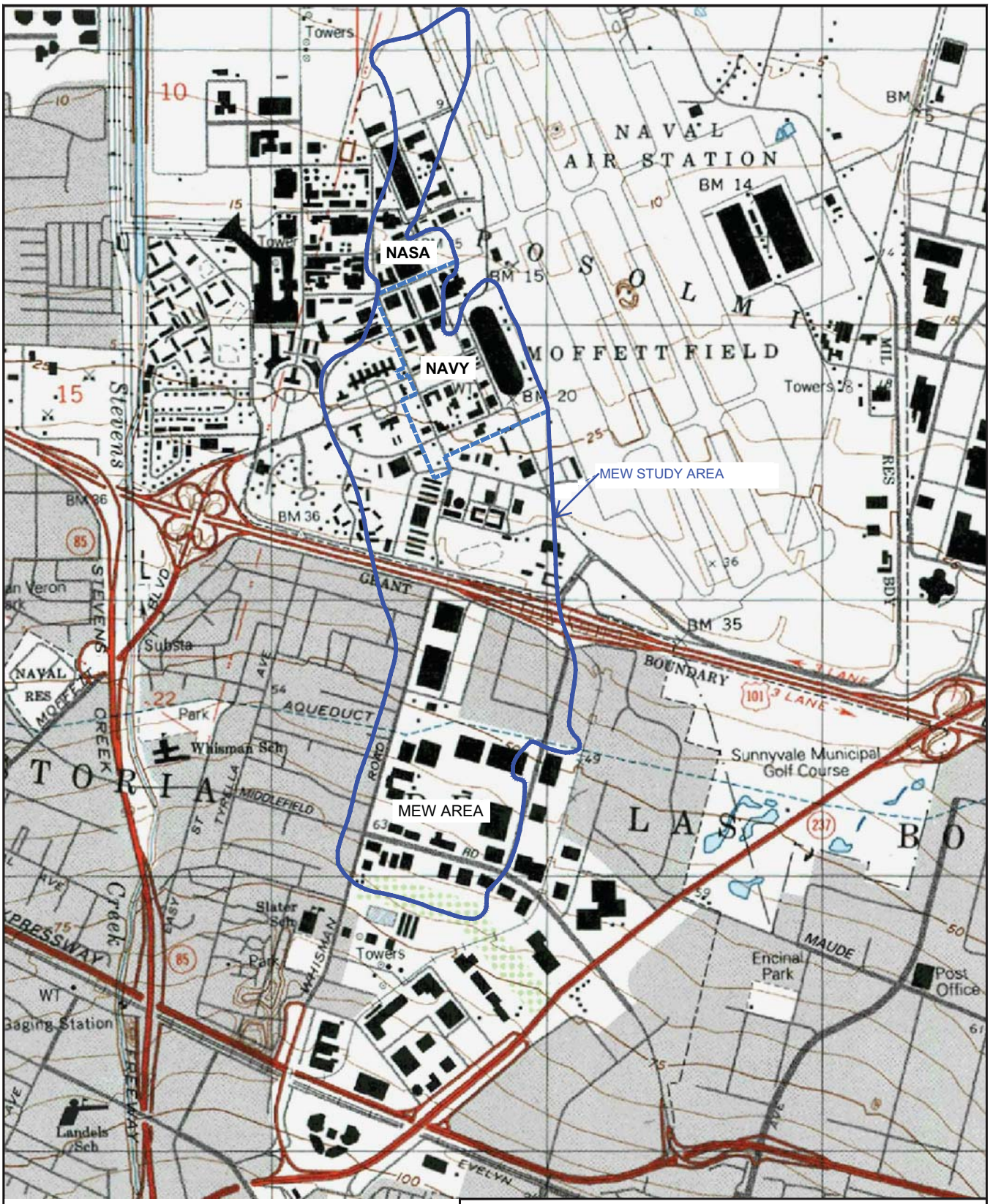
					Chemicals of Concern						
Location / Sample ID	**Sample Date**	**Sample Purpose**	**Sample Duration (hours)**	**Sample Type**	**1,1-DCA**	**1,1-DCE**	**cis-1,2-DCE**	**PCE**	**trans-1,2-DCE**	**TCE**	**Vinyl chloride**
Air Sampling Results											
RES49AMB1	06/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES49AMB1 (RES49DUP1)	06/10/2013	Indoor	24	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES49AMB1	07/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.33	<0.051
RES49AMB1 (RES49DUP1)	07/10/2013	Indoor	24	Duplicate	<0.081	<0.079	<0.079	<0.14	<0.079	0.34	<0.051
RES49AMB2[a]	07/10/2012	Indoor	24	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.17	<0.013
RES49AMB2	06/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES49AMB2	07/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.11	<0.051
RES49AMB3	06/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES49AMB4	06/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES49AMB4	07/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.19	<0.051
RES49AMB5	06/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES49AMB5	07/10/2013	Indoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.13	<0.051
RES49CRAWL1[a]	07/10/2012	Crawlspace	24	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	1.7	<0.013
RES49CRAWL1	06/10/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	3.0	<0.051
RES49CRAWL1	07/10/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	0.46	<0.079	0.89	<0.051
RES49CRAWL2[a]	07/10/2012	Crawlspace	24	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.76	<0.013
RES49CRAWL2	06/10/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	0.14	<0.079	1.0	<0.051
RES49CRAWL2	07/10/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	0.38	<0.079	0.31	<0.051
RES49CRAWL3[a]	07/10/2012	Crawlspace	24	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	1.2	<0.013
RES49CRAWL3	06/10/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	0.89	<0.051
RES49CRAWL3	07/10/2013	Crawlspace	24	Primary	<0.081	<0.079	<0.079	0.51	<0.079	0.46	<0.051
RES49CRAWL4[a]	07/10/2012	Crawlspace	24	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	1.0	<0.013
RES49OUT1[a]	07/10/2012	Outdoor	24	Primary	<0.020	<0.040	<0.056	<0.14	<0.056	0.045	<0.013
RES49OUT1	06/10/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	<0.14	<0.079	<0.11	<0.051
RES49OUT1	07/10/2013	Outdoor	24	Primary	<0.081	<0.079	<0.079	0.28	<0.079	<0.11	<0.051
	Long-term Residential Indoor Air Cleanup Level				2	210	60	0.4	60	1	0.2

Notes:
All units are micrograms per cubic meter ($\mu g/m^3$).
<0.020 - Denotes chemical was not detected at or above the laboratory reporting limit shown.
Chemical of Concern and Long-term Residential Indoor Air Cleanup Levels are defined in EPA's "Record of Decision Amendment for the vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California," 16 August 2010.

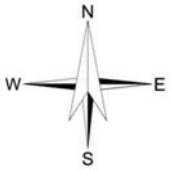
DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCE - Trichloroethene

[a]Sample collected on 7 July 2012 have had their sample IDs changed to match the sample IDs of the samples collected in the same locations during the more recent sampling events.

FIGURES



SITE COORDINATES:37°24'17"N 122°3'15"W



U.S.G.S. QUADRANGLE: MOUNTAIN VIEW, CA

HALEY & ALDRICH

MEW STUDY AREA
MOUNTAIN VIEW & MOFFETT FIELD, CALIFORNIA

SITE LOCATION

SCALE: 1:24,000
APRIL 2014

FIGURE 1

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0001-SITE_LOCATION.DWG

LEGEND:

- SLURRY WALL
- E ELLIS STREET
- M EAST MIDDLEFIELD ROAD
- F FAIRCHILD DRIVE
- W NORTH WHISMAN ROAD
- N NATIONAL AVENUE
- SAMPLES COLLECTED WITH HVAC SYSTEM ON & OFF
- SAMPLES COLLECTED WITH HVAC SYSTEM ON
- SAMPLES COLLECTED WITH HVAC SYSTEM OFF
- SAMPLES COLLECTED WITH NO HVAC SYSTEM

NOTES:

1. BOUNDARY OF MEW STUDY AREA IS DEFINED BY THE 5 MICROGRAMS PER LITER (UG/L) TRICHLOROETHENE CONTOUR AS PRESENTED BY EPA IN DECEMBER 2011.
2. BUILDINGS IN RESIDENTIAL AREA WEST OF WHISMAN ROAD ARE NOT SHOWN.
3. THIS FIGURE DEPICTS THE STATUS OF ALL BUILDINGS WITHIN THE VI STUDY AREA. DETAILS REGARDING THE FORMER PROPERTIES OF OTHER POTENTIALLY RESPONSIBLE PARTIES ARE PROVIDED IN A SEPARATE VI ANNUAL REPORTS.

N E S W

0 500 1,000

SCALE IN FEET

HALEY & ALDRICH

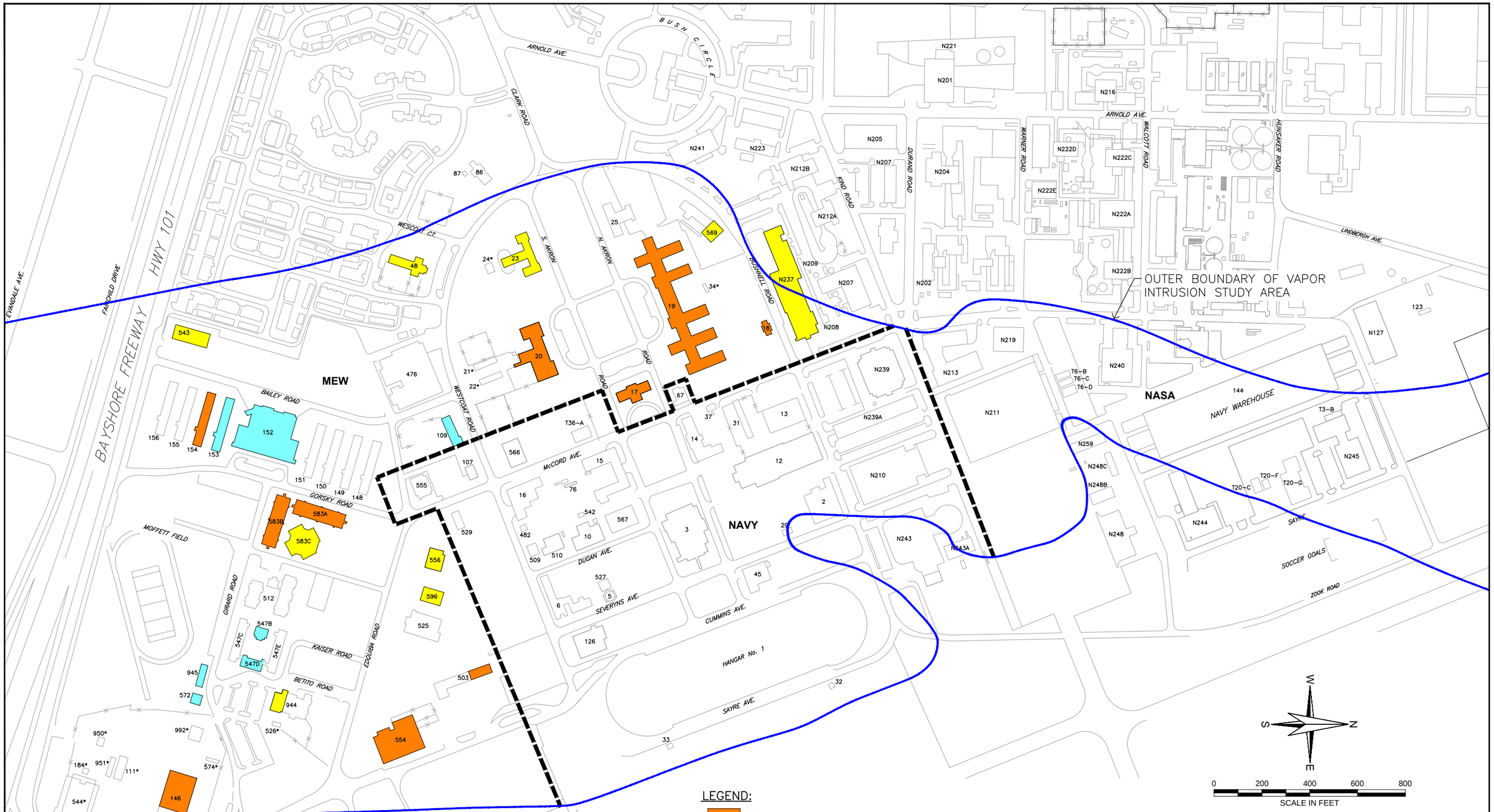
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF EXISITNG BUILDINGS, VAPOR INTRUSION STUDY AREA, SOUTH OF U.S. HIGHWAY 101

SCALE: AS SHOWN
APRIL 2014

FIGURE 2

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0002-EXISTING_BUILDINGS_HVAC_SMPLS.DWG



LEGEND:

- SAMPLES COLLECTED WITH NO HVAC SYSTEM
- SAMPLES COLLECTED WITH HVAC SYSTEM ON
- UNSAMPLED BUILDING TO BE SAMPLED IN 2014

NOTES:

1. * STORAGE BUILDINGS – NOT SUITABLE FOR SAMPLING.
2. BOUNDARY OF MEW STUDY AREA IS DEFINED BY THE 5 MICROGRAMS PER LITER (UG/L) TRICHLOROETHENE CONTOUR AS PRESENTED BY EPA IN DECEMBER 2011.

HALEY & ALDRICH

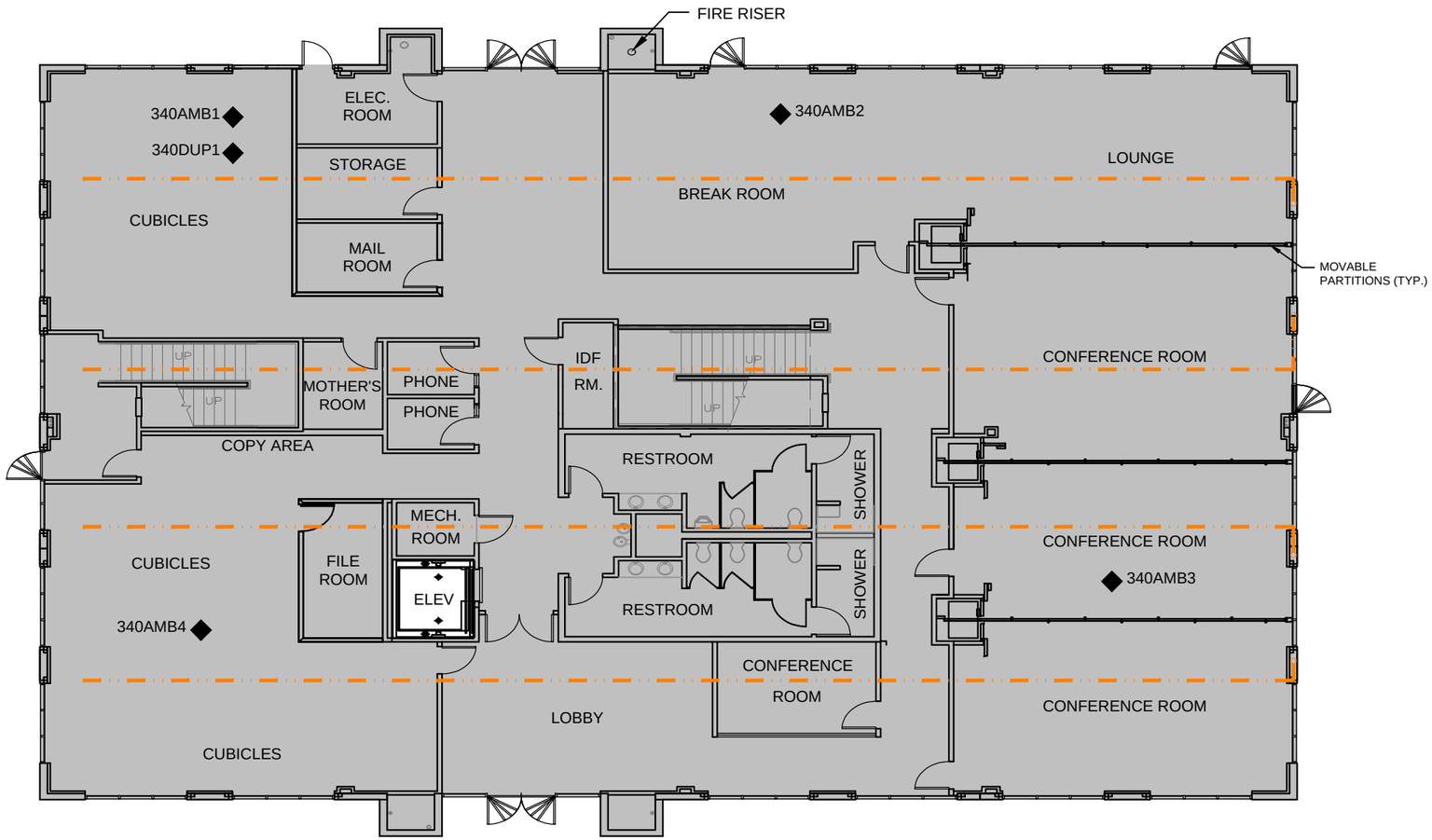
MOFFETT FIELD, CALIFORNIA

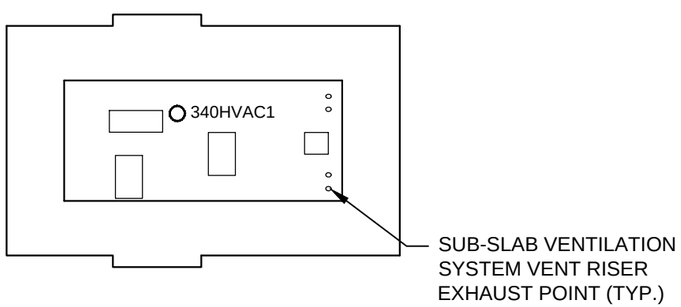
LOCATION OF EXISTING BUILDINGS, VAPOR INTRUSION STUDY AREA, MOFFETT FIELD

SCALE: AS SHOWN
APRIL 2014

FIGURE 3

G:\36067051\CAD\2014-ANNUAL_REPORT\36067-051-0003-MOFFETT_FIELD_SMPL_STATUS [JAN-2014].DWG





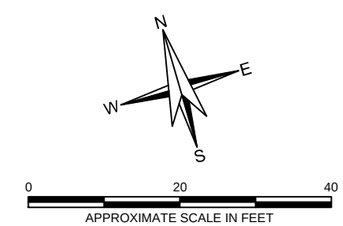
APPROXIMATE LOCATION OF HVAC SYSTEMS AND OUTDOOR SAMPLE

LEGEND:

- INDOOR AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION
- PERFORATED SUB-SLAB VENTILATION PIPING
- SUB-SLAB VENTILATION SYSTEM VENT RISER
- LIQUID BOOT® VAPOR BARRIER MEMBRANE

NOTES:

1. BASEMAP PROVIDED BY DEVCON, THEN MODIFIED TO MATCH ACTUAL BUILDING FOOTPRINT.
2. ALL LOCATIONS ARE APPROXIMATE.
3. SECOND FLOOR IS NOT SHOWN. NO INDOOR AIR SAMPLES WERE COLLECTED ON THE SECOND FLOOR.



HALEY & ALDRICH

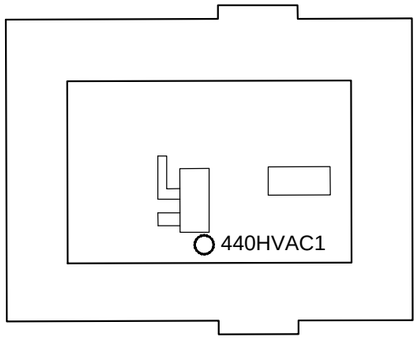
340 EAST MIDDLEFIELD ROAD
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
340 EAST MIDDLEFIELD ROAD

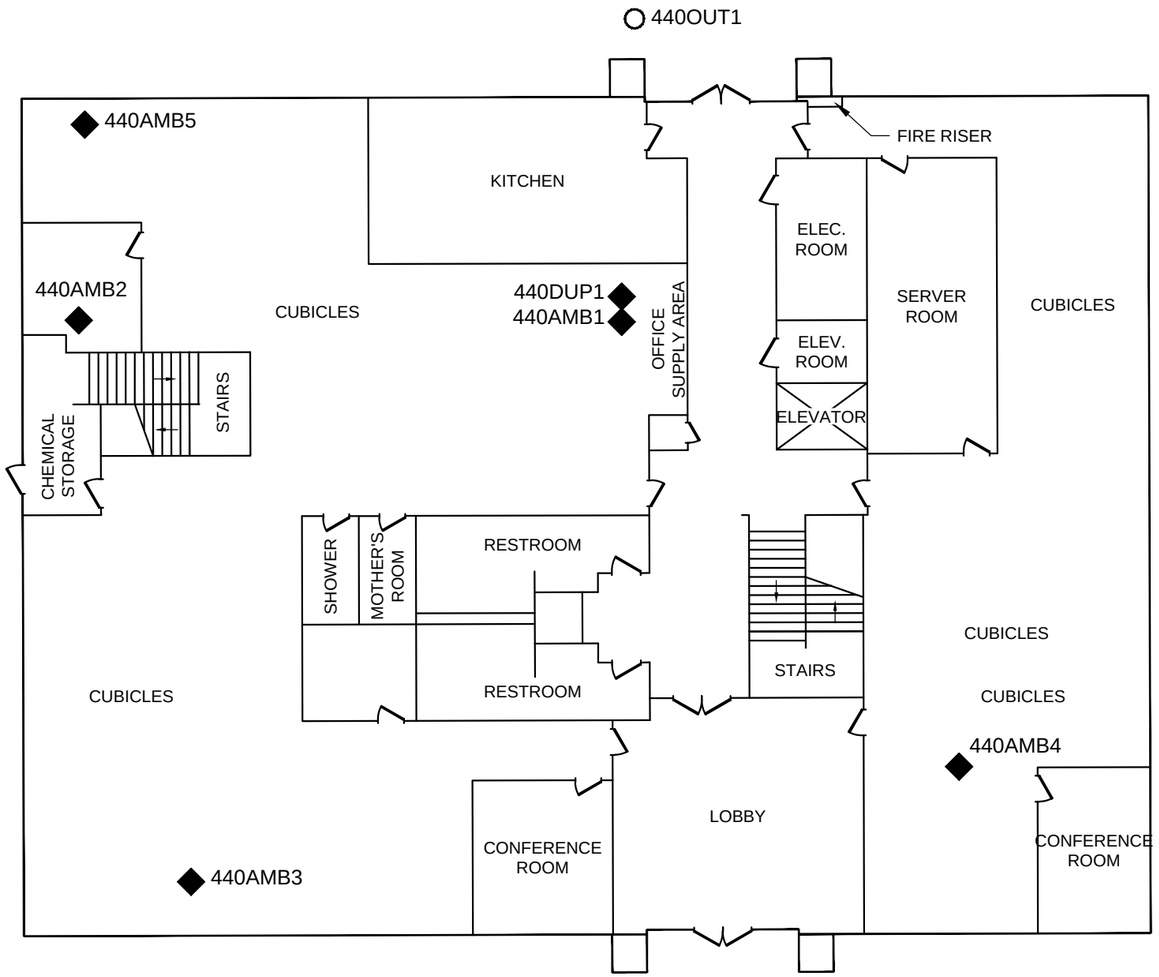
SCALE: AS SHOWN
APRIL 2014

FIGURE 4

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0004-340_E_MIDDLEFIELD_SMPL_LOCS.DWG



APPROXIMATE LOCATION OF HVAC SYSTEMS AND OUTDOOR SAMPLE



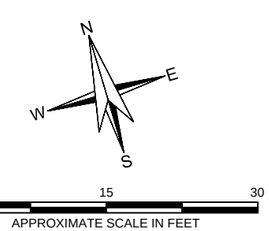
LEGEND:

◆ INDOOR AIR SAMPLING LOCATION

○ OUTDOOR AIR SAMPLING LOCATION

NOTES:

1. BUILDINGS AND SURROUNDING SITE FEATURES WERE DIGITIZED FROM AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO. INTERIOR FEATURES WERE DIGITIZED FROM A DRAWING PROVIDED BY THE BUILDING OWNER.
2. ALL LOCATIONS ARE APPROXIMATE.
3. SECOND FLOOR IS NOT SHOWN. NO INDOOR AIR SAMPLES WERE COLLECTED ON THE SECOND FLOOR.



HALEY & ALDRICH

440 EAST MIDDLEFIELD ROAD
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
440 EAST MIDDLEFIELD ROAD

SCALE: AS SHOWN
APRIL 2014

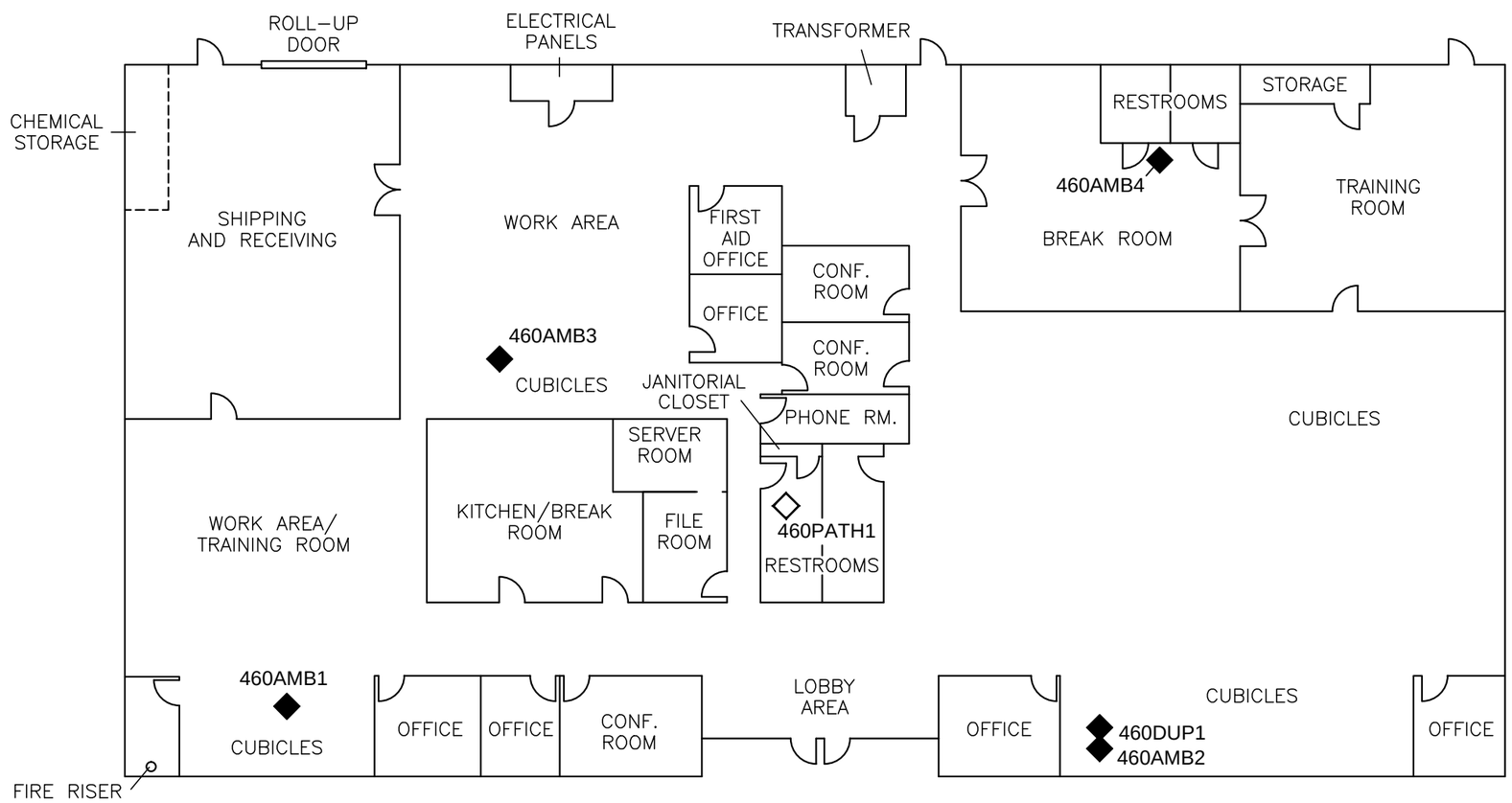
FIGURE 5

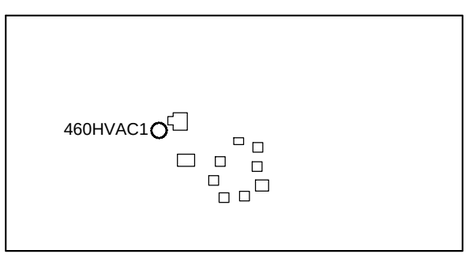
G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0005-440_E_MIDDLEFIELD_SMPL_LOCS.DWG

LEGEND:

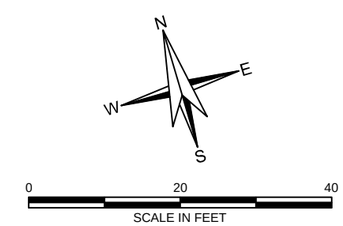
- ◆ INDOOR AIR SAMPLING LOCATION
- ◇ PATHWAY AIR SAMPLING LOCATION
- ○ OUTDOOR AIR SAMPLING LOCATION

NOTES:
1. THIS FIGURE IS BASED ON AN AUTOCAD DRAWING PROVIDED BY LOCUS TECHNOLOGIES.
2. ALL LOCATIONS ARE APPROXIMATE.





APPROXIMATE LOCATION OF HVAC SYSTEMS AND OUTDOOR SAMPLE



HALEY & ALDRICH

460 EAST MIDDLEFIELD ROAD
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
460 EAST MIDDLEFIELD ROAD

SCALE: AS SHOWN
APRIL 2014

FIGURE 6

G:\36067051\CAD\2014-ANNUAL_REPORT\36067-051-0006-460_E_MIDDLEFIELD_RD_SMPL_LOCS.DWG

LEGEND:

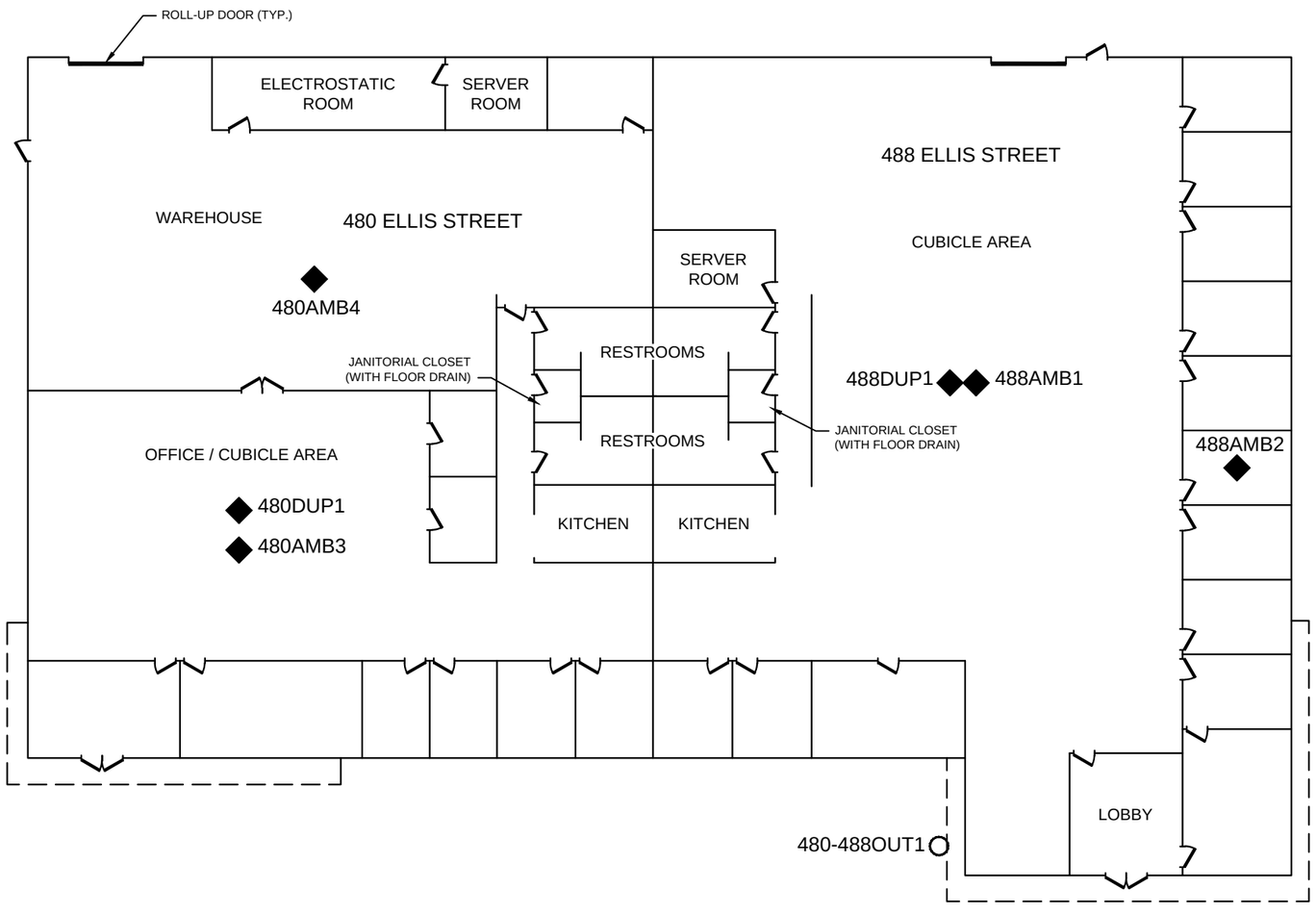
◆ INDOOR AIR SAMPLING LOCATION

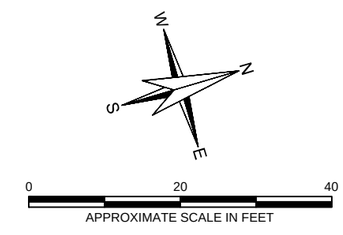
○ OUTDOOR AIR SAMPLING LOCATION

NOTES:

1. BUILDINGS AND SURROUNDING SITE FEATURES WERE DIGITIZED FROM AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO. INTERIOR FEATURES WERE DIGITIZED FROM A DRAWING PROVIDED BY THE BUILDING OWNER.

2. ALL LOCATIONS ARE APPROXIMATE.





HALEY & ALDRICH

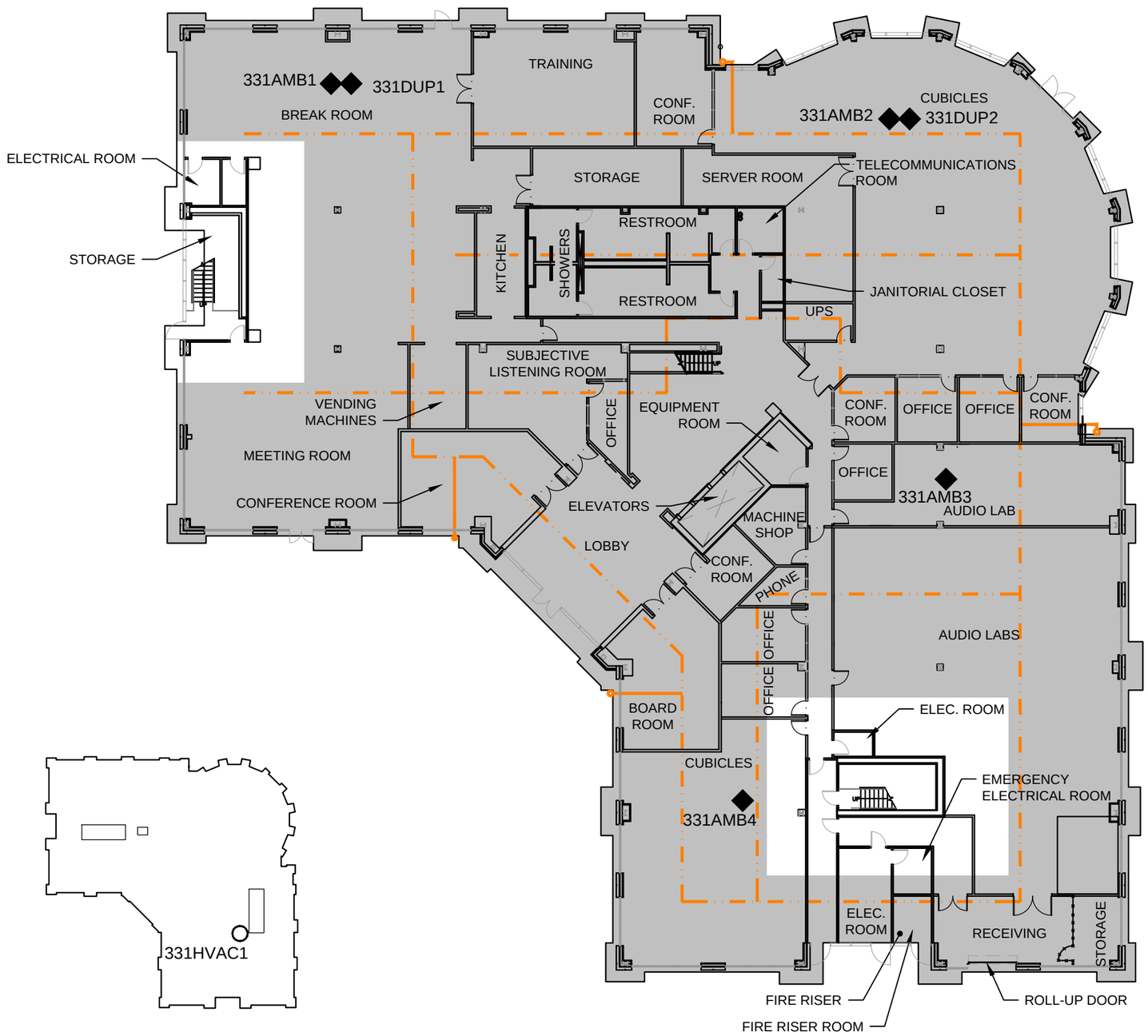
480/488 ELLIS STREET
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
480/488 ELLIS STREET

SCALE: AS SHOWN
APRIL 2014

FIGURE 7

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0007-480_488_ELLIS_SMPL_LOCS.DWG



APPROXIMATE LOCATION OF HVAC SYSTEMS AND OUTDOOR SAMPLE

LEGEND:

- PERFORATED SUB-SLAB VENTILATION PIPING
- SOLID WALL PIPE
- SUB-SLAB VENTILATION SYSTEM VENT RISER
- LIQUID BOOT® VAPOR BARRIER MEMBRANE
- STEEL BUILDING COLUMN
- INDOOR AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION

NOTES:

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SITE DRAWING PROVIDED BY OTHERS.
3. SECOND AND THIRD FLOORS ARE NOT SHOWN. NO INDOOR AIR SAMPLES WERE COLLECTED ON THE SECOND OR THIRD FLOORS.

N E S W

0 25 50

APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

331 FAIRCHILD DRIVE
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
331 FAIRCHILD DRIVE

SCALE: AS SHOWN
APRIL 2014

FIGURE 8

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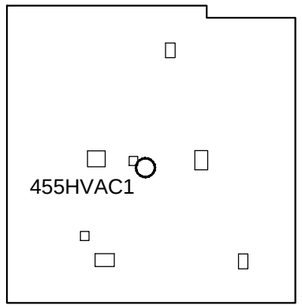
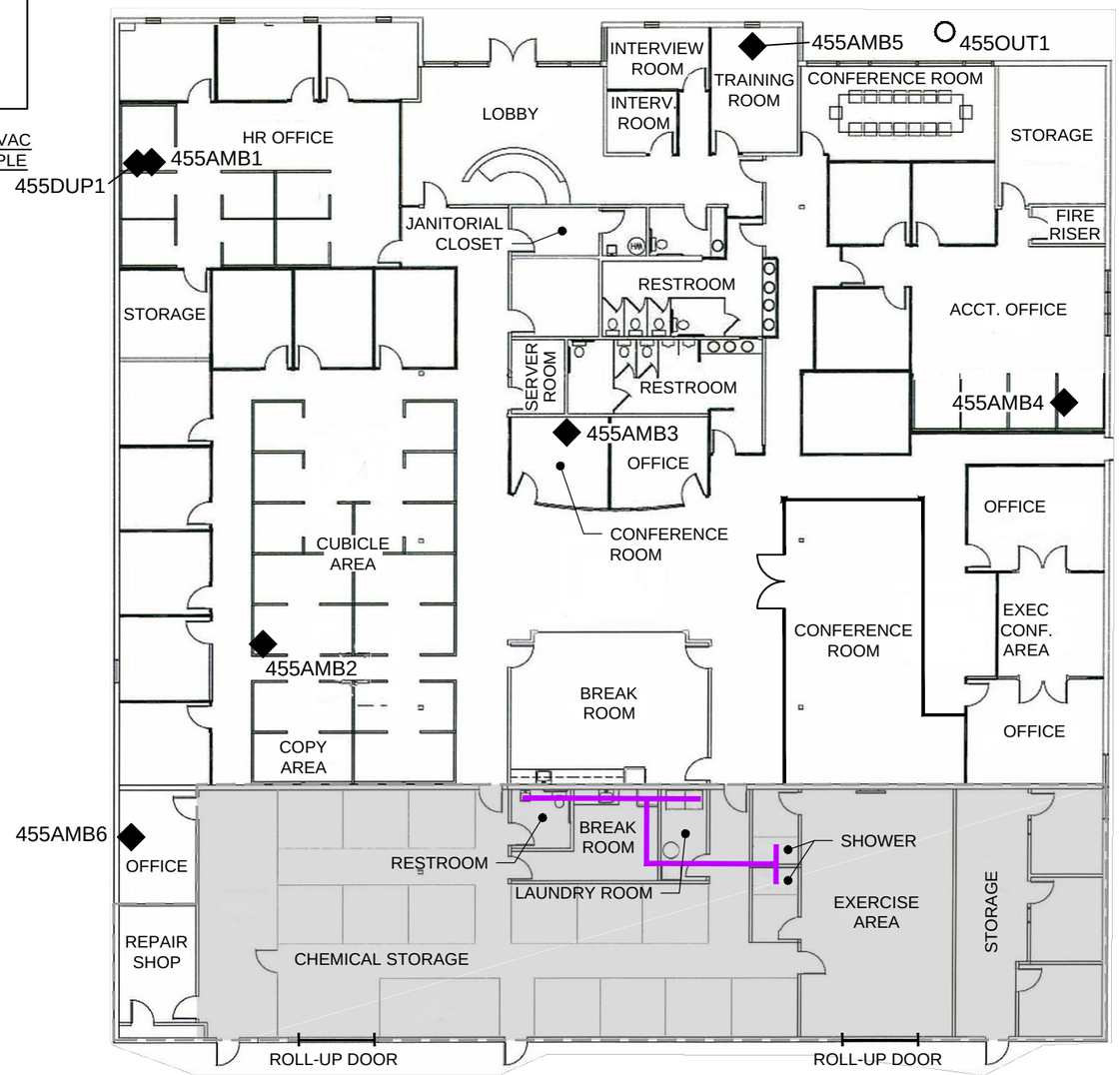


APPROXIMATE LOCATION OF HVAC SYSTEMS AND OUTDOOR SAMPLE

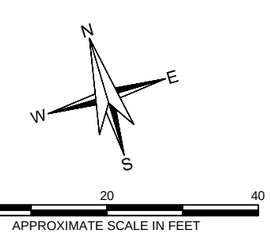


LEGEND:

- ◆ INDOOR AIR SAMPLING LOCATION
- ○ OUTDOOR AIR SAMPLING LOCATION
- NO MECHANICAL VENTILATION - ONLY NATURAL VENTILATION VIA ROLL-UP DOORS AND ROOF VENTS
- APPROXIMATE UTILITY TRENCH LOCATION (2012)

NOTES:

1. THIS FIGURE IS BASED ON A SITE PLAN PROVIDED BY THE BUILDING OWNER AND AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.
2. ALL LOCATIONS ARE APPROXIMATE.



HALEY & ALDRICH

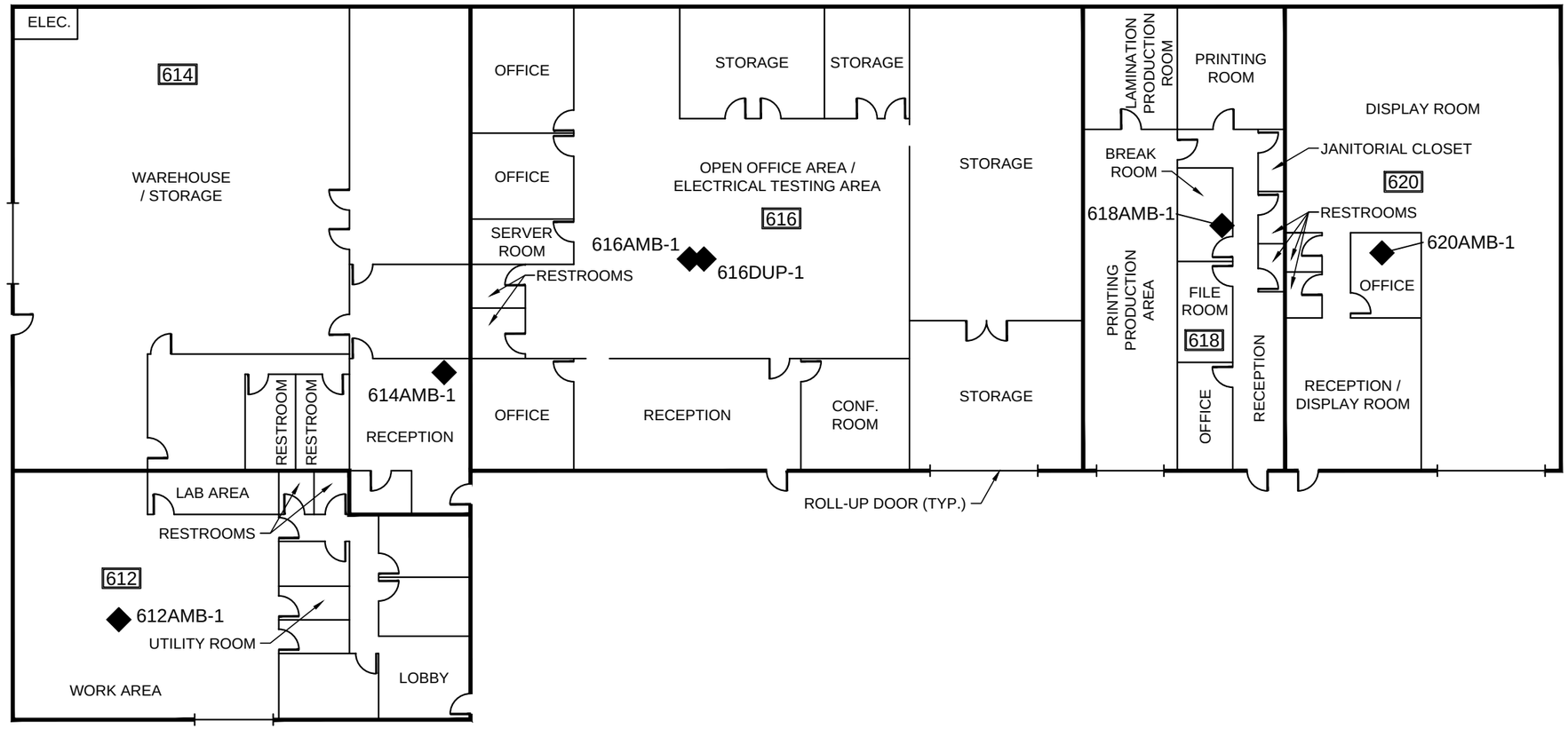
455/465 NATIONAL AVENUE
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
455/465 NATIONAL AVENUE

SCALE: AS SHOWN
APRIL 2014

FIGURE 9

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0009-455_465 NATIONAL-SMPL_LOCS.DWG



LEGEND:

◆ INDOOR AIR SAMPLING LOCATION

○ OUTDOOR AIR SAMPLING LOCATION

NOTES:

1. BUILDINGS AND SURROUNDING SITE FEATURES WERE DIGITIZED FROM AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO. INTERIOR FEATURES WERE DIGITIZED FROM DRAWINGS PROVIDED BY THE BUILDING OWNER.

2. ALL LOCATIONS ARE APPROXIMATE.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

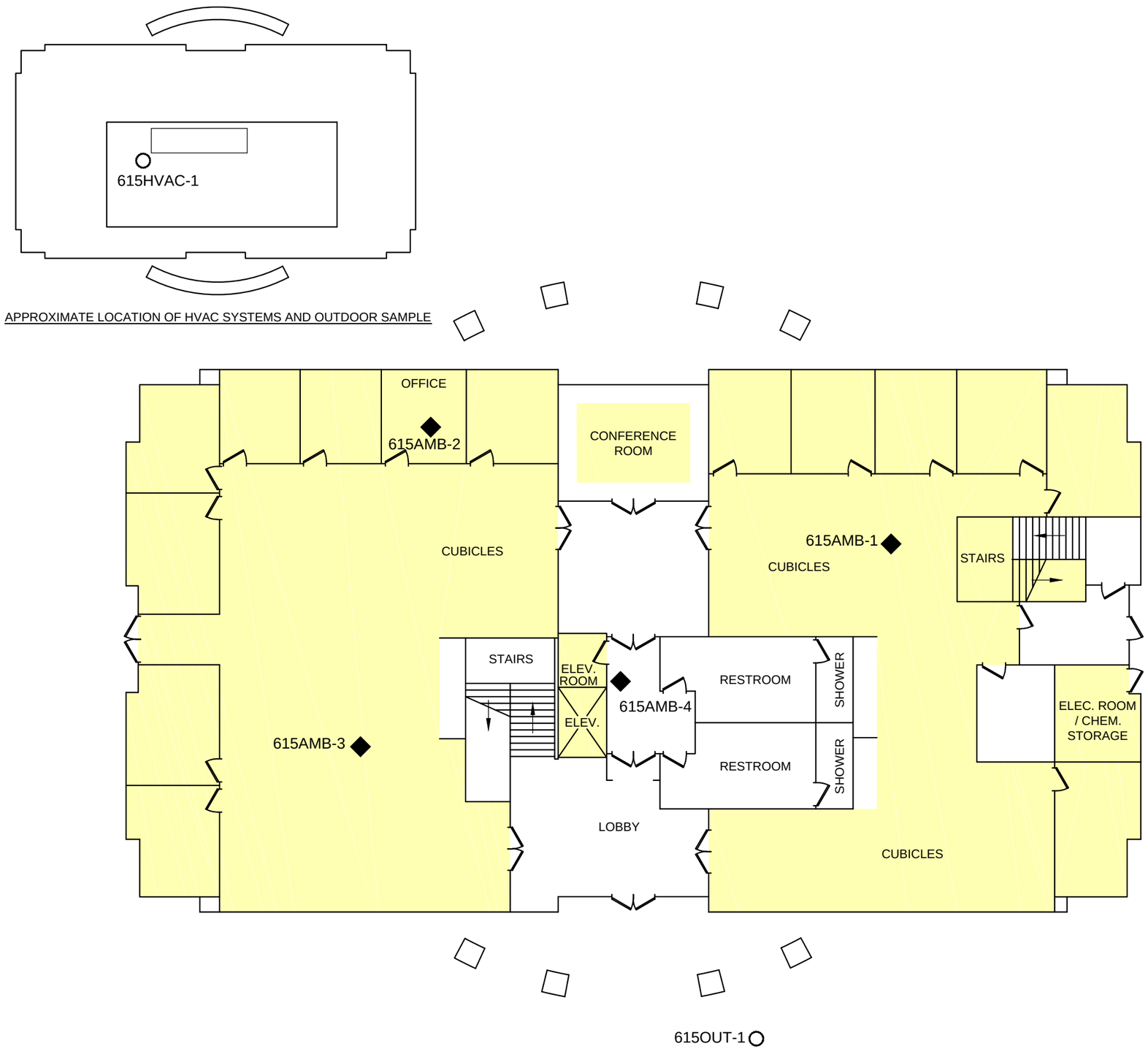
612-620 NATIONAL AVENUE
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
612-620 NATIONAL AVENUE

SCALE: AS SHOWN
APRIL 2014

FIGURE 10

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0010-612-620_NATIONAL_AVE-SMPL_LOCS.DWG

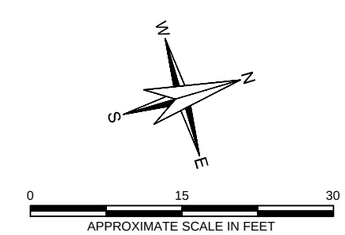


LEGEND:

- ◆ INDOOR AIR SAMPLING LOCATION
- ○ OUTDOOR AIR SAMPLING LOCATION
- AREA SEALED WITH RETRO-COAT

NOTES:

1. BUILDINGS AND SURROUNDING SITE FEATURES WERE DIGITIZED FROM AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO. INTERIOR FEATURES WERE DIGITIZED FROM A DRAWING PROVIDED BY THE BUILDING OWNER.
2. ALL LOCATIONS ARE APPROXIMATE.
3. SECOND FLOOR IS NOT SHOWN. NO INDOOR AIR SAMPLES WERE COLLECTED ON THE SECOND FLOOR.



HALEY & ALDRICH

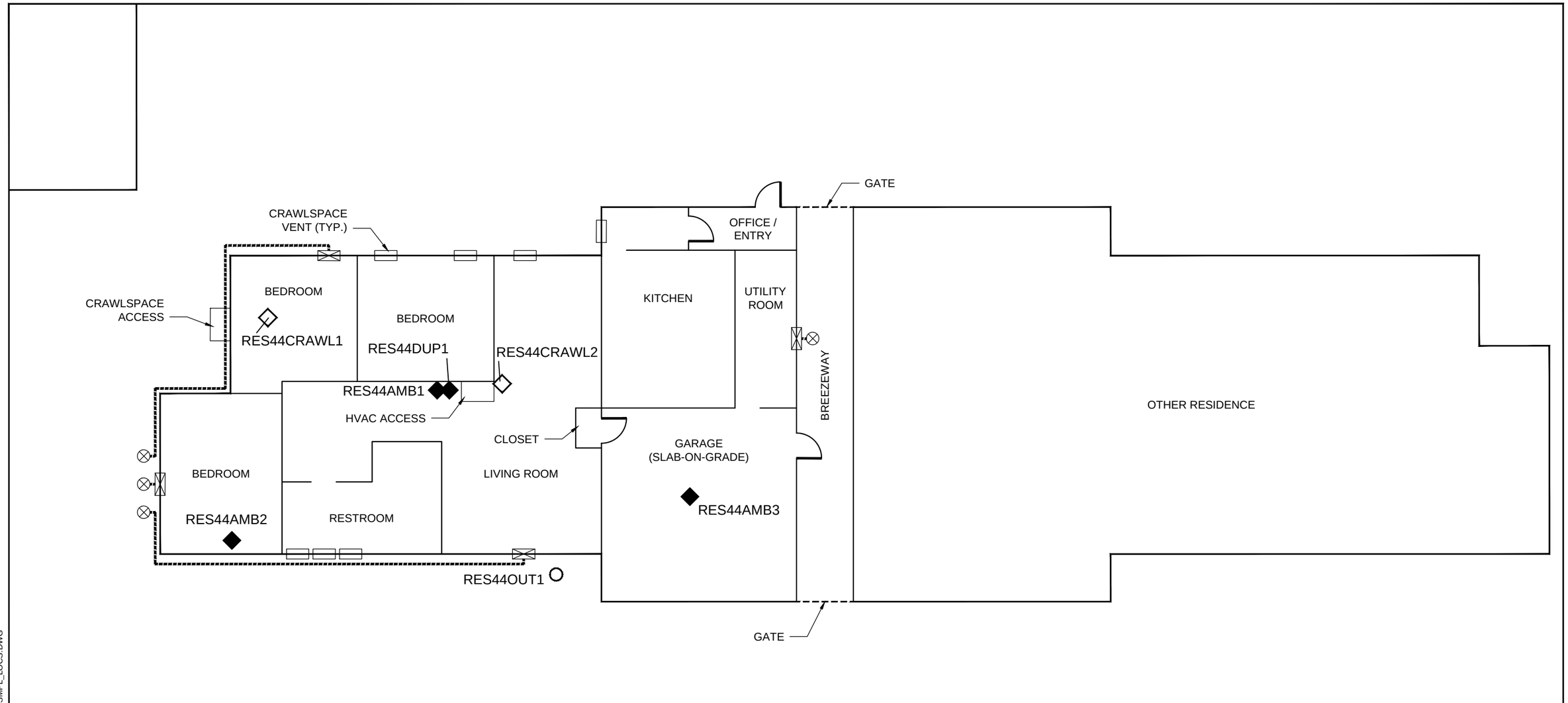
615 NATIONAL AVENUE
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
615 NATIONAL AVENUE

SCALE: AS SHOWN
APRIL 2014

FIGURE 11

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0011-615_NATNL_AVE-SMPL_LOCS.DWG



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- PASSIVE CRAWLSPACE VENT LOCATION
- ACTIVE CRAWLSPACE FAN VENT LOCATION
- RADONAWAY FAN LOCATION
- 4" ABS PIPING
- INDOOR AIR SAMPLING LOCATION
- CRAWLSPACE AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION

NOTES:
1. THIS FIGURE IS BASED ON SITE SKETCHES AND AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

2. ALL LOCATIONS ARE APPROXIMATE.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

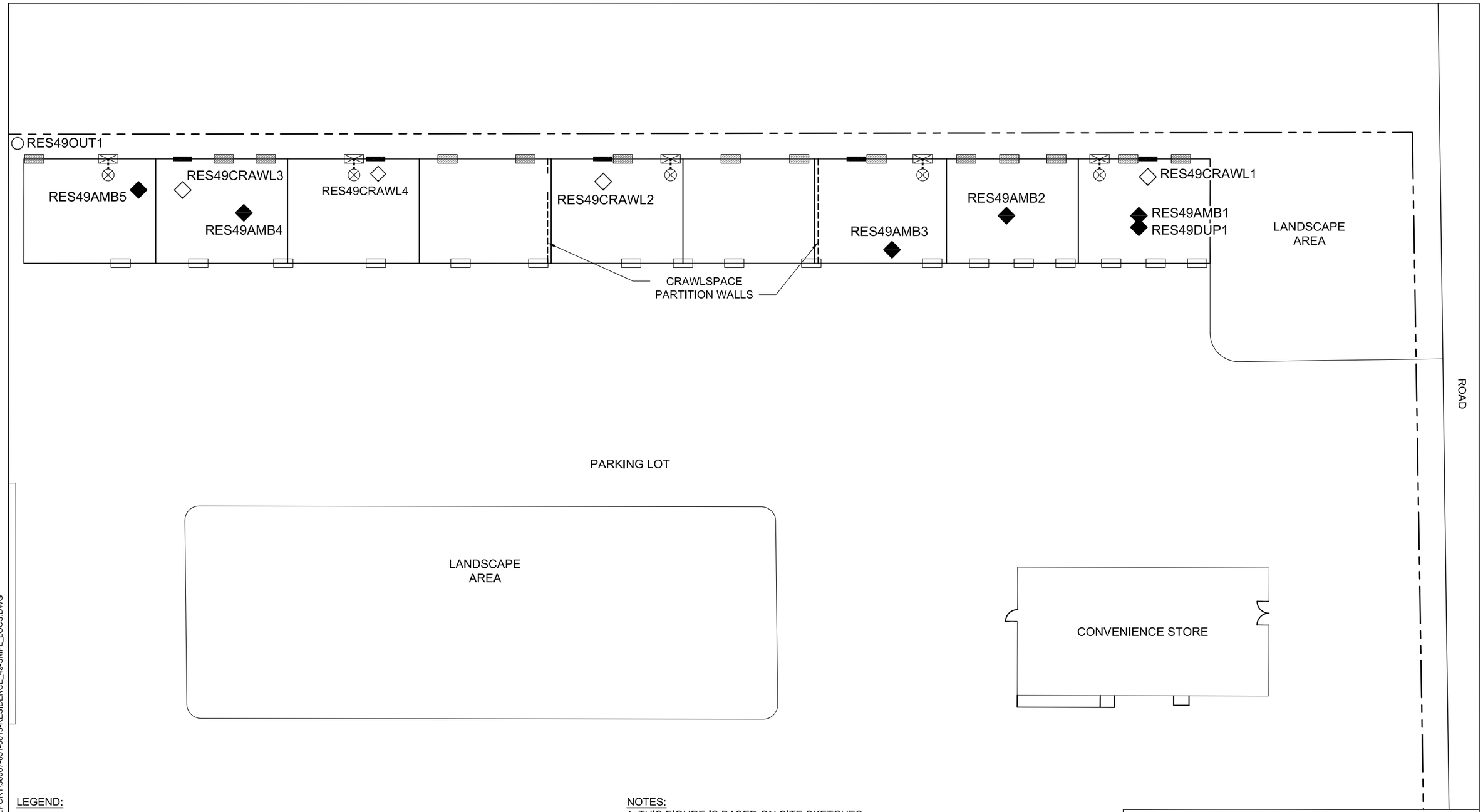
RESIDENCE 44
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
RESIDENCE 44

SCALE: AS SHOWN
APRIL 2014

FIGURE 12

G:\360670511\CAD\2014-ANNUAL_REPORT\36067-051-0012-RESIDENCE_44-SMPL_LOCS.DWG



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- INDOOR AIR SAMPLING LOCATION
- CRAWLSPACE AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION
- CRAWLSPACE ACCESS POINT
- CRAWLSPACE VENTS (1'-2" X 5.5")
- SEALED CRAWLSPACE VENTS
- CRAWLSPACE VENT LOCATION WITH FAN ATTACHED
- RADONAWAY FAN LOCATION
- 6" PVC PIPING

NOTES:

1. THIS FIGURE IS BASED ON SITE SKETCHES AND AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.
2. ALL LOCATIONS ARE APPROXIMATE.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

RESIDENCE 49
MOUNTAIN VIEW, CALIFORNIA

LOCATION OF AIR SAMPLES
RESIDENCE 49

SCALE: AS SHOWN
APRIL 2014

FIGURE 13

G:\36067\051\CAD\2014-ANNUAL_REPORT\36067-051-0013-RESIDENCE_49-SMPL_LOCS.DWG