Honeywell
2525 W. 190th Street, MS 23-21-80
Torrance, CA 90504-6099

November 30, 2015

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Attn: Mr. David Barr

Re: ***Addendum to the Additional Vapor Intrusion Evaluation Report***
Former Synertek Building No. 1 Facility
3050 Coronado Drive, Santa Clara, California

Dear Mr. Barr:

Honeywell International Inc. (Honeywell) is pleased to submit the enclosed *Addendum to the Additional Vapor Intrusion Evaluation Report* for the former Synertek Building No. 1, located at 3050 Coronado Drive in Santa Clara, California. The *Additional Vapor Intrusion Evaluation Report* was submitted in October 2014. The Regional Water Quality Control Board (Water Board) approved the *Additional Vapor Intrusion Evaluation Report* on March 5, 2015 on the condition that, once access was granted to the offsite building, Honeywell submit an addendum to the report. The enclosed addendum documents the investigation performed at the offsite building [3111 Coronado Drive].

Certification Statement

I, Benny Dehghi, do hereby declare, under penalty of perjury under the laws of State of California, that I, as Manager of Remediation and Evaluation Services for Honeywell International Inc., am authorized to attest to the veracity of the information contained in the *Addendum to the Additional Vapor Intrusion Evaluation Report*. This information was executed at Torrance, California on November 30, 2015.

If you have any questions regarding the above-referenced report, please do not hesitate to contact me at (310) 512-2296.

Sincerely,

Benny Dehghi
Manager, Remediation & Evaluation Services

Enclosures

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2015 Addendum to the Additional Vapor Intrusion Evaluation Report, Former Synertek Building No. 1, 3050 Coronado Drive, Santa Clara, California

Prepared for

Honeywell International Inc.

November 2015

CH2M HILL Engineers, Inc.
1737 North 1st Street Suite 300
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2015 Addendum to the Additional Vapor Intrusion Investigation Report

Former Synertek Building No. 1
3050 Coronado Drive
Santa Clara, California

Submitted to

California Regional Water Quality Control Board, San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

On behalf of

Honeywell International Inc.
Torrance, CA

November 30, 2015

Prepared by

Cindy Schultz
Project Manager
CH2M

Reviewed by

Alan Hodges, P.E.
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Approved by

Mike Bedan
Vapor Intrusion Task Leader
CH2M

Executive Summary

CH2M, on behalf of Honeywell International Inc. (Honeywell), has prepared this vapor intrusion evaluation report for the building located at 3111 Coronado Drive, Santa Clara. This report is an addendum to the *Additional Vapor Intrusion Evaluation Report* (Additional VI Report) (CH2M, 2014a) submitted in October 2014 for the former Synertek Building No. 1 in Santa Clara, California (site). The site is currently occupied by a building with three addresses: 3050, 3060, and 3070 Coronado Drive. The initial intent was to perform the vapor intrusion (VI) sampling with the heating, ventilation, air conditioning (HVAC) operational and repeat the sampling with HVAC turned off. The scope of work included the onsite building as well as an offsite building (situated above the trichloroethene groundwater plume). However, the offsite investigation was delayed due to longer-than-anticipated negotiations to secure access to the property at 3111 Coronado Drive. The California Regional Water Quality Control Board (Water Board) conditionally approved the Additional VI investigation report on March 5, 2015. The Water Board required VI assessment of the 3111 Coronado Drive building upon completion of access negotiations and reporting of the assessment in an addendum to the above mentioned report (Water Board, 2015). This addendum documents the investigation performed at the offsite building (3111 Coronado Drive).

None of the volatile organic compound (VOC) concentrations in indoor air and subslab vapor samples collected offsite—during either HVAC-on or HVAC-off sampling events—exceeded the screening levels. This indicates the groundwater plume is not contributing to VI, either onsite or offsite. Based on the results of this evaluation, the VI pathway is neither complete nor significant under current building use or even in worst-case situations created by turning HVAC systems off. No further action with respect to VI assessment contribution by Honeywell Synertek site is recommended.

Contents

Figures

Acronyms and Abbreviations

ESL	environmental screening level
HVAC	heating, ventilation, air conditioning
L	liter
TCE	trichloroethene
USEPA	U.S. Environmental Protection Agency
VAV	variable air volume
VI	vapor intrusion
VISL	vapor intrusion screening level
VOC	volatile organic compound
Water Board	California Regional Water Quality Control Board, San Francisco Bay Region

SECTION 1

Introduction

CH2M, on behalf of Honeywell International Inc. (Honeywell), has prepared this addendum to the *Additional Vapor Intrusion Evaluation Report* (Additional VI Report) (CH2M, 2014a) for the offsite building located at 3111 Coronado Drive, Santa Clara as part of vapor intrusion investigation activities conducted for the former Synertek Building No. 1 in Santa Clara, California (site) (Figure 1).

The site is currently occupied by a building with three addresses: 3050, 3060, and 3070 Coronado Drive. The VI evaluation activities were conducted in accordance with the *Additional Vapor Intrusion Evaluation Work Plan, Former Synertek Building No.1 Facility, Santa Clara, California* (CH2M, 2014b; Additional VI Work Plan), which was prepared in response to the request issued by the California Regional Water Quality Control Board, San Francisco Bay Area (Water Board) on December 16, 2013 (Water Board, 2013a), in light of release of the following U.S. Environmental Protection Agency (USEPA) guidance:

- *External Review Draft—Final Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from the Subsurface to Indoor Air* (USEPA, 2013).
- *Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at South Bay National Priority List Sites* (USEPA Region 9, 2013).

The Additional VI Work Plan was approved by the Water Board on June 20, 2014 (Water Board, 2014). The Additional VI Report for the site was submitted to the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) on October 31, 2014. The Additional VI report focused only on the data collected from onsite building and it did not include offsite data due to longer than anticipated negotiations to secure access to 3111 Coronado Drive, Santa Clara (Figure 1), hence no data were collected offsite. The objective of the VI evaluation was to assess whether site-related volatile organic compounds (VOCs) detected in the shallow groundwater could impact indoor air through the VI pathway. The conclusion of the onsite VI evaluation was that the VI pathway is neither complete nor significant.

The Water Board approved the Additional VI report and its conclusions on March 5, 2015, with the condition that the planned VI evaluation at the offsite building be conducted once access was secured, and the offsite VI assessment results reported in an addendum (Water Board, 2015). This addendum to the Additional VI Report investigates the potential for VI at the offsite building, located north of the site, at 3111 Coronado Drive.

SECTION 2

Background

EPA Region 9 issued a Record of Decision for the site in 1991 (USEPA, 1991). However, environmental activities at the site are conducted under Water Board Site Cleanup Requirements Order No. 91-051. The Water Board provides lead regulatory oversight for environmental activities at the site. Recently, the USEPA has been providing VI guidance to the South Bay NPL sites as a group, and the site has been included in that group because of its geographic location.

Based on the USEPA guidance, the Water Board indicated that VI sampling should be performed with the building in an HVAC-off condition and that the VI study areas should include buildings within the trichloroethene (TCE) shallow-zone groundwater contour of 5 micrograms per liter. This included the onsite building and one offsite building (3111 Coronado Drive), as shown in Figure 2, which contains 2014 data.

The results of the VI evaluation activities presented in the Additional VI Report (October 2014) and the results of the previous VI evaluations at the site, as reported in the Vapor Intrusion Evaluation Report, March/April 2013 (2013 VI Report) (CH2M, 2013), provided information to help the Water Board further evaluate potential VI concerns at the site. The investigation activities conducted and results reported in this addendum represent the completion of the VI investigation evaluation for the onsite and offsite properties.

SECTION 3

Description of Activities

The field investigation activities were conducted north of the site, at 3111 Coronado Drive. The offsite building is currently occupied by the tenant Infoblox. The following activities were conducted on these dates:

- June 30, 2015: HVAC survey, building survey, preliminary HAPSITE screening (HVAC on)
- August 10, 2015: utility clearance
- August 11, 2015: subslab probe installation
- August 13, 2015: subslab soil gas sampling (HVAC on), indoor air sampling (HVAC on), and outdoor air sampling
- August 16, 2015: HAPSITE screening (HVAC off), subslab soil gas sampling (HVAC off), indoor air sampling (HVAC off), and outdoor air sampling

3.1 HVAC Survey

The offsite building's HVAC systems were evaluated on June 30, 2015. The field survey consisted primarily of recording name plate information of the HVAC equipment to determine equipment capabilities and recording the outside air damper positions. Engineering drawings of the HVAC systems were also obtained and evaluated. Measurements of actual flow rates were not conducted as part of the survey.

Results of the HVAC survey are presented in Appendix A. The lobby building is served by two rooftop air conditioning (AC) units, and 3111 Coronado (Infoblox Building C) is served by six rooftop AC units. The majority of the space is zoned with variable air volume (VAV) terminal boxes that control the amount of airflow to each zone. The HVAC systems are centrally controlled by a building automation system, and the individual zone thermostats signal to the VAV boxes to increase or decrease airflow as needed to reach the temperature set points. The AC units are scheduled to run continuously during occupied hours, and the minimum position settings on the outside air dampers and VAV boxes ensure that ventilation air is supplied during these times.

In addition to office space, the building has approximately 5,700 square feet of space for server equipment and labs. These areas have dedicated HVAC systems that are distinct from the general office area.

Building pressurization was not measured as part of the HVAC survey, but the overall building pressurization is slightly positive since more air is being supplied than is being exhausted. Within the building there are some areas of local negative pressurization relative to adjacent spaces; namely in the restrooms and kitchen. These areas were identified for pathway sampling as noted below.

In general, the HVAC systems are only a few years old and are in good operating condition. Ventilation minimums appear to be properly set, and air is sufficiently distributed to all areas of the building.

3.2 Building Survey

A building survey was performed on June 30, 2015, at the 3111 Coronado Drive building. The survey included an interview with the facilities manager, general observations about the building structure and layout, survey of the building integrity and potential VI pathways, and overview of daily tenant operations.

Results from the extent of the survey indicate that the building and foundation are in good condition. During a walkthrough with USEPA, there were some potential conduits for VI noted, including floor drains in the kitchen and bathrooms and the elevator shaft. These locations were selected for pathway sampling during

the preliminary HAPSITE screening conducted the same day. Upon inspection of Infoblox's chemical inventory and from information provided by the tenant during the survey, it was determined there are no chemicals likely to contain chlorinated VOCs.

The building surveys including a chemical inventory are included in Appendix B of this report.

3.3 Preliminary HAPSITE Screening and Pathway Sampling–HVAC On/Off

A preliminary HAPSITE screening and pathway sampling with HVAC on was conducted at the 3111 Coronado Drive building on June 30, 2015. Fourteen locations within the Infoblox building were sampled using the HAPSITE in quantification mode (quant mode) (Figure 3). HAPSITE quant mode samples were taken at points that were established as preliminary USEPA Method TO-15 indoor air sample locations. Additionally, pathway samples were taken in locations such as confined areas or rooms that contained conduits, cracks, or penetrations that may have provided a route for VI, as mentioned previously. The USEPA Project Manager approved the locations during a walkthrough of the site while HAPSITE screening was in process. The HVAC-on HAPSITE results are presented in Table 1.

There were no detects of chlorinated VOCs in any of the HAPSITE samples. Following discussion of the sampling results with the Water Board and USEPA, seven sampling locations were identified as shown on Figure 4. A second HAPSITE survey was performed during the HVAC-off sampling event on August 16, 2015. Seven quant mode samples were collected during this event. The samples were co-located with the indoor sample locations (Figure 4) and an outdoor air sample was taken north of the Infoblox building. The HVAC-off HAPSITE results are presented in Table 2. As with the HVAC-on event, there were no detections of chlorinated VOCs in any of the HAPSITE samples.

A photo log of HAPSITE sampling locations is included in Appendix C.

3.4 Utility Clearance

USA Ticket number 0375239 was assigned on August 4, 2015, for a utility clearance check of the offsite building. On August 10, 2010, Cruz Brothers Locators performed a private utility locate for the proposed subslab probe locations.

3.5 Subslab Probe Installation

On August 11, 2015, six temporary subslab probes (SYN2-SS1, SYN2-SS3, SYN2-SS6, SYN2-SS9, SYN2-SS10, and SYN2-SS15) were installed, leak tested, and completed with flush-mount covers in the offsite building (Figure 4).

3.6 Subslab Probe Sampling–HVAC On

On August 13, 2015, the temporary subslab probes were leak tested, and six subslab soil gas samples and one duplicate subslab soil gas sample were collected. Subslab and Indoor air locations were co-located except in instances where the floor was not penetrable, in which case the associated subslab sample was taken as close as possible to the indoor air location.

The subslab soil gas samples were collected in laboratory-supplied 6-liter (L) Summa canisters and were analyzed for VOCs using USEPA Method TO-15. Sampling flow controllers were adjusted for a sampling period of 10 hours. Measurements of initial and final vacuum readings in the Summa canisters and the time of sample initiation and completion were double-checked with an external digital gauge. The samples were couriered to the analytical laboratory under standard chain-of-custody protocol. The sample canisters were shipped in cardboard boxes at ambient temperature.

3.7 Indoor and Outdoor Air Sampling–HVAC On

On August 13, 2015, six indoor air samples (SYN2-IA1, SYN2-IA3, SYN2-IA6, SYN2-IA9, SYN2-IA10, and SYN2-IA15), one outdoor air sample (SYN2-OA1), and one duplicate were collected at the onsite building (Figure 4). This included the indoor and outdoor air sample locations as discussed in advance with the Water Board and USEPA.

The air samples were collected as outlined in the Additional VI Work Plan. The samples were collected from approximately 3 to 5 feet above the building floor to represent the breathing zone. The indoor and outdoor air samples were collected in laboratory-supplied 6-L Summa canisters and were analyzed for VOCs using USEPA Method TO-15 SIM. Sampling flow controllers were adjusted for a sampling period of 10 hours. Measurements of initial and final vacuum readings in the Summa canisters and the time of sample initiation and completion were double-checked with an external digital gauge. The samples were shipped via FedEx to the analytical laboratory under standard chain-of-custody protocol. The sample canisters were shipped in cardboard boxes at ambient temperature.

3.8 Subslab Probe Sampling–HVAC Off

The onsite building's HVAC systems were shut off on the evening of August 14, 2015, to allow for at least 36 hours of interior air equilibration. Doors and windows were closed to the extent possible to limit air ingress/egress.

On August 16, 2015, temporary subslab probes (SYN2-SS1, SYN2-SS3, SYN2-SS6, SYN2-SS9, SYN2-SS10, and SYN2-SS15) were leak-tested and six subslab soil gas samples and one duplicate subslab soil gas sample were collected. Following subslab soil gas sample collection, flush-mount covers were replaced, and the floor was restored to its previous condition. These activities were completed as outlined in the Additional VI Work Plan.

The subslab soil gas samples were collected in laboratory-supplied 6-L Summa canisters and were analyzed for VOCs using USEPA Method TO-15. Sampling flow controllers were adjusted for a sampling period of 10 hours. Measurements of initial and final vacuum readings in the Summa canisters and the time of sample initiation and completion were double-checked with an external digital gauge. The samples were couriered to the analytical laboratory under standard chain-of-custody protocol. The sample canisters were shipped in cardboard boxes at ambient temperature.

3.9 Indoor and Outdoor Air Sampling–HVAC Off

On August 16, 2015, six indoor air samples (SYN2-IA1, SYN2-IA3, SYN2-IA6, SYN2-IA9, SYN2-IA10, and SYN2-IA15), one outdoor air sample (SYN2-OA1), and one duplicate were collected at the onsite building (Figure 4). Samples were collected as outlined in the Additional VI Work Plan. The samples were collected from approximately 3 to 5 feet above the building floor to represent the breathing zone. The indoor and outdoor air samples were collected in laboratory-supplied 6-L Summa canisters and were analyzed for VOCs using USEPA Method TO-15 SIM. Sampling flow controllers were adjusted for a sampling period of 10 hours. Measurements of initial and final vacuum readings in the Summa canisters and the time of sample initiation and completion were double-checked with an external digital gauge. The samples were shipped via FedEx to the analytical laboratory under standard chain-of-custody protocol. The sample canisters were shipped in cardboard boxes at ambient temperature.

SECTION 4

Summary of Results

The laboratory results from both the offsite 2015 HVAC-on and HVAC-off subslab soil gas, indoor, and outdoor air sampling and comparisons to screening levels are summarized below.

A data quality evaluation report is included as Appendix D. The data quality evaluation is an assessment of whether the data meets the data quality objectives, the goal being to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision-making process. The following summarizes the data evaluation findings for the subslab, indoor air, and outdoor air sampling events:

- No data were rejected and completeness objectives were met.
- No data were qualified because of low-level blank contamination.
- The precision and accuracy of the data, as measured by laboratory quality control indicators, suggest that the data quality objectives were met.

4.1 Subslab Soil Gas Results

Subslab soil gas sampling results from the HVAC-on sampling event (August 13, 2015) were less than the commercial/industrial screening levels. Results from the HVAC-off sampling (August 16, 2015) were also less than the commercial/industrial screening levels. Tables 3 and 4 summarize the subslab soil gas results (laboratory analytical reports can be provided upon request).

The subslab soil gas results were compared against the following screening levels for the VOCs that have been detected historically in groundwater at this site:

- Commercial/industrial subslab-to-indoor air environmental screening levels (ESLs) (Water Board, 2013b)
- Commercial/industrial subslab-to-indoor air VI screening levels (VISLs) (USEPA, 2015a).

The ESLs and VISLs are considered investigation screening levels for use in supporting decisions whether additional data collection or evaluation are needed to assess potential VI concern at a site. Exceedance of a screening level is not necessarily an indication of unacceptable health concerns, but rather that additional actions may be necessary.

The published ESLs and VISLs are based on the assumption of a standard 8-hour workday for 250 days per year for 25 years. However in discussions with the EPA, the screening levels for this site were adjusted to assume a 10-hour work day.

The published ESL and VISLs are selected from the minimum of the screening level based on cancer effects and the screening level based noncancer effects. Investigation screening levels for cancer-causing chemicals are generally set to a 1×10^{-6} excess lifetime cancer risk point of departure pursuant to CERCLA (NCP Section 300.430(e)(2)(I)); however, a cancer risk range of 1×10^{-4} to 1×10^{-6} is used during the risk management decision process on CERCLA projects.

4.2 Indoor and Outdoor Air Results

Indoor air and outdoor air concentrations from the HVAC-on sampling (August 13, 2015) were less than the commercial/industrial screening levels. Indoor air and outdoor air concentrations from the HVAC-off sampling (August 16, 2015) were also less than the commercial/industrial screening levels. Tables 5 and 6 summarize the indoor air and outdoor air sampling results (laboratory analytical reports can be provided upon request).

The indoor air and outdoor air sampling results were compared against the following screening levels for the VOCs that have been detected historically in groundwater at this site:

- Commercial/industrial indoor air ESLs (Water Board, 2013b)
- Commercial/industrial indoor air RSLs (USEPA, 2015b)

The published ESLs and RSLs are based on the assumption of a standard 8-hour workday for 250 days per year for 25 years; however, the screening levels for this site were adjusted to assume a 10-hour work day.

The indoor air ESLs and RSLs are considered investigation screening levels, and an exceedance is not necessarily an indication of unacceptable health concerns. The indoor air screening levels are derived in the same manner as that discussed for the subslab soil gas screening levels.

SECTION 5

Conclusions

Data collected during the field sampling events were evaluated using the multiple-lines-of-evidence approach to evaluate VI as described in the Additional VI Work Plan. The focus of the multiple-lines-of-evidence evaluation is on TCE, as it was the only target compound detected above the commercial/industrial SLs in soil gas samples collected during the investigations conducted in the last several years. The sampling results of the other target compounds are assessed as needed in relation to the completeness and significance of the VI pathway. The lines of evidence evaluated included the results of the HVAC survey, building survey, preliminary and final screening assessment, the subslab soil gas, indoor air, and outdoor air sampling results. In addition, the groundwater sampling results (forthcoming 2015 annual reporting) were used to support the evaluation.

None of the VOC concentrations in indoor air and subslab vapor samples collected using SUMMA canisters were greater than the screening levels during either HVAC-on or HVAC-off sampling events. In addition, there were no investigation screening level exceedances for the HAPSITE monitoring of indoor air during either HVAC-on or HVAC-off sampling events. The groundwater monitoring concentrations are either stable or decreasing over multiple events.

Based on the available evidence, no additional sampling is recommended at this time.

The objective of this VI evaluation was to assess whether site-related VOCs detected in the shallow groundwater could impact indoor air through the VI pathway and whether further action will be required at the offsite building. Based on the results of this evaluation, the VI pathway is neither complete nor significant under current building use or in worse case situations created by turning HVAC systems off. No further action is recommended at this time.

SECTION 6

References

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Tables

Table 1. Summary of HAPSITE and Pathway Volatile Organic Compound Results, June 2015 (HVAC On Event)

3111 Coronado Drive, Santa Clara, CA

Location	SYN2-0A1	SYN2-IA8	SYN2-IA4	SYN2-IA9	SYN2-IA2	SYN2-IA1	SYN2-IA3	SYN2-IA10
Sample Date	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015
VOLATILE ORGANIC COMPOUNDS (µg/m^3)								
TCE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
PCE	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Vinyl Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Freon 113	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
trans-1,2-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1-DCA	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
cis-1,2-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2-DCA	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,1-TCA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U

Location	SYN2-IA7	SYN2-IA11	SYN2-IA12	SYN2-IA6	SYN2-IA13	SYN2-IA14	SYN2-IA5
Sample Date	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015
VOLATILE ORGANIC COMPOUNDS (µg/m^3)							
TCE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
PCE	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Vinyl Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Freon 113	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
trans-1,2-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1-DCA	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
cis-1,2-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2-DCA	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,1-TCA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U

Notes

1. HVAC was operational during the June 30, 2015 sampling event.

Abbreviations:

U = not detected

µg/m^3 = micrograms per meter cube

TCE = Trichloroethene

PCE = Tetrachloroethene

1,1-DCE = 1,1-Dichloroethene

trans-1,2-DCE = trans-1,2-Dichloroethene

1,1-DCA = 1,1-Dichloroethane

cis-1,2-DCE = cis-1,2-Dichloroethene

1,2-DCA = 1,2-Dichloroethane

1,1,1-TCA = 1,1,1-Trichloroethane

Table 2. Summary of HAPSITE Volatile Organic Compound Results, August 2015 (HVAC Off Event)

3111 Coronado Drive, Santa Clara, CA

Location	SYN2-0A1	SYN2-IA10	SYN2-IA1	SYN2-IA6	SYN2-IA3	SYN2-IA15	SYN2-IA9
Sample Date	**8/16/2015**	**8/16/2015**	**8/16/2015**	**8/16/2015**	**8/16/2015**	**8/16/2015**	**8/16/2015**
VOLATILE ORGANIC COMPOUNDS (µg/m^3)							
TCE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
PCE	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Vinyl Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Freon 113	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
trans-1,2-DCE	NA	NA	NA	NA	NA	NA	NA
1,1-DCA	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
cis-1,2-DCE	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2-DCA	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,1-TCA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U

Notes

1. HVAC was turned off 36 hours prior to the August 16, 2015 sampling event.

Abbreviations:

U = not detected

NA=Not analyzed

µg/m^3 = micrograms per meter cube

TCE = Trichloroethene

PCE = Tetrachloroethene

1,1-DCE = 1,1-Dichloroethene

trans-1,2-DCE = trans-1,2-Dichloroethene

1,1-DCA = 1,1-Dichloroethane

cis-1,2-DCE = cis-1,2-Dichloroethene

1,2-DCA = 1,2-Dichloroethane

1,1,1-TCA = 1,1,1-Trichloroethane

Table 3. Summary of Subslab Soil Gas Volatile Organic Compound Results, August 2015 (HVAC On Event)

3111 Coronado Drive, Santa Clara, CA

Location Sample Date	Commercial / Industrial Subslab-to-Indoor Air ESLs	Commercial / Industrial Subslab-to-Indoor Air VISLs	SYN2-SS1 8/13/2015	SYN2-SS3 8/13/2015	SYN2-SS6 8/13/2015	SYN2-SS9 8/13/2015	SYN2-SS10 8/13/2015	SYN2-SS15 8/13/2015	SYN2-SS15 (FD) 8/13/2015
VOLATILE ORGANIC COMPOUNDS (µg/m^3)									
TCE	*2,400*	*80*	6.3	6.6	1.3	1.1 U	1.4	0.84 U	0.88 U
PCE	*1,680*	*1,300*	0.87 U	0.81 U	0.80 U	1.1 U	0.79 U	5.9	6.3
Vinyl Chloride	*128*	*74*	0.87 U	0.81 U	0.80 U	1.1 U	0.79 U	0.84 U	0.88 U
1,1-DCE	*704,000*	*23,000*	0.87 U	0.81 U	0.80 U	1.1 U	0.79 U	0.84 U	0.88 U
Freon 113	--	*3,500,000*	5.1	1.1	4.7	5.6	4.6	0.84 U	0.88 U
trans-1,2-DCE	*208,000*	--	0.87 U	0.81 U	0.80 U	1.1 U	0.79 U	0.84 U	0.88 U
1,1-DCA	*6,160*	*200*	0.87 U	0.81 U	0.80 U	1.1 U	0.79 U	0.84 U	0.88 U
cis-1,2-DCE	*24,800*	--	0.87 U	0.81 U	0.80 U	1.1 U	0.79 U	0.84 U	0.88 U
1,2-DCA	*464*	*1.3*	0.87 U	0.81 U	0.80 U	1.1 U	0.79 U	0.84 U	0.88 U
1,1,1-TCA	*17,600,000*	*58,000*	0.87 U	0.81 U	1.1	1.1 U	0.79 U	0.84 U	0.88 U

Notes

1. Samples were collected while building HVAC system was operational.
2. Commercial / Industrial Subslab-to-Indoor Air ESLs (Water Board, 2013b)
3. Commercial / Industrial Subslab-to-Indoor Air VISLs (USEPA, 2015)
4. The published Commercial/Industrial ESLs and VISLs are based on a standard 8-hour workday, an exposure frequency of 250 days per year and an exposure duration of 25 years. However, the risk based Screening Levels presented here are adjusted based on a 10-hour workday

Abbreviations:

-- = no screening level available
HVAC = Heating, Ventilation, and Air Conditioning
ESLs = Environmental Screening Levels
VISLs = Vapor Intrusion Screening Levels
FD = Field Duplicate
U = not detected
µg/m^3 = micrograms per meter cube
TCE = Trichloroethene
PCE = Tetrachloroethene
1,1-DCE = 1,1-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
1,2-DCA = 1,2-Dichloroethane
1,1,1-TCA = 1,1,1-Trichloroethane

Table 4. Summary of Subslab Soil Gas Volatile Organic Compound Results, August 2015 (HVAC Off Event)

3111 Coronado Drive, Santa Clara, CA

Location Sample Date	Commercial / Industrial Subslab-to-Indoor Air ESLs	Commercial / Industrial Subslab-to-Indoor Air VISLs	SYN2-SS1 8/16/2015	SYN2-SS3 8/16/2015	SYN2-SS6 8/16/2015	SYN2-SS9 8/16/2015	SYN2-SS10 8/16/2015	SYN2-SS15 8/16/2015	SYN2-SS15 (FD) 8/16/2015
VOLATILE ORGANIC COMPOUNDS (µg/m^3)									
TCE	*2,400*	*80*	11	2.3	0.79 U	0.81 U	1.7	0.85 U	0.82 U
PCE	*1,680*	*1,300*	0.77 U	0.82 U	0.79 U	0.81 U	0.82 U	1.3	1.2
Vinyl Chloride	*128*	*74*	0.77 U	0.82 U	0.79 U	0.81 U	0.82 U	0.85 U	0.82 U
1,1-DCE	*704,000*	*23,000*	0.77 U	0.82 U	0.79 U	0.81 U	0.82 U	0.85 U	0.82 U
Freon 113	--	*3,500,000*	5.8	1.8	1.1	5.9	5.1	0.85 U	0.82 U
trans-1,2-DCE	*208,000*	--	0.77 U	0.82 U	0.79 U	0.81 U	0.82 U	0.85 U	0.82 U
1,1-DCA	*6,160*	*200*	0.77 U	0.82 U	0.79 U	0.81 U	0.82 U	0.85 U	0.82 U
cis-1,2-DCE	*24,800*	--	0.77 U	0.82 U	0.79 U	0.81 U	0.82 U	0.85 U	0.82 U
1,2-DCA	*464*	*1.3*	0.77 U	0.82 U	0.79 U	0.81 U	0.82 U	0.85 U	0.82 U
1,1,1-TCA	*17,600,000*	*58,000*	1.4	0.82 U	0.79 U	0.81 U	0.82 U	0.85 U	0.82 U

Notes

1. Samples were collected while building HVAC system was non-operational for 36 hours prior to and during the event.
2. Commercial / Industrial Subslab-to-Indoor Air ESLs (Water Board, 2013b)
3. Commercial / Industrial Subslab-to-Indoor Air VISLs (USEPA, 2015)
4. The published Commercial/Industrial ESLs and VISLs are based on a standard 8-hour workday, an exposure frequency of 250 days per year and an exposure duration of 25 years. However, the risk-based Screening Levels presented here are adjusted based on a 10-hour workday

Abbreviations:

-- = no screening level available
HVAC = Heating, Ventilation, and Air Conditioning
ESLs = Environmental Screening Levels
VISLs = Vapor Intrusion Screening Levels
FD = Field Duplicate
U = not detected
µg/m^3 = micrograms per meter cube
TCE = Trichloroethene
PCE = Tetrachloroethene
1,1-DCE = 1,1-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
1,2-DCA = 1,2-Dichloroethane
1,1,1-TCA = 1,1,1-Trichloroethane

Table 5. Summary of Indoor and Outdoor Air Volatile Organic Compound Results, August 2015 (HVAC On Event)

3111 Coronado Drive, Santa Clara, CA

Location Sample Date	Commercial / Industrial Indoor Air ESLs	Commercial / Industrial Indoor Air RSLs	SYN2-IA1 8/13/2015	SYN2-IA3 8/13/2015	SYN2-IA6 8/13/2015	SYN2-IA9 8/13/2015	SYN2-IA10 8/13/2015	SYN2-IA15 8/13/2015	SYN2-IA15 (FD) 8/13/2015	SYN2-OA1 8/13/2015
VOLATILE ORGANIC COMPOUNDS (µg/m^3)										
TCE	*2.4*	*2.4*	0.038 U	0.038 U	0.039 U	0.044 U	0.038 U	0.037 U	0.043 U	0.042 U
PCE	*1.7*	*38*	0.038 U	0.038 U	0.039 U	0.066	0.038 U	0.037 U	0.043 U	0.042 U
Vinyl Chloride	*0.13*	*2.2*	0.038 U	0.038 U	0.039 U	0.044 U	0.038 U	0.037 U	0.043 U	0.042 U
1,1-DCE	*704*	*704*	0.038 U	0.038 U	0.039 U	0.044 U	0.038 U	0.037 U	0.043 U	0.042 U
Freon 113	--	*104,000*	0.48	0.50	0.49	0.49	0.49	0.48	0.49	0.48
trans-1,2-DCE	*208*	--	0.038 U	0.038 U	0.039 U	0.044 U	0.038 U	0.037 U	0.043 U	0.042 U
1,1-DCA	*6.2*	*6.2*	0.038 U	0.038 U	0.039 U	0.044 U	0.038 U	0.037 U	0.043 U	0.042 U
cis-1,2-DCE	*24.8*	--	0.038 U	0.038 U	0.039 U	0.044 U	0.038 U	0.037 U	0.043 U	0.042 U
1,2-DCA	*0.46*	*0.38*	0.088	0.070	0.082	0.10	0.086	0.058	0.060	0.042 U
1,1,1-TCA	*17,600*	*17,600*	0.038 U	0.038 U	0.039 U	0.044 U	0.038 U	0.037 U	0.043 U	0.042 U

Notes

1. Samples were collected while building HVAC system was operational.
2. Commercial / Industrial Indoor Air ESLs (Water Board, 2013b)
3. Commercial / Industrial Indoor Air RSLs (USEPA, 2015)
4. The published Commercial/Industrial ESLs and RSLs are based on a standard 8-hour workday, an exposure frequency of 250 days per year and an exposure duration of 25 years. However, the risk-based Screening Levels presented here are adjusted based on a 10-hour workday

Abbreviations:

-- = no screening level available
HVAC = Heating, Ventilation, and Air Conditioning
ESLs = Environmental Screening Levels
VISLs = Vapor Intrusion Screening Levels
FD = Field Duplicate
U = not detected
µg/m^3 = micrograms per meter cube
TCE = Trichloroethene
PCE = Tetrachloroethene
1,1-DCE = 1,1-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
1,2-DCA = 1,2-Dichloroethane
1,1,1-TCA = 1,1,1-Trichloroethane

Table 6. Summary of Indoor and Outdoor Air Volatile Organic Compound Results, August 2015 (HVAC Off Event)

3111 Coronado Drive, Santa Clara, CA

Location Sample Date	Commercial / Industrial Indoor Air ESLs	Commercial / Industrial Indoor Air RSLs	SYN2-IA1 8/16/2015	SYN2-IA3 8/16/2015	SYN2-IA6 8/16/2015	SYN2-IA9 8/16/2015	SYN2-IA10 8/16/2015	SYN2-IA15 8/16/2015	SYN2-IA15 (FD) 8/16/2015	SYN2-OA1 8/16/2015
VOLATILE ORGANIC COMPOUNDS (µg/m^3)										
TCE	*2.4*	*2.4*	0.042	0.052	0.048	0.053	0.044 U	0.076	0.079	0.041 U
PCE	*1.7*	*38*	0.041 U	0.044 U	0.046 U	0.044 U	0.044 U	0.041 U	0.046 U	0.041 U
Vinyl Chloride	*0.13*	*2.2*	0.041 U	0.044 U	0.046 U	0.044 U	0.044 U	0.041 U	0.046 U	0.041 U
1,1-DCE	*704*	*704*	0.041 U	0.044 U	0.046 U	0.044 U	0.044 U	0.041 U	0.046 U	0.041 U
Freon 113	--	*104,000*	0.49	0.50	0.49	0.50	0.49	0.52	0.52	0.48
trans-1,2-DCE	*208*	--	0.075	0.083	0.083	0.084	0.080	0.091	0.093	0.053
1,1-DCA	*6.2*	*6.2*	0.041 U	0.044 U	0.049	0.044 U	0.044 U	0.041 U	0.046 U	0.041 U
cis-1,2-DCE	*24.8*	--	0.041 U	0.044 U	0.046 U	0.044 U	0.044 U	0.041 U	0.046 U	0.041 U
1,2-DCA	*0.46*	*0.38*	0.19	0.17	0.19	0.12	0.18	0.16	0.16	0.045
1,1,1-TCA	*17,600*	*17,600*	0.041 U	0.044 U	0.046 U	0.044 U	0.044 U	0.041 U	0.046 U	0.041 U

Notes

1. Samples were collected while building HVAC system was non-operational for 36 hours prior to and during the event.
2. Commercial / Industrial Indoor Air ESLs (Water Board, 2013b)
3. Commercial / Industrial Indoor Air RSLs (USEPA, 2015)
4. The published Commercial/Industrial ESLs and RSLs are based on a standard 8-hour workday, an exposure frequency of 250 days per year and an exposure duration of 25 years. However, the risk-based Screening Levels presented here are adjusted based on a 10-hour workday

Abbreviations:

-- = no screening level available
HVAC = Heating, Ventilation, and Air Conditioning
ESLs = Environmental Screening Levels
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TCE = Trichloroethene
PCE = Tetrachloroethene
1,1-DCE = 1,1-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
1,2-DCA = 1,2-Dichloroethane
1,1,1-TCA = 1,1,1-Trichloroethane

Figures

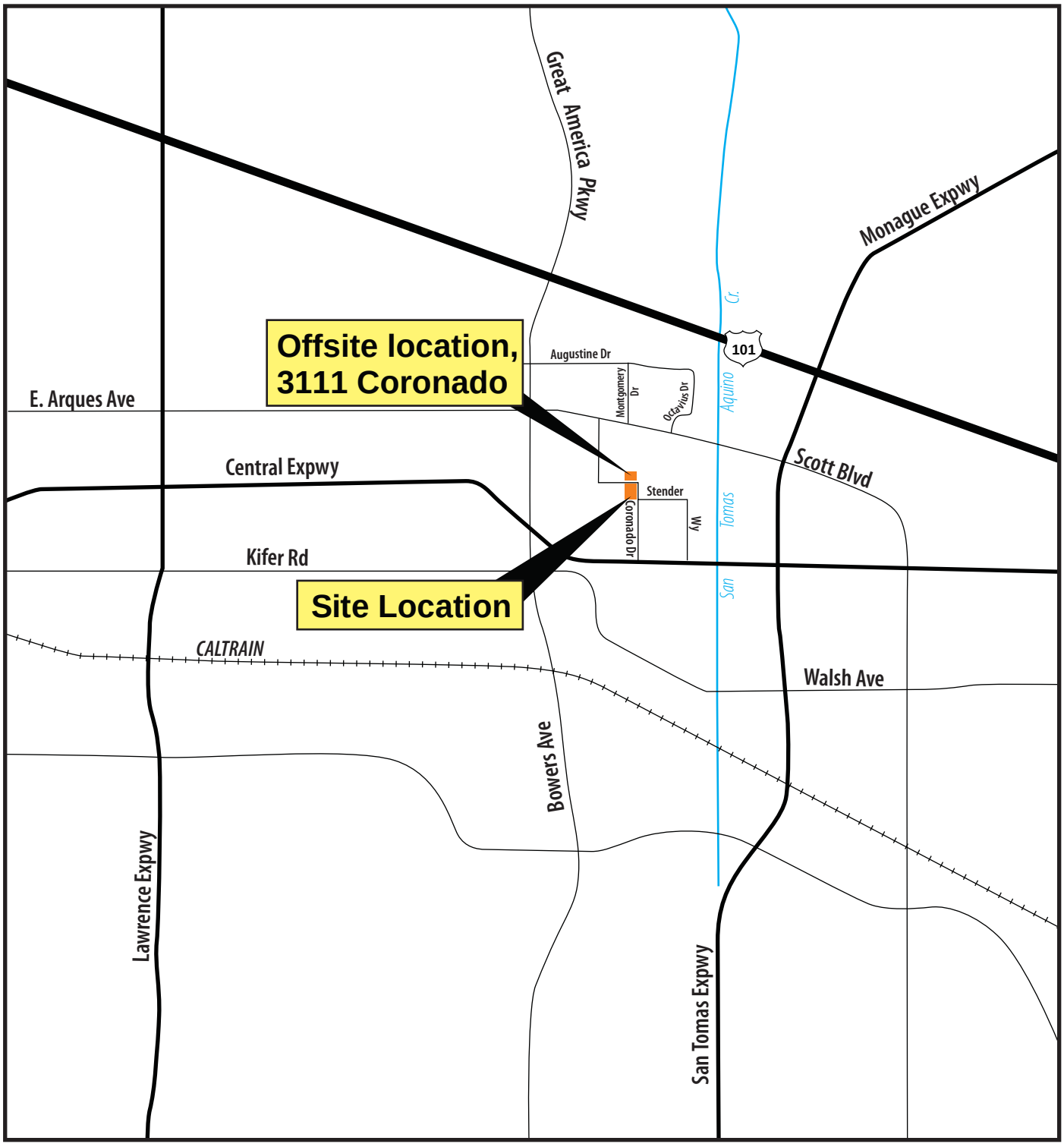

FIGURE 1
Site Location Map
Former Synertek Building No. 1
3050 Coronado Drive
Santa Clara, California

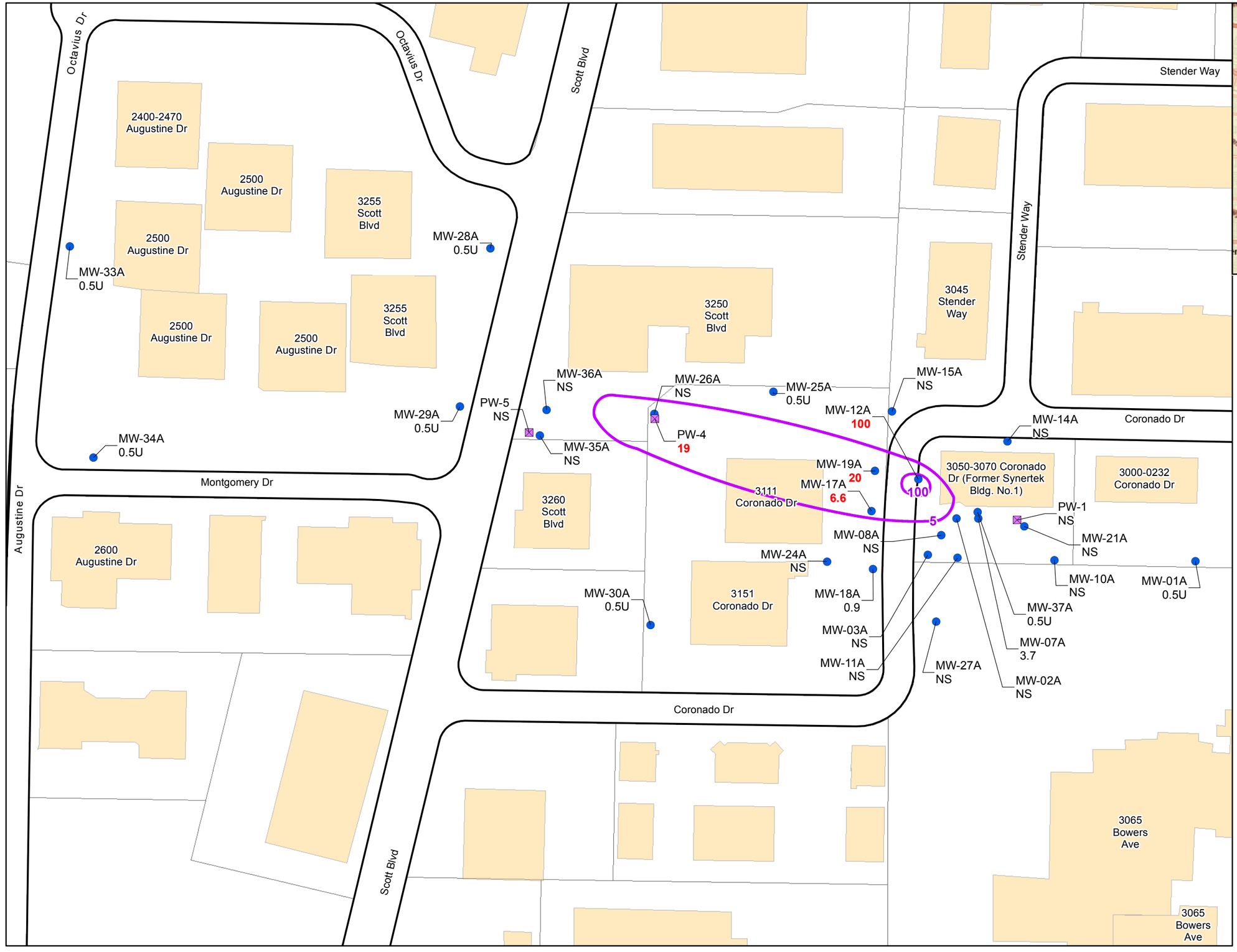

FIGURE 2
April/May 2014 TCE Distribution, A-Aquifer
FORMER SYNERTEK BUILDING 1 - 3050/3060/3070 CORONADO DRIVE
SANTA CLARA, CALIFORNIA

LEGEND

HAPSITE Air Sampling Location

N

Base drawing from figure Building A&C Floor 1 Seating Plan, FaciliCorp, 2013.

3111 Coronado Drive (First Floor Layout)

FIGURE 3
Off-site Building (3111 Coronado Drive) – HAPSITE Sampling Locations, June 2015
Former Synertek Building 1
3050 Coronado Drive
Santa Clara, California

LEGEND

- Subslab Soil Gas Sampling Location
- Indoor/Outdoor Air Sampling Location

3111 Coronado Drive (First Floor Layout)

Base drawing from figure Building A&C Floor 1 Seating Plan, FaciliCorp, 2013.

FIGURE 4
Off-site Building (3111 Coronado Drive) – Vapor Intrusion Sampling Locations
August, 2015
Former Synertek Building 1
3050 Coronado Drive
Santa Clara, California

Appendix A
HVAC Survey Check List

HVAC Survey Check List Form ver. 1.0 (4/14/2014)

Building Name: Infoblox Page: of

Address: 3111 Coronado Drive, Santa Clara CA 95054

Completed By: Michael Bartelt Date: 6/30/2015 (site visit), 7/9/2015

BUILDING PHYSICAL CHARACTERISTICS

==> INCLUDE FLOOR PLAN WHEN POSSIBLE (Mark Locations of Thermostats, AHUs, etc.)

Zone/ Room #	Zone/ Room Name	Room Use	Indoor to Outdoor Pressure Δ *	Approx. Size		Notes
				Area (sq ft)	Height (ft)	
-	1st Floor, Main	General office area (cubicles, offices, conference rooms, break rooms)	Not measured	30200	12	In some areas the ceiling is open to the 2nd floor deck
-	1st Floor, Kitchen	Not a full service kitchen. (Large ranges, fryers, ovens, etc. are not in use)	Not measured	2070	12	Exhaust only - room pressurization is slightly negative. Air pulled in from adjacent spaces
-	1st Floor, Labs and Demo Room	Computer/server/network equipment	Not measured	950	12	No return air from these rooms to the air handler, so they will be positively pressurized against adjacent space. Shutting down HVAC to these rooms will be disruptive to occupant's business operations
-	1st Floor, Restrooms	Restrooms	Not measured	820	12	Exhaust only - room pressurization is slightly negative. Air pulled in from adjacent spaces
-	2nd Floor, Main	General office area (cubicles, offices, conference rooms, break rooms)	Not measured	28500	12	
-	2nd Floor, Labs and Server Rooms	Computer/server/network equipment	Not measured	4785	12	Shutting down HVAC to these rooms will be disruptive to occupant's business operations
-	2nd Floor, Restrooms	Restrooms	Not measured	730	12	Exhaust only - room pressurization is slightly negative. Air pulled in from adjacent spaces
-	1st Floor Lobby, Main	Reception area, seating area, conference room	Not measured	4100	12	Front entrance is an atrium - open to the 2nd floor
-	1st Floor Lobby, Restrooms	Restrooms	Not measured	200	12	Exhaust only - room pressurization is slightly negative. Air pulled in from adjacent spaces
-	2nd Floor Lobby	Walkway connection East/West buildings, small conference rooms	Not measured	2500	12	2nd floor is open to 1st floor by the entrance
-	2nd Floor Lobby, Restrooms	Restrooms	Not measured	200	12	Exhaust only - room pressurization is slightly negative. Air pulled in from adjacent spaces

* Measured with a micromanometer (+ = higher indoor pressure relative to outdoor, - = lower)

CONTROL SYSTEM

Type: HVAC systems are on a Building Automation System (BAS) central controller

System operation: The central BAS controller dictates the scheduling (occupied or unoccupied), and interfaces with the control boards on the HVAC equipment. Networked thermostats are located throughout the building, and occupants can manually override the temperature settings. Variable air volume (VAV) terminal boxes provide a minimum flow, and when the temperature drifts beyond the setpoints it opens the damper and increases the airflow to the zone until the setpoint is met.

HVAC Survey Check List Form ver. 1.0 (4/14/2014)

Building Name: Infoblox Page: of

Address: 3111 Coronado Drive, Santa Clara CA 95054

Completed By: Michael Bartelt Date: 6/30/2015 (site visit), 7/9/2015

AIR HANDLING UNIT

Unit Identifica: *See table below* Space Served: *See table below*

Make/Model: *See table below*

Unit Capacities: *See table below*

AHU #	Unit Identification	Space Served	Make	Model	Capacity	Outdoor Air (O.A.) Intake Location	Date Last Tested & Balanced	Describe Nearby Contaminant Sources
-	AC-3	1st Floor	Carrier	50P5-090610MH006ZH	90 tons, 36000 cfm	On unit, roof	Last serviced April 2015 - filters replaced	Plumbing vent approximately 25 ft away.
-	AC-4	2nd Floor	Carrier	50P3-075610MH003PH	75 tons, 30000 cfm	On unit, roof	Last serviced April 2015 - filters replaced	Plumbing vent approximately 15 ft away.
-	AC-5	2nd Floor Lab	Trane	TCH600B40K4B4NC40	50 tons, 20000 cfm	On unit, roof	Last serviced April 2015 - filters replaced	Rooftop boiler exhaust stack approximately 15 ft away.
-	AC-6	2nd Floor Lab	Trane	TCH600B40K4B4NC40	50 tons, 20000 cfm	On unit, roof	Last serviced April 2015 - filters replaced	None
-	AC-8	Lobby, 2nd floor	Carrier	48TCDD14A2A6A0A0A0	12.5 tons, 5000 cfm	On unit, roof	Last serviced April 2015 - filters replaced	Plumbing vent approximately 30 ft away
-	AC-9	Lobby, 1st floor	Carrier	48TCDD08A2A6A0A0A0	7.5 tons, 3000 cfm	On unit, roof	Last serviced April 2015 - filters replaced	Plumbing vent approximately 20 ft away
-	MAU-1	Kitchen	CaptiveAire	A2-G15	5000 cfm	On unit, roof	Last serviced April 2015 - filters replaced	None
-	EF-2 North	Kitchen	Greenheck	SWB-208-7-CW-UB	1000 cfm	N/A	Unknown	N/A
-	EF-2 South	Restrooms	Dayton	4YU98	2400 cfm	N/A	Unknown	N/A
-	EF-3	Breakroom	Carnes	VEBK08P1A	500 cfm	N/A	Unknown	N/A
-	EF-5	Lobby Restrooms	CaptiveAire	OR12HFA	500 cfm	N/A	Unknown	N/A

Note: nominal capacities listed for AC units. Duct pressure losses will impact actual airflow capacity

AHU #	(A) Design Total cfm	(B) Minimum % O.A. (damper setting)	(C) Minimum cfm O.A. (a)	Current O.A. Damper Setting Date	Time	HVAC operating mode
AC-3	36000	10%	3600	6/30/2015	11 AM	Cooling
AC-4	30000	10%	3000	6/30/2015	11 AM	Cooling
AC-5	20000	10%	2000	6/30/2015	11 AM	Cooling
AC-6	20000	10%	2000	6/30/2015	11 AM	Cooling
AC-8	5000	10%	500	6/30/2015	11 AM	Not running - economizer closed. Min. OA% setting assumed to be same as AC-9
AC-9	3000	10%	300	6/30/2015	11 AM	Cooling
MAU-1	5000	100%	5000	6/30/2015	11 AM	Cooling

a: C = (A x B)/100

O.A. damper settings are estimations based on visual inspection.

AHU #	Damper Control Sequence (describe)	Condition of Dampers and Controls	Can system be adjusted to increase make up air?	Can system handle conditioning additional make up air?
AC-3	Economizer - maintains minimum opening for ventilation; when outside air is cool enough to provide free cooling then more outside air is brought in, up to %100 of supply air flow. As more outside air is brought in the unit increases flow through the power exhaust fans to avoid over-pressurization of the space.	Good - system is only a few years old	Yes	Very likely
AC-4	Economizer - maintains minimum opening for ventilation; when outside air is cool enough to provide free cooling then more outside air is brought in, up to %100 of supply air flow. As more outside air is brought in the unit increases flow through the power exhaust fans to avoid over-pressurization of the space.	Good - system is only a few years old	Yes	Very likely
AC-5	Economizer - maintains minimum opening for ventilation; when outside air is cool enough to provide free cooling then more outside air is brought in, up to %100 of supply air flow. As more outside air is brought in the unit increases flow through the power exhaust fans to avoid over-pressurization of the space.	Good - system is only a few years old	Yes	Very likely
AC-6	Economizer - maintains minimum opening for ventilation; when outside air is cool enough to provide free cooling then more outside air is brought in, up to %100 of supply air flow. As more outside air is brought in the unit increases flow through the power exhaust fans to avoid over-pressurization of the space.	Good - system is only a few years old	Yes	Very likely
AC-8	Economizer -maintains minimum opening for ventilation; when outside air is cool enough to provide free cooling then more outside air is brought in. No power exhaust; may not be capable of 100% economizing	Good - system is only a few years old	Yes	Very likely
AC-9	Economizer -maintains minimum opening for ventilation; when outside air is cool enough to provide free cooling then more outside air is brought in. No power exhaust; may not be capable of 100% economizing	Good - system is only a few years old	Yes	Very likely

HVAC Survey Check List Form ver. 1.0 (4/14/2014)

Building Name: Infoblox Page: of

Address: 3111 Coronado Drive, Santa Clara CA 95054

Completed By: Michael Bartelt Date: 6/30/2015 (site visit), 7/9/2015

MAU-1	100% outside air unit.	Good - system is only a few years old	No	

HVAC Survey Check List Form ver. 1.0 (4/14/2014)

Building Name: Infoblox Page: of

Address: 3111 Coronado Drive, Santa Clara CA 95054

Completed By: Michael Bartelt Date: 6/30/2015 (site visit), 7/9/2015

DISTRIBUTION SYSTEM

Zone/ Room #	Zone/ Room Name	System Type	Supply Air* ducted/ unducted	Supply Air* cfm	Outdoor Air** cfm	Return Air ducted/ unducted	Return Air cfm	Power Exhaust cfm	Power Exhaust control	Power Exhaust serves (e.g. toilet)	HVAC Unit Serving Space
-	1st Floor, Main	VAV	Ducted	33300	3330	Unducted	29970	3330	Power exhaust on AC unit	Pressure relief	AC-3
-	1st Floor, Kitchen	CV	Ducted	5000	5000	Unducted	0	1000	Manual control	Kitchen	MAU-1, EF-2(north)
-	1st Floor, Labs and Demo Room	VAV	Ducted	4100	410	Unducted	0	N/A	N/A	N/a	AC-5/AC-6
-	1st Floor, Restrooms	Exhaust only	Air infiltrates from adjacent spaces	N/A	N/A	Unducted	0	1300	Manual control; constant operation	Toilets	EF-2 (south)
-	2nd Floor, Main	VAV	Ducted	30850	3085	Ducted	27765	3085	Power exhaust on AC unit	Breakroom and pressure relief	AC-4, EF-3
-	2nd Floor, Labs and Server Rooms	VAV	Ducted	35990	3599	Ducted	32391	3599	Power exhaust on AC unit	Pressure relief	AC-5/AC-6
-	2nd Floor, Restrooms	Exhaust only	Air infiltrates from adjacent spaces	N/A	N/A	Unducted	0	1100	Manual control; constant operation	Toilets	EF-2 (south)
-	1st Floor Lobby, Main	CV	Ducted	3000	300	Unducted	2700	N/A	N/A	N/A	AC-9
-	1st Floor Lobby, Restrooms	Exhaust only	Air infiltrates from adjacent spaces	N/A	N/A	Unducted	0	250	Manual control; constant operation	Toilets	EF-5
-	2nd Floor Lobby	CV	Ducted	5000	500	Unducted	4500	N/A	N/A	N/A	AC-8 (not running during visit)
-	2nd Floor Lobby, Restrooms	Exhaust only	Air infiltrates from adjacent spaces	N/A	N/A	Unducted	0	250	Manual control; constant operation	Toilets	EF-5

* Based on design flowrates

** Calculated from OA%

Notes: For simple systems this information can be estimated, for example using building construction/engineering drawings.
May need a test and balance firm to perform measurements for more complicated systems.
VAV = Variable Air Volume; CV = Constant Volume

Condition of distribution system and terminal equipment (note locations of problems)

Adequate access for maintenance? Nearly all ductwork is routed above the drop ceiling, but access appears to be adequate

General notes on distribution system (condition, potential issues): Ductwork was installed only a few years ago and is in good condition

HVAC Survey Check List Form ver. 1.0 (4/14/2014)

Building Name: Infoblox Page: of

Address: 3111 Coronado Drive, Santa Clara CA 95054

Completed By: Michael Bartelt Date: 6/30/2015 (site visit), 7/9/2015

OCCUPIED SPACE

Thermostat types: Johnson Controls NS Series network sensors. Measures and displays local temperatures, user-adjustable temperature setpoint. Approximately 70 individual thermostats

Zone/ Room #	Zone/ Room Name	Thermostat Location	What does Thermostat Control?	Setpoints		Measured Temperature	Day/ Time	Notes
				Summer	Winter			
	Typical of ~70 thermostats	Throughout	VAV boxes, AC units	72	?	70	6/30/2015 1	Occupants are not prevented from adjusting thermostats

Humidistats/Dehumidistats type: None

Zone/ Room #	Zone/ Room Name	Humidistats Dehumidistats Location	What does Thermostat Control?	Setpoints (%RH)	Measured Temperature	Day/ Time	Notes
	None						

Potential problems (note location): No areas of concern.

Appendix B
Building Survey

Preliminary Building Survey for Vapor Intrusion Investigation

Date: 6/30/2015

Preparer: Lauren Wu

Facility: 3111 Coronado (Synertek)

Address: Santa Clara, CA

Contact Person: Mark Azzarello

Phone Number: (831) 245-9364

e-mail address: mazzarello@infoblox.com

Building Description

Building or Room Identifier: Infoblox

Primary Activity within Building (select one):

[ ]	Manufacturing	[ ]	Storage	[X]	Other
[ ]	Chemical processing	[ ]	Chemical Storage		
[X]	Administrative	[ ]	Instrumentation/Control		

Historical Activities within Building (if different from above):
Building renovated 2 years ago. Was a warehouse. Still has frame and plumbing.

Notes: Mostly offices, cubicles, conference rooms, kitchens, janitor closets. Building survey conducted on 1st floor only. 2nd floor is laboratory with electrical equipment.

Approximate floor space: 36000 ft2 (1st floor)

Number of floors: 2

Multi-room building [X] or Single room [ ]

Ceiling height: 12 ft

Aboveground Construction

[ ]	Wood	[X]	Concrete
[ ]	Brick	[ ]	Cinderblock
[ ]	Other		

Floor plan attached? [X] Yes [ ] No

Notes: HAPSITE sampling locations also noted on map.

QC'ed and revised 1/17/11 KAS

Evaluation of Potential Conduits from Soil

Floor/foundation description (check all that apply)

[ ] Wood [X] Concrete [ ] Elevated above grade? Feet above grade:_____

[ ] Other _____ [ ] Below grade? Feet above grade:_____

[X] Slab on grade?

Expansion joints present (if concrete floor)?	[ ] Yes	[ ] No	[X] N/A
Are expansion joints sealed?	[ ] Yes	[ ] No	[X] N/A
Are sumps or floor drains present?	[X] Yes	[ ] No	[ ] N/A
Are basements or subsurface vaults present?	[ ] Yes	[ ] No	[ ] N/A
Are there subsurface drainage problems?	[ ] Yes	[ ] No	[ ] N/A

Notes/Explanation for N/A responses: Floors are either carpeted or tiled.

Evaluation of Potential Pathways/Driving Forces

Are there locations with elevated positive or negative pressure (look for doors not opening/closing properly, perceptible airflow, audible fan noise)

No locations with elevated pressure. Mainly positive pressure in the building, but minimal.

Is there one air conditioning zone or multiple zones (if in a multi-room building)?

[X] Single zone [ ] Multi-zone [ ] Other _____

(building management may know; another tip-off is the presence of multiple thermostats = multiple zones)

Sources of outdoor air

[X] Mechanical (air handling unit) [ ] Doors
[ ] Windows [ ] Attic Fans

Are windows/doors left open routinely? [ ] Yes [X] No

Notes:

Evaluation of Potential Existing Chemical Sources Indoors

List principal solvent or VOC-containing products used (obtain MSDSs if available)

See additional notes section
2 janitor rooms per building

Are any of the target analytes used in this building/room?

[ ] Yes [X] No

Are pesticides used indoors for pest control? [ ] Yes [X] No

Names of pesticide products used? N/A

Has there been a pesticide application within the past 6 months? [ ] Yes [X] No

Is smoking permitted in the building? [ ] Yes [X] No

Description of Vapor Mitigation Systems

Has a radon or vapor mitigation system been installed in this building/room? [ ] Yes [X] No

Date of installation? N/A

Type of system? [ ] Passive venting [ ] Active subslab depressurization

☐ Crack/crevice sealing ☐ Dilution ventilation control

☐ N/A

Notes:

Additional Notes

The building consists of mostly individual offices, cubicles, and conference rooms. Thermostats all over building for HVAC. Outside air goes into all HVAC units with positive pressure. Exhaust fans in the bathroom. Lab located on second floor. Each floor has own HVAC system on the roof and lab has own unit as well. Thermostats in specific areas of building have VAV that allows diffusers to open and increase airflow if temperature goes up above setting. Floor is tiled in kitchen, carpeted near offices. Difficult to find cracks in slab due to carpet. Elevator shaft goes down 30 feet where groundwater occurs. Took sample.

List of chemicals in Janitor's closet:
hand sanitizer
glass cleaner
citrus cleaner/degreaser
mineral and scale remover
carpet cleaner
skin cleanser
disinfectant spray
dishwashing detergent
tile cleaner
carpet spot and stain remover
chewing gum remover
water base degreaser

Appendix C
HAPSITE Investigation Photo Log

HAPSITE Investigation Photo Log

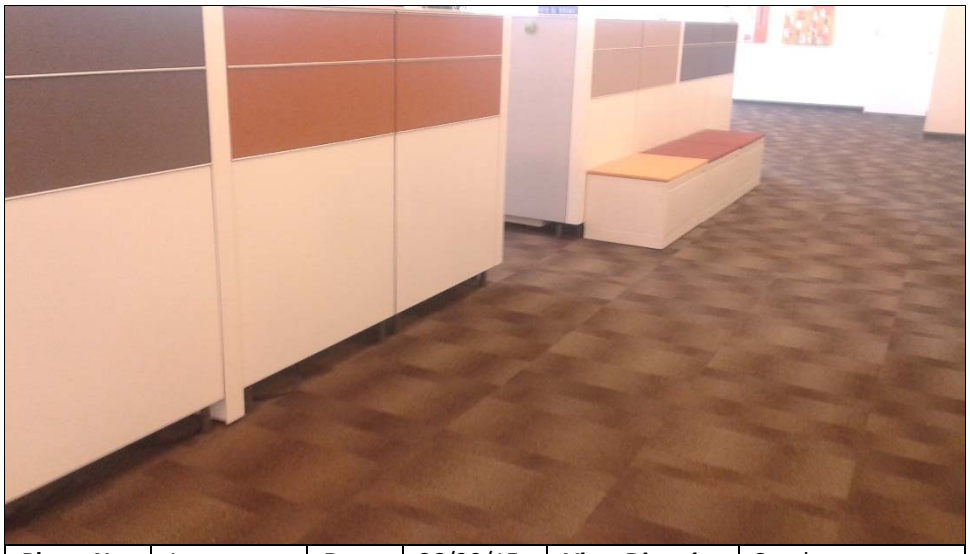

Photo No.	1	***Date***	06/30/15	***View Direction***	Southeast
Location of SYN2-IA1, outside of cubicles on southeast corner of building.					

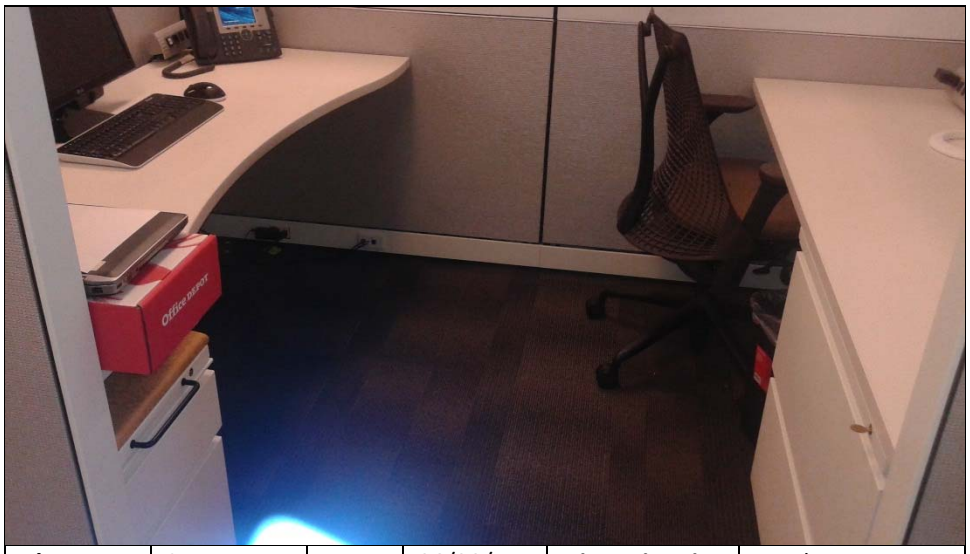

Photo No.	2	***Date***	06/30/15	***View Direction***	North
Location of SYN2-IA2, inside a cubicle on east side of building.					

Photo No.	3	***Date***	06/30/15	***View Direction***	South

Location of SYN2-IA3, inside a cubicle on northeast corner of building.

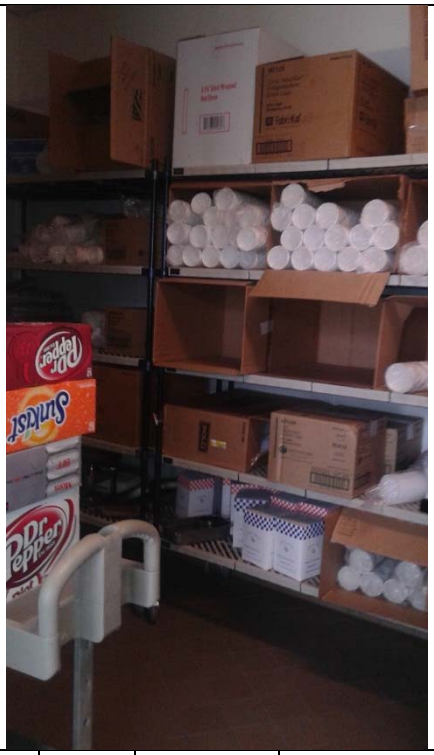

Photo No.	4	***Date***	06/30/15	***View Direction***	South

Location of SYN2-IA4, inside storage area near kitchen on north side of building.

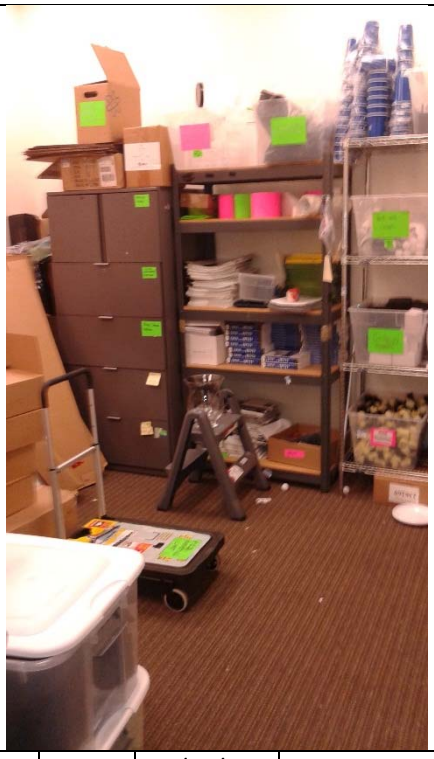

Photo No.	5	***Date***	06/30/15	***View Direction***	North

Location of SYN2-IA5, inside promotional materials room in central part of building.

Photo No.	6	***Date***	06/30/15	***View Direction***	West

Location of SYN2-IA6, inside an interior office in central part of building.

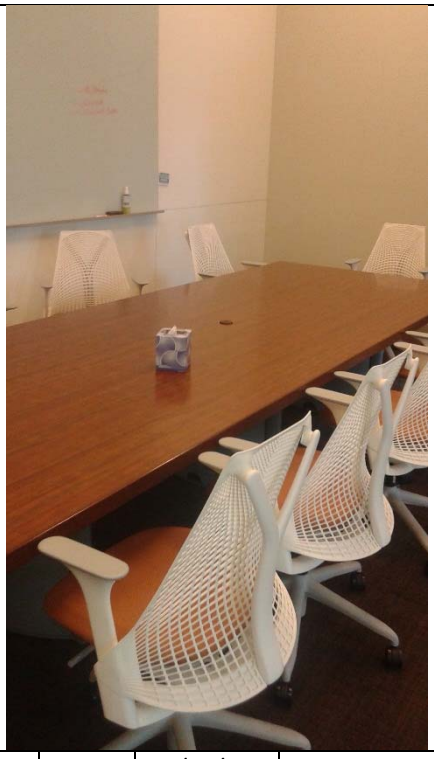

Photo No.	7	***Date***	06/30/15	***View Direction***	Southwest

Location of SYN2-IA7, inside a conference room on west side of building.

Photo No.	8	***Date***	06/30/15	***View Direction***	North

Location of SYN2-IA8, at northwesternmost corner of building.

Photo No.	9	***Date***	06/30/15	***View Direction***	South

Location of SYN2-IA9, floor drain in kitchen.

Photo No.	10	***Date***	06/30/15	***View Direction***	Southwest

Location of SYN2-IA10, floor crack in a hallway corner on south side of building.

Photo No.	11	***Date***	06/30/15	***View Direction***	Northwest

Location of SYN2-IA11, floor drain near restrooms in central part of building.

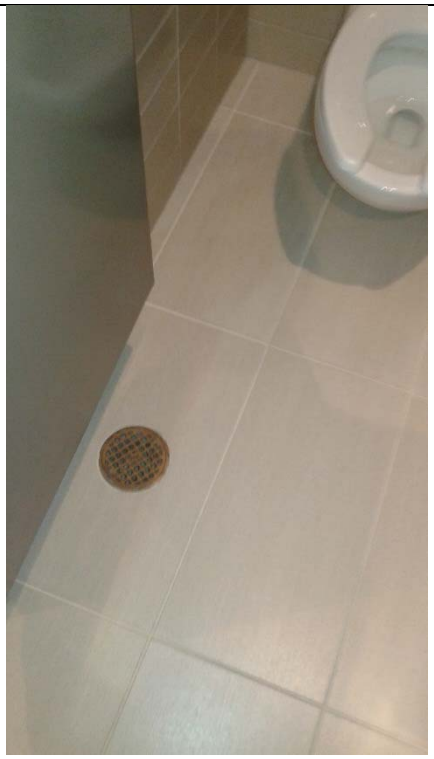

Photo No.	12	***Date***	06/30/15	***View Direction***	East

Location of SYN2-IA12, floor drain inside a stall in women's restroom on south side of building.

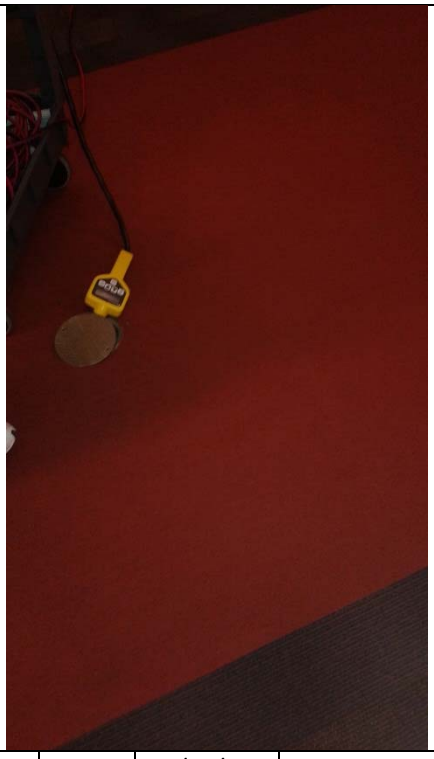

Photo No.	13	***Date***	06/30/15	***View Direction***	Northwest

Location of SYN2-IA13, floor drain in office space on east side of building.

Photo No.	14	***Date***	06/30/15	***View Direction***	Southwest

Location of SYN2-IA14, elevator shaft at northeast corner of building.

Appendix D
Data Quality Evaluation Report

Honeywell Synertek Soil Vapor and Air Monitoring, August 2015: Data Quality Evaluation Report

Introduction

The objective of this data quality evaluation (DQE) report is to assess the data quality of analytical results for soil vapor and air samples collected at the Honeywell Synertek Site. Samples were collected and analyzed in the effort to continue providing a framework for long-term monitoring of the soil vapor samples. The data may also be used to support future activities such as feasibility studies, risk assessments, fate and transport modeling and remedial actions. Individual method requirements and guidelines from the USEPA Contract Laboratory National Functional Guidelines (NFG) for Organic Data Review, October 2004, *Former Synertek Building No.1, Sampling Analysis Plan and Quality Assurance Project Plan* (CH2M HILL, 2014) were used in this assessment.

This report is intended as a general data quality assessment designed to summarize data issues.

Analytical Data

This DQE report covers 12 normal indoor air samples, two outdoor air samples, 12 normal soil gas samples, two indoor air field duplicates (FD) and two soil gas FDs. Samples were collected on August 13 and August 16, 2015. A list of samples and collection dates is included in Attachment A at the end of this report. These sample results were reported under two sample delivery groups presented in Table 1. The samples were analyzed for volatile organic compounds by Methods TO-15 and TO-15 SIM. Samples were collected and shipped by courier to Curtis & Tompkins Laboratory in Berkeley, California. Samples were subcontracted and the analyses were performed by ALS Environmental in Simi Valley, California.

Table 1. Sample Delivery Groups

269544
269547

The assessment of data includes a review of: (1) the chain-of-custody documentation; (2) holding-time compliance; (3) the required quality control (QC) samples at the specified frequencies; (4) flagging for method blanks; (5) laboratory control samples (LCS); and, (6) surrogate spike recoveries.

Field samples were also reviewed to ascertain field compliance and data quality issues. This included the review of FDs.

Data flags are assigned according to the NFG. These flags, as well as the reason for each flag, are entered into the electronic database. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will be only one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes blank sample impacts.

The data flags are those listed in the NFG and are defined below:

J = Analyte was present but the reported value may not be accurate or precise (estimated). The result was estimated due to either being less than the referenced reporting limit but greater than the method detection limit or due to a QC exceedance.

R = The result was unusable due to deficiencies in the ability to analyze the sample and meet QC criteria.

U = Analyte was not detected at the specified detection limit.

UJ = Analyte was not detected and the specified detection limit may not be accurate or precise (estimated).

Findings

The overall summaries of the data validation findings are contained in the following sections. No data required qualification due to this assessment.

Holding Times

All holding-time criteria were met.

Calibration

Initial and continuing calibration data were not supplied in the data packages and were not part of the routine validation performed. The laboratory did not report any exceedances in the case narratives.

Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination.

Field Blanks

Field blanks were not collected with this event.

Field Duplicates

Four FD sets were collected with this dataset and all precision criteria were met.

Surrogates

Surrogate spikes were analyzed in each sample as required. All acceptance criteria were met.

Internal Standards

Internal standard information was not supplied in the data packages and was not part of the routine validation performed. The laboratory reported no exceedances in the case narratives.

Laboratory Control Samples

LCSs were analyzed as required. All accuracy criteria were met.

Chain of Custody

No discrepancies were noted.

Overall Assessment

The final activity in the data quality evaluation is an assessment of whether the data meets the data quality objectives. The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decisionmaking process. The following summary highlights the data evaluation findings for the above defined events:

1. No data were rejected and completeness objectives were met.
2. No data were qualified because of low-level blank contamination.
3. The precision and accuracy of the data, as measured by laboratory QC indicators, suggest that the data quality objectives were met.

Attachment A: Samples Associated with DQE

Field Sample ID	Sample Date	Sample Purpose
SYN2-IA-10-150813	08/13/2015	REG
SYN2-IA-10-150816	08/16/2015	REG
SYN2-IA-1-150813	08/13/2015	REG
SYN2-IA-1-150816	08/16/2015	REG
SYN2-IA-15-150813	08/13/2015	REG
SYN2-IA-15-150816	08/16/2015	REG
SYN2-IA-3-150813	08/13/2015	REG
SYN2-IA-3-150816	08/16/2015	REG
SYN2-IA-6-150813	08/13/2015	REG
SYN2-IA-6-150816	08/16/2015	REG
SYN2-IA-9-150813	08/13/2015	REG
SYN2-IA-9-150816	08/16/2015	REG
SYN2-IA-FD-150813	08/13/2015	FD
SYN2-IA-FD-150816	08/16/2015	FD
SYN2-IA-OA-1-150813	08/13/2015	REG
SYN2-OA-1-150816	08/16/2015	REG
SYN2-SS-10-150813	08/13/2015	REG
SYN2-SS-10-150816	08/16/2015	REG
SYN2-SS-1-150813	08/13/2015	REG
SYN2-SS-1-150816	08/16/2015	REG
SYN2-SS-15-150813	08/13/2015	REG
SYN2-SS-15-150816	08/16/2015	REG
SYN2-SS-3-150813	08/13/2015	REG
SYN2-SS-3-150816	08/16/2015	REG
SYN2-SS-6-150813	08/13/2015	REG
SYN2-SS-6-150816	08/16/2015	REG
SYN2-SS-9-150813	08/13/2015	REG
SYN2-SS-9-150816	08/16/2015	REG
SYN2-SS-FD-150813	08/13/2015	FD
SYN2-SS-FD-150816	08/16/2015	FD

Notes: FD = field duplicate; REG = regular sample.