

**Report**

**Indoor Air Evaluation, May 2014  
790 East Duane Avenue**

**The Companies Offsite Operable Unit  
Sunnyvale, California**

**3 June 2014**

**Project No. 27006-08-9018**





# **Indoor Air Evaluation, May 2014**

## **790 East Duane Avenue**

**The Companies Offsite Operable Unit**  
**Sunnyvale, California**



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## LIST OF ACRONYMS AND ABBREVIATIONS

<u>ACRONYM</u>	<u>DESCRIPTION</u>
ATSDR	Agency for Toxic Substances and Disease Registry
COC	Chemicals of Concern
the Companies	Advanced Micro Devices, Philips Semiconductors, and Northrop Grumman Space & Mission Systems Corp.
EPA	United States Environmental Protection Agency
ESL	Environmental Screening Level
HVAC	Heating, Ventilation, and Air Conditioning
Locus	Locus Technologies
MRL	Minimal Risk Level
OEHHA	Office of Environmental Health Hazard Assessment
the Orders	Regional Water Quality Control Board Order Nos. 91-102, 91-103, and 91-104
OOU	The Companies Offsite Operable Unit
PCE	Tetrachloroethene
QC	Quality Control
REL	Reference Exposure Level
RSL	Regional Screening Level
RWQCB	Regional Water Quality Control Board
SIM	Selective ion mode
TCE	Trichloroethene
VOCs	Volatile Organic Compounds
$\mu\text{g}/\text{m}^3$	Micrograms per cubic meter
$\mu\text{g}/\text{l}$	Micrograms per liter

**REPORT**  
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## 1 INTRODUCTION

This report was prepared by Locus Technologies (Locus) on behalf of Philips Electronics (Philips) in response to the Regional Water Quality Board (RWQCB) request dated 13 October 2006.

### 1.1 Purpose

This investigation and report address the RWQCB request dated 13 October 2006 regarding indoor air quality at 790 East Duane Avenue. As requested by RWQCB, this report presents the results of indoor air ventilation system inspections and sampling conducted in April and May 2014. Air samples were collected as described in the Work Plan for Air Sampling that was submitted to the RWQCB on 1 December 2005, and approved on 12 December 2005. The monitoring requirements specified by RWQCB include indoor air sampling in Buildings H and S, and ventilation system inspections in Buildings G, H, L, and S.

### 1.2 Report Organization

This report begins with a discussion history of the site and the regulatory background, including a summary of the remedial investigations to date (Chapter 2). The results of April 2014 ventilation inspections and air sampling are presented in Chapter 3. Chapter 4 provides conclusions regarding the data collected and recommendations for further action and investigation at the site.

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## 2 BACKGROUND

This chapter provides a brief summary of the site background in Section 2.1 and the regulatory background in Section 2.2. In Section 2.3, the nature and extent of chemicals at the site and implemented remedial activities are discussed.

### 2.1 Site Background

The OOU is located in Sunnyvale, California (Figure 1). The OOU extends from the northern property boundary of 440 North Wolfe Road to just north of Lakehaven Drive (north of U.S. Highway 101) and is approximately bounded by Santa Paula Avenue on the east and the Sunnyvale East Drainage Channel on the west (Figure 2). The groundwater beneath the site is impacted with volatile organic compounds (VOCs) associated with the Philips Electronics site at 811 East Arques Avenue, the Advanced Micro Devices site at 901/902 Thompson Place, and the former TRW site at 825 Stewart Drive. An extensive groundwater extraction and monitoring program has been in operation since 1988 to monitor and control the migration of VOCs in the groundwater beneath the OOU.

The 790 East Duane Avenue property was originally used as a public high school for the City of Sunnyvale until the early 1980s. Subsequently, Westinghouse Marine Division leased the site for a number of years to house an engineering center. Currently, the buildings are occupied by the Rainbow Montessori Child Development Center.

### 2.2 Regulatory Background

Advanced Micro Devices, Philips Semiconductors, and Northrop Grumman Space & Mission Systems Corp. (collectively, the Companies) are designated as jointly responsible for the operation and monitoring of the OOU. The site is subject to the RWQCB Order Nos. 91-102, 91-103, and 91-104 (the Orders), all of which were adopted on 19 June 1991. Site Cleanup Requirements for the OOU were assigned in each of the Orders.

## 2.3 Nature and Extent of Chemicals at the Site

In 1984, investigations began in the groundwater north of Duane Avenue to determine the vertical and horizontal extent of chemical impacts at the OOU. A series of investigations (groundwater monitoring, soil borings, and soil-gas surveys) revealed chemicals in the groundwater. Chemicals were not observed in the soil at the OOU. Due to the lack of potential sources in the area, the sources for the observed chemical concentrations were attributed to the manufacturing facilities located upgradient of the area.

Chemicals of concern (COC) for the site were established in the Orders. These eight chemicals are: 1,1-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene; trans-1,2-dichloroethene; Freon 113; 1,1,1-trichloroethane (1,1,1-TCA); trichloroethene (TCE); and tetrachloroethene (PCE). Because TCE is the chemical most commonly present at the OOU and the neighboring operable units, it serves as the indicator chemical for the site.

An extensive groundwater sampling program has been established for the site to monitor the effectiveness of the system and verify the containment of the impacted groundwater. Since 1987, this program has produced a vast database defining the extent of the chemical-bearing groundwater. Groundwater samples have been analyzed for the chemicals of concern using EPA Methods 8010 and 8020 or equivalents.

Chemicals have been detected in the upper four aquifers at the site. Groundwater monitoring is conducted in these aquifers as well as the "B5" aquifer to verify the vertical containment of the plume. The chemicals have not impacted the deeper aquifers that are used for public water supply.

Groundwater extraction and treatment began at the site in 1986. Currently, a total of 29 groundwater extraction wells are operating at the OOU. Groundwater extracted from these sources is treated by a combination of air stripping and granular activated carbon.

In February 2004, a soil-gas investigation was conducted at the site to evaluate the potential for groundwater volatilization to indoor air in buildings overlying the groundwater plume. The results of the soil-gas investigation concluded that indoor air concentrations at the site are expected to be below all applicable health criteria (Locus, 2004a). However, the soil-gas concentrations were elevated in some

areas south of Duane Avenue, and the modeled indoor air concentrations were in the range where uncertainties in the soil consistency and other model parameters could affect the results. Therefore, indoor air sampling was conducted to evaluate these uncertainties.

Air monitoring was conducted in May and June 2004 and the results were presented in the Indoor Air Evaluation (Locus, 2004b). Results indicated that there are no short-term or immediate health risks from the concentrations observed in the buildings. However, TCE concentrations in Building G were slightly above the long-term screening level, which warranted further evaluation. Additional sampling at Building G confirmed elevated TCE concentrations. After conducting an inspection of the ventilation systems in Building G, the lack of adequate ventilation was determined to be a factor causing elevated indoor air concentrations.

The recommendation of the July 2004 report was to upgrade the Heating, Ventilation and Air Conditioning (HVAC) units and/or improve the ductwork to provide adequate air flow in the building. The installation of a new Trane Precedent™ HVAC unit on the roof of Building G was completed in February 2005. The new system supplies outdoor air to each of the 4 rooms in the building and adjusts temperature within the building. The new system operates concurrently with the original existing ventilation system.

Additional indoor air sampling was completed in January and March 2005 to evaluate the effectiveness of the additional ventilation in Building G and confirm that concentrations in the other buildings were not exceeding the screening levels. Although the sampling results for January 2005 were impacted by quality control problems and ambient concentrations in the outdoor samples, the March 2005 results confirmed the previous findings that the chemicals in groundwater were not causing a significant vapor intrusion concern (Locus, 2005a). Also, the sampling indicated that the additional ventilation installed at Building G is effective in reducing the indoor air concentrations below the screening levels.

All subsequent indoor air sampling events conducted annually since 2006 (Locus, 2006; Locus, 2007; Locus, 2008; Locus, 2009; Locus, 2010; Locus, 2011; Locus, 2012a; Locus, 2012b; Locus, 2013) have

yielded results indicating that there are no short-term or immediate health risks from the concentrations observed in the buildings.

In 2013, concentrations observed in all the buildings sampled were at or below all applicable long-term risk-based criteria with the exception of one TCE concentration in Building H, which was above the EPA RSL (carcinogenic) for residential buildings. Since exposure duration in Building H is less than half that of the exposure parameters for the applicable RSL, this concentration is not a significant long-term concern. These results, along with the previous sampling conducted at 790 Duane, demonstrated that indoor air concentrations in these buildings are normally below screening levels. Therefore, this investigation concluded that existing groundwater conditions do not pose unacceptable health risks at the property (Locus, 2013).

## 3 INVESTIGATION RESULTS

This chapter presents the results of air samples collected in May 2014. The investigation included collection of indoor and outdoor air samples as described in the work plan (Locus, 2005b). The sample locations are shown on Figure 3.

Indoor air samples were collected on 10 and 11 May 2014 at locations in Building H and Building S. The only modification to the original sampling plan was the sample location in Building S, originally S-AMB-2. In previous years, the school has requested use of the room where S-AMB-2 was located on the day of sampling, so location S-AMB-4 was selected for sampling instead of S-AMB-2. The outdoor air sample location, S-OUT-1, was also relocated closer to S-AMB-4. For consistency, location S-AMB-4 and the associated S-OUT-1 location were again selected for sampling. All other locations were as proposed in the transmittal approved by the RWQCB on 12 December 2005.

Weather conditions during the sampling event did not display any unusual characteristics. The sampling event was conducted on a clear and sunny day with no precipitation during the time period of sampling event. The weather was periodically overcast or cloudy during the week before the sampling event, and there was a trace of precipitation (less than 0.00 inches) between 5:30am and 6am on 9 May 2014. Detailed weather data for 10 and 11 May 2014 are listed in Table 1. The data were obtained from the weather station closest to the site, located at Moffett Field in Mountain View.

### 3.1 Ventilation Inspection

An inspection of the ventilation systems was conducted for Buildings G, H, L, and S on 5 April 2014. HVAC unit S-1 was not in use this year. The completed ventilation system checklists are included in Appendix C.

The inspection suggested no pollutant sources near the outdoor air intakes of any HVAC units. The major issue identified by the contractor was dirty filters. Cleaning is needed on HVAC units Trane 439100178L,

Trane 4307G40443, S-3, H-4, 2413G30198, 3112G10296, H-3, Goodman 091263310, L-4, L-6, L-7, 0408G40209 and L-10. Moreover, the HVAC unit Goodman 091263310 needs a new outdoor air screen. The contractor observed that the outdoor air damper didn't operate properly on unit 5612A05802 in Building L. Economizers on two HVAC units do not open and close properly: L-5 and 5612A05802 in Building L. The checklists indicate that the clocks, timers and/or switches at all HVAC units were properly set. No suction was observed at the outdoor air intakes at three units: Ducane 1612G02647 in Building G, S-3 and 5612A05802 in Building L. Filters at unit S-3 in Building L were found to be in poor condition, improperly installed, or having major air leaks. Also at unit S-3, the contractor identified that the supply fan was disconnected, so no air flow was detected near indoor exhaust and no detectable suction at indoor air intakes at this unit. Cumulatively, these issues may affect indoor air quality by allowing chemicals to accumulate within the buildings over time.

### 3.2 Air Sampling

Air samples were collected using the procedures described in the Work Plan for Air Sampling that was submitted to the RWQCB on 1 December 2005, and approved on 12 December 2005.

On 11 May 2014, samples were collected from 2 locations inside the buildings and 1 location outside the buildings. Samples were sent to Eurofins Air Toxics, Inc. for analysis by U.S. Environmental Protection Agency (EPA) method modified TO-15 selective ion mode (SIM). The list of analyzed chemicals includes all chemicals of concern listed in the Orders that are present in the groundwater underneath the site. The analytical results for the May 2014 samples are summarized in Table 2. The complete laboratory reports are included as Appendix A.

Information about the collection of the air samples is shown on the chain of custody documentation included with the laboratory report. All samples were collected using flow controllers over a 12-hour period from approximately 6AM to 6PM (06:00 to 18:00). Actual start and stop time for each sample are shown on the field logs included in Appendix B. The field logs also include canister pressure readings, which were collected during sampling. All the canisters used in the active air sampling operated properly throughout the sample period.

### 3.3 Data Quality

The quality control (QC) for the 11 May 2014 sampling event consists of a lab blank, surrogate data, trip blank, and duplicate sample data. The lab reported no detections in the lab blank. Laboratory control spikes and surrogate recovery values are within acceptable ranges. None of the analyzed chemicals were detected in the trip blank. The analytical results for the trip blank are included in Table 2. Minor discrepancies were observed between results for the two field duplicate samples (Table 3). There was no difference in chloroform concentrations, and the difference in TCE was less than 9%. These discrepancies are sufficiently small and do not imply uncertainty in the quantification of these concentrations. The complete results of the QC analyses are included in the laboratory reports in Appendix A.

### 3.4 Evaluation of Indoor Air Quality

Locus used short-term and long-term criteria to evaluate the results of the air samples. For the short-term evaluation, the Agency for Toxic Substances and Disease Registry (ATSDR) provides minimal risk levels (MRLs) for acute (1-14 days), intermediate (>14-365 days), and chronic (>365 days) exposure to these chemicals. The MRL is defined by ATSDR as "an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure." Additional comparisons can be made to the acute and chronic Reference Exposure Levels (RELs) provided by the California Office of Environmental Health Hazard Assessment (OEHHA). OEHHA defines the REL as "the concentration at or below which no adverse health effects are anticipated."

Locus evaluated potential long-term health effects, including consideration of carcinogenic effects, if applicable, by comparing the air sampling results to the Environmental Screening Levels (ESLs) published by the RWQCB. Regional Screening Levels (RSLs) established by EPA are also used to evaluate long-term health effects. It is important to note that these values are not intended to identify "unsafe" conditions. Rather, the screening levels are used to identify areas or buildings that warrant further evaluation. Another important consideration is that these long-term risk comparison values were

developed for a residential scenario (i.e. 25-year duration, 24 hours per day, 350 days per year). Use of these residential screening levels to evaluate air concentrations in the school is a conservative comparison for a school scenario (maximum 12-year duration, 12 hours per day, 250 days per year).

The comparison values described above are listed with the analytical results on Table 2. None of the indoor air concentrations were above the short-term comparison values. Therefore, there are no short-term or immediate health risks.

Two of the eleven target analytes were detected in the May samples in Building H (TCE and chloroform), and in Building S (TCE and 1,2-DCA). Chloroform was detected in outdoor air. TCE was detected in Building H at concentrations of  $0.59 \mu\text{g}/\text{m}^3$  and  $0.54 \mu\text{g}/\text{m}^3$  and in Building S at a concentration of  $0.66 \mu\text{g}/\text{m}^3$ . These values are above the current EPA RSL (carcinogenic) used to identify residential buildings that warrant further evaluation ( $0.43 \mu\text{g}/\text{m}^3$ ). The detection in Building S is also above the RWQCB ESL used to identify residential land uses that warrant further evaluation ( $0.59 \mu\text{g}/\text{m}^3$ ). Annual spring monitoring, of which the May 2014 sampling event is a part, is already in place to routinely evaluate indoor air conditions. In addition, these residential screening levels are based on exposure parameters that are significantly more conservative than actual values for this building. Specifically, the daily exposure duration for this building is approximately half that of the RSL parameter (12 hours per day instead of 24 hours per day), and the building is occupied 260 days per year (5 days per week) instead of 350. Considering these modifications from the standard residential exposure parameters, the indoor air concentrations in Buildings H and S do not cause a significant concern.

Chloroform was detected in Building H at a concentration of  $0.30 \mu\text{g}/\text{m}^3$  and in outdoor air at  $0.20 \mu\text{g}/\text{m}^3$ . These chloroform concentrations exceed the RWQCB ESL and the EPA RSL (carcinogenic) for residential buildings. However, groundwater at the OOU contains very low concentrations of chloroform. In the past 10 years, the highest recorded concentration of chloroform in the shallow groundwater was  $6.5 \mu\text{g}/\text{l}$  in June of 2013 at the OOU. For chloroform, the RWQCB uses a groundwater screening level of  $170 \mu\text{g}/\text{l}$  for the evaluation of vapor intrusion in residential areas. All observed concentrations of chloroform are significantly lower than this value. Based on this comparison, it appears that the chloroform observed

in the samples is derived from a source other than the underlying groundwater. Chloroform is a common tap water contaminant that is a by-product of chlorinated disinfection processes.

1,2-Dichloroethane (1,2-DCA) was detected in Building S at a concentration of  $0.13 \mu\text{g}/\text{m}^3$ . This concentration exceeds the RWQCB ESL and the EPA RSL (carcinogenic) used to identify residential buildings that warrant further evaluation ( $0.12 \mu\text{g}/\text{m}^3$  and  $0.11 \mu\text{g}/\text{m}^3$ , respectively). In the past 10 years, there have been no detections of 1,2-DCA in the groundwater at the OOU. Therefore, it appears that the 1,2-DCA observed in the samples is derived from a source other than the underlying groundwater.

## 4 CONCLUSIONS

Results from all sampling activities indicate that there are no short-term or immediate health risks from the concentrations observed in the buildings. Additionally, groundwater-related concentrations observed in all the buildings sampled were at or below all applicable long-term risk-based criteria with the exception of TCE, 1,2-DCA, which exceeded the EPA RSL (carcinogenic) and RWQCB ESL used to identify residential buildings that warrant further evaluation, and chloroform, which also exceeded the residential EPA RSL (carcinogenic). Based on the last decade of monitored concentrations in the shallow groundwater, chloroform and 1,2-DCA are suspected to be from sources other than the underlying groundwater. In all cases, since exposure duration in Building H and S is less than half that of the exposure parameters for the applicable screening levels, this exceedance does not cause a significant long-term concern. In addition, annual spring air sampling is already in place to continue to monitor and evaluate indoor air conditions for vapor intrusion concerns. These results, along with the previous sampling conducted at 790 Duane, demonstrate that indoor air concentrations in these buildings are normally below screening levels and that existing groundwater conditions do not pose unacceptable health risks at the property.

Respectfully submitted,

J. Wesley Hawthorne, P.E., P.G.  
Senior Vice President

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**TABLE 1**  
**WEATHER DATA FOR 10-11 May 2014**  
**MOFFETT FIELD, MOUNTAIN VIEW, CA**

Date	Time	Temperature (°F)	Dew Point (°F)	Humidity (%)	Pressure (in Hg)	Visibility (mi)	Wind	Wind Speed (mph)	Precipitation
5/10/2014	0:56	55.9 °F	42.1 °F	0.6	30.16 in	10.0 mi	West	8.1 mph	N/A
5/10/2014	1:56	55.0 °F	41.0 °F	0.59	30.15 in	10.0 mi	WNW	5.8 mph	N/A
5/10/2014	2:56	54.0 °F	42.1 °F	0.64	30.14 in	10.0 mi	Calm	Calm	N/A
5/10/2014	3:56	54.0 °F	43.0 °F	0.66	30.14 in	10.0 mi	West	6.9 mph	N/A
5/10/2014	4:56	53.1 °F	43.0 °F	0.69	30.14 in	10.0 mi	Calm	Calm	N/A
5/10/2014	5:56	53.1 °F	43.0 °F	0.69	30.14 in	10.0 mi	West	5.8 mph	N/A
5/10/2014	6:56	55.0 °F	41.0 °F	0.59	30.14 in	10.0 mi	West	4.6 mph	N/A
5/10/2014	7:56	57.0 °F	42.1 °F	0.57	30.15 in	10.0 mi	WNW	6.9 mph	N/A
5/10/2014	8:56	59.0 °F	39.9 °F	0.49	30.15 in	10.0 mi	NW	11.5 mph	N/A
5/10/2014	9:56	61.0 °F	43.0 °F	0.52	30.15 in	10.0 mi	NNW	11.5 mph	N/A
5/10/2014	10:56	63.0 °F	39.9 °F	0.43	30.13 in	10.0 mi	NNW	12.7 mph	N/A
5/10/2014	11:56	64.0 °F	39.0 °F	0.4	30.13 in	10.0 mi	North	11.5 mph	N/A
5/10/2014	12:56	66.9 °F	42.1 °F	0.4	30.11 in	10.0 mi	NNW	13.8 mph	N/A
5/10/2014	13:56	68.0 °F	39.9 °F	0.36	30.09 in	10.0 mi	WNW	11.5 mph	N/A
5/10/2014	14:56	66.9 °F	39.9 °F	0.37	30.08 in	10.0 mi	NW	19.6 mph	N/A
5/10/2014	15:56	66.0 °F	39.0 °F	0.37	30.07 in	10.0 mi	WNW	17.3 mph	N/A
5/10/2014	16:56	66.0 °F	42.1 °F	0.42	30.06 in	10.0 mi	WNW	15.0 mph	N/A
5/10/2014	17:56	64.0 °F	41.0 °F	0.43	30.05 in	10.0 mi	WNW	10.4 mph	N/A
5/10/2014	18:56	62.1 °F	43.0 °F	0.5	30.06 in	10.0 mi	West	10.4 mph	N/A
5/10/2014	19:56	60.1 °F	43.0 °F	0.53	30.06 in	10.0 mi	WSW	8.1 mph	N/A
5/10/2014	20:56	59.0 °F	43.0 °F	0.55	30.08 in	10.0 mi	West	3.5 mph	N/A
5/10/2014	21:56	57.0 °F	44.1 °F	0.62	30.09 in	10.0 mi	WNW	5.8 mph	N/A
5/10/2014	22:56	57.0 °F	44.1 °F	0.62	30.10 in	10.0 mi	Calm	Calm	N/A
5/10/2014	23:56	57.0 °F	43.0 °F	0.59	30.11 in	10.0 mi	Calm	Calm	N/A
5/11/2014	0:56	55.0 °F	43.0 °F	0.64	30.12 in	10.0 mi	Calm	Calm	N/A
5/11/2014	1:56	53.1 °F	43.0 °F	0.69	30.11 in	10.0 mi	Calm	Calm	N/A
5/11/2014	2:56	54.0 °F	43.0 °F	0.66	30.11 in	10.0 mi	Calm	Calm	N/A
5/11/2014	3:56	54.0 °F	43.0 °F	0.66	30.10 in	10.0 mi	West	3.5 mph	N/A

**TABLE 1**  
**WEATHER DATA FOR 10-11 May 2014**  
**MOFFETT FIELD, MOUNTAIN VIEW, CA**

Date	Time	Temperature (°F)	Dew Point (°F)	Humidity (%)	Pressure (in Hg)	Visibility (mi)	Wind	Wind Speed (mph)	Precipitation
5/11/2014	4:56	54.0 °F	43.0 °F	0.66	30.09 in	10.0 mi	Calm	Calm	N/A
5/11/2014	5:56	53.1 °F	43.0 °F	0.69	30.09 in	10.0 mi	Calm	Calm	N/A
5/11/2014	6:56	55.9 °F	43.0 °F	0.62	30.10 in	10.0 mi	Calm	Calm	N/A
5/11/2014	7:56	62.1 °F	41.0 °F	0.46	30.11 in	10.0 mi	WNW	4.6 mph	N/A
5/11/2014	8:56	64.9 °F	36.0 °F	0.34	30.11 in	10.0 mi	NW	10.4 mph	N/A
5/11/2014	9:56	68.0 °F	37.0 °F	0.32	30.11 in	10.0 mi	NNW	12.7 mph	N/A
5/11/2014	10:56	70.0 °F	37.9 °F	0.31	30.11 in	10.0 mi	NW	10.4 mph	N/A
5/11/2014	11:56	73.9 °F	36.0 °F	0.25	30.10 in	10.0 mi	NW	11.5 mph	N/A
5/11/2014	12:56	73.9 °F	33.1 °F	0.22	30.08 in	10.0 mi	NW	13.8 mph	N/A
5/11/2014	13:56	77.0 °F	34.0 °F	0.21	30.06 in	10.0 mi	NW	10.4 mph	N/A
5/11/2014	14:56	78.1 °F	32.0 °F	0.19	30.05 in	10.0 mi	NNW	15.0 mph	N/A
5/11/2014	15:56	78.1 °F	32.0 °F	0.19	30.03 in	10.0 mi	NW	12.7 mph	N/A
5/11/2014	16:56	75.9 °F	34.0 °F	0.22	30.03 in	10.0 mi	NW	13.8 mph	N/A
5/11/2014	17:56	73.9 °F	32.0 °F	0.21	30.03 in	10.0 mi	NW	13.8 mph	N/A
5/11/2014	18:56	72.0 °F	28.9 °F	0.2	30.03 in	10.0 mi	NW	15.0 mph	N/A
5/11/2014	19:56	68.0 °F	26.1 °F	0.21	30.04 in	10.0 mi	NW	11.5 mph	N/A
5/11/2014	20:56	66.0 °F	28.0 °F	0.24	30.06 in	10.0 mi	WNW	3.5 mph	N/A
5/11/2014	21:56	60.1 °F	46.9 °F	0.62	30.08 in	10.0 mi	NNE	4.6 mph	N/A
5/11/2014	22:56	60.1 °F	48.9 °F	0.67	30.09 in	10.0 mi	Calm	Calm	N/A
5/11/2014	23:56	59.0 °F	50.0 °F	0.72	30.09 in	10.0 mi	Calm	Calm	N/A

Source: [http://www.wunderground.com/history/airport/KNUQ/2014/5/10/DailyHistory.html?req\\_city=NA&req\\_state=NA&req\\_statename=NA](http://www.wunderground.com/history/airport/KNUQ/2014/5/10/DailyHistory.html?req_city=NA&req_state=NA&req_statename=NA)

**TABLE 2**  
**MAY 2014 ANALYTICAL DATA**  
**PHILIPS SEMICONDUCTORS**  
**790 EAST DUANE AVENUE, SUNNYVALE, CALIFORNIA**

		Sample Date	Vinyl Chloride	1,1-Dichloroethene (1,1-DCE)	1,1,2-Trichlorotrifluoroethane (FREON 113)	1,1-Dichloroethane (1,1-DCA)	cis-1,2-Dichloroethene	Chloroform	1,1,1-Trichloroethane (TCA)	1,2-Dichloroethane	Trichloroethene (TCE)	Tetrachloroethene (PCE)	trans-1,2-Dichloroethene
Comparison Values	ATSDR MRL (acute)	-	1,278	NA	NA	NA	NA	488	10,912	NA	NA	1,356	793
	ATSDR MRL (intermediate)	-	77	79	NA	NA	NA	244	3819	NA	NA	NA	793
	ATSDR MRL (chronic)	-	NA	NA	NA	NA	NA	98	NA	2,428	2.1	271	NA
	OEHHA REL (acute)	-	180,000	NA	NA	NA	NA	150	68,000	NA	NA	20,000	NA
	OEHHA REL (chronic)	-	NA	70	NA	NA	NA	300	1,000	400	600	35	NA
	RWQCB ESL (Table E Residential Land Use)	-	0.031	210	NA	1.5	NA	0.46	5,200	0.12	0.59	0.41	63
	EPA RSL (carcinogenic)	-	0.17	NA	NA	1.5	NA	0.12	NA	0.11	0.43	9.4	NA
	EPA RSL (noncarcinogenic)	-	100	210	31000	NA	NA	100	5,200	7.3	2.1	42	63
Bldg H	H-AMB-2	5/11/2014	<0.041	<0.063	<1.2	<0.13	<0.13	0.30	<0.17	<0.13	0.59	<0.22	<0.63
	H-AMB-2D (FD)	5/11/2014	<0.04	<0.063	<1.2	<0.13	<0.12	0.30	<0.17	<0.13	0.54	<0.21	<0.63
Bldg S	S-AMB-4	5/11/2014	<0.042	<0.065	<1.2	<0.13	<0.13	<0.080	<0.18	0.13	0.66	<0.22	<0.65
Outdoors	S-OUT-1	5/11/2014	<0.043	<0.067	<1.3	<0.14	<0.13	0.20	<0.18	<0.14	<0.18	<0.23	<0.67
Blanks	BLANK (TB)	5/11/2014	<0.027	<0.042	<0.8	<0.085	<0.083	<0.051	<0.11	<0.085	<0.11	<0.14	<0.42

**Notes:**

NA - Not Available or Not Applicable  
All results are reported in µg/m3 (micrograms per cubic meter).  
Assume 25 degree C and 1 atmosphere for ATSDR MRL values.  
EPA RSL guidance is formerly EPA PRG. EPA RSL values presented refer to the Resident Air Supporting Table  
TB - Trip Blank  
FD - Field Duplicate  
< # - chemical below reporting limit # (ND)



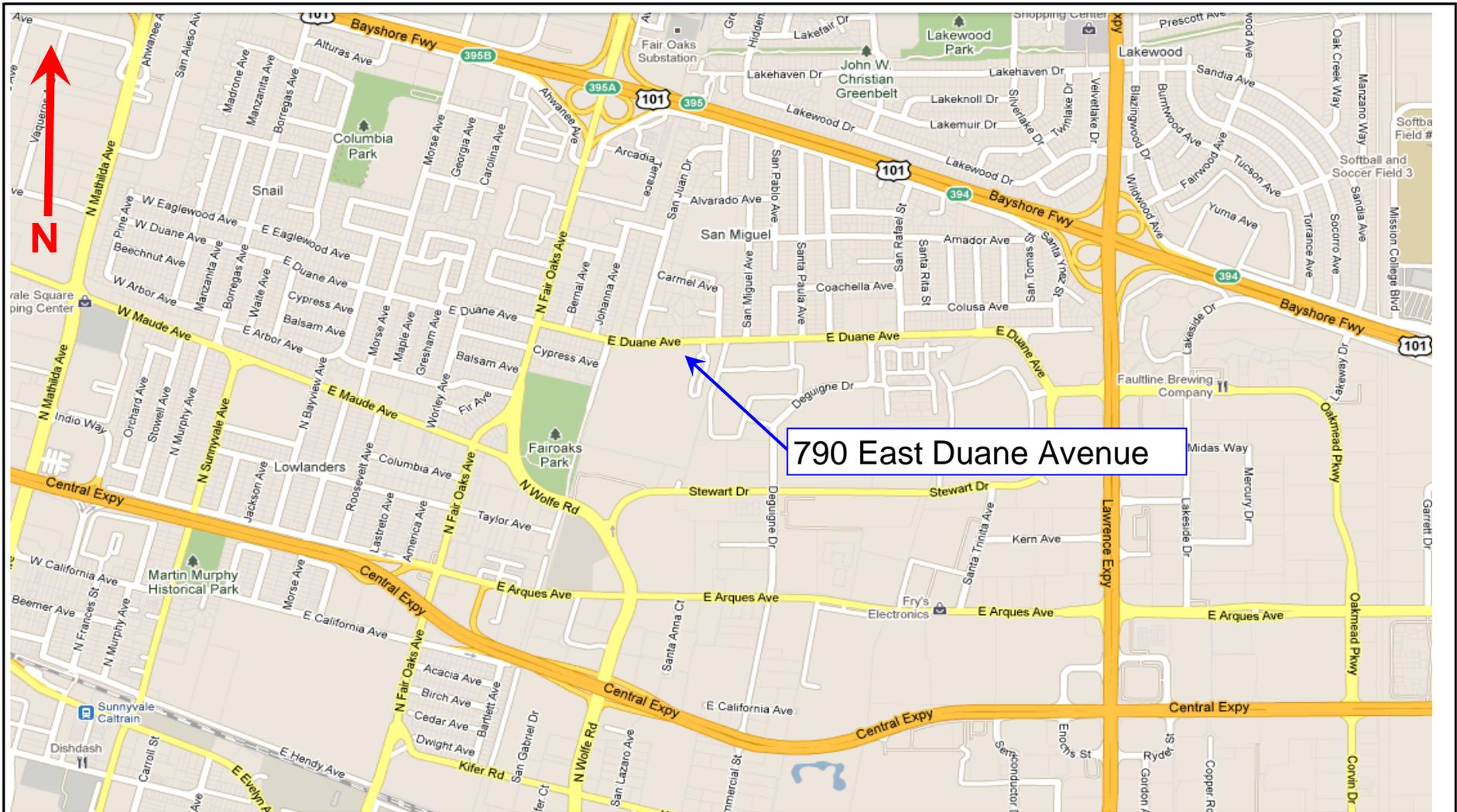
**TABLE 3  
EVALUATION OF FIELD DUPLICATE SAMPLES, 11 MAY 2014  
790 EAST DUANE AVENUE, SUNNYVALE, CALIFORNIA**

	SAMPLE DATE	VINYL CHLORIDE	1,1-DICHLOROETHENE	FREON 113	1,1-DICHLOROETHANE	CIS-1,2-DICHLOROETHANE	CHLOROFORM	1,1,1-TRICHLOROETHANE	1,2-DICHLOROETHANE	TRICHLOROETHENE	TETRACHLOROETHENE	TRANS-1,2-DICHLOROETHENE
<b>Duplicate Samples</b>												
H-AMB-2	11-May-2014	<0.041	<0.063	<1.2	<0.13	<0.13	0.30	<0.17	<0.13	0.59	<0.22	<0.63
H-AMB-2D (FD)	11-May-2014	<0.04	<0.063	<1.2	<0.13	<0.12	0.30	<0.17	<0.13	0.54	<0.21	<0.63

**Notes:**

NA -Not applicable  
 All results are reported in µg/m<sup>3</sup> (micrograms per cubic meter).  
 FD - Field Duplicate  
 < # - chemical below reporting limit # (ND)

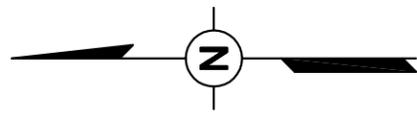




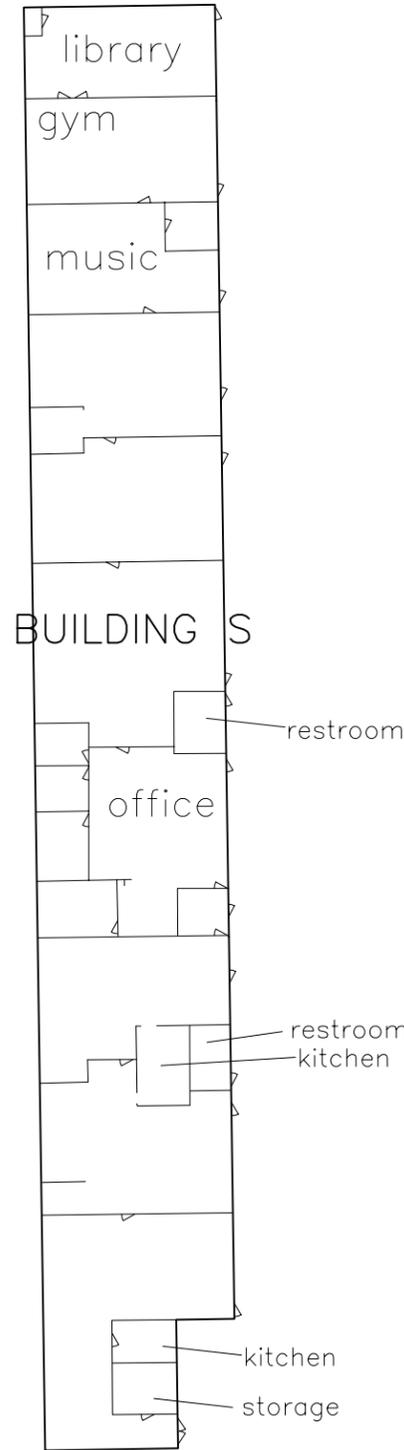
790 East Duane Avenue

Figure 1  
Site Map  
790 East Duane Ave  
Sunnyvale, California

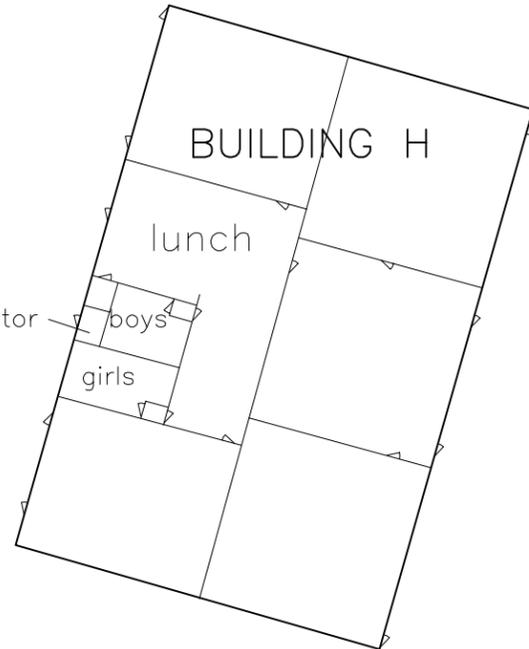




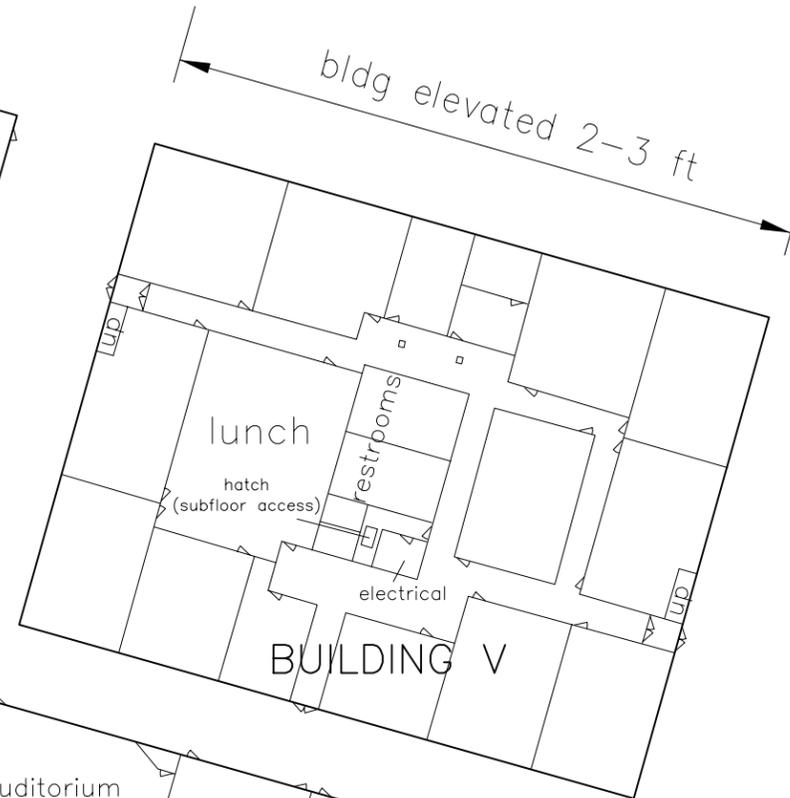
floor elevated ~6"



BUILDING S

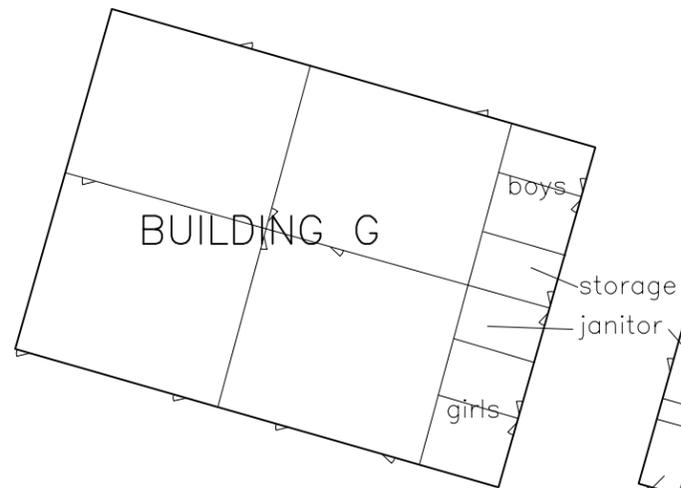


BUILDING H

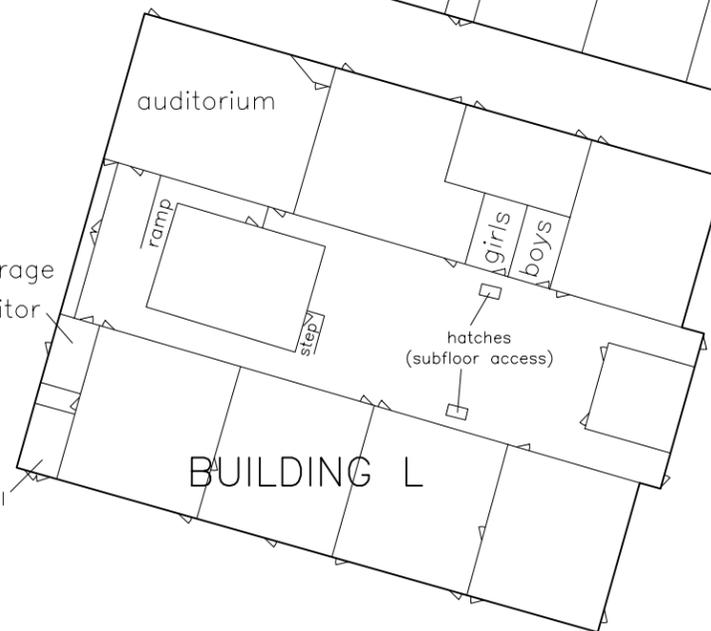


BUILDING V

blgd elevated 2-3 ft



BUILDING G

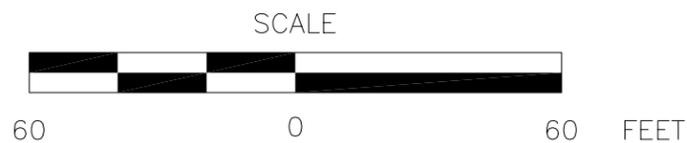


BUILDING L

790 EAST DUANE AVENUE  
SITE PLAN  
SUNNYVALE, CALIFORNIA

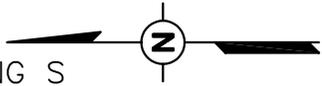
PREPARED FOR  
PHILIPS  
ELECTRONICS

No.	DATE	ISSUED FOR REPORT	VZC	MMG	JWH
		ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY



SCALE: AS SHOWN	
DRAWING NO.	<b>23-047-A6</b>
FIGURE 2	

BUILDING S



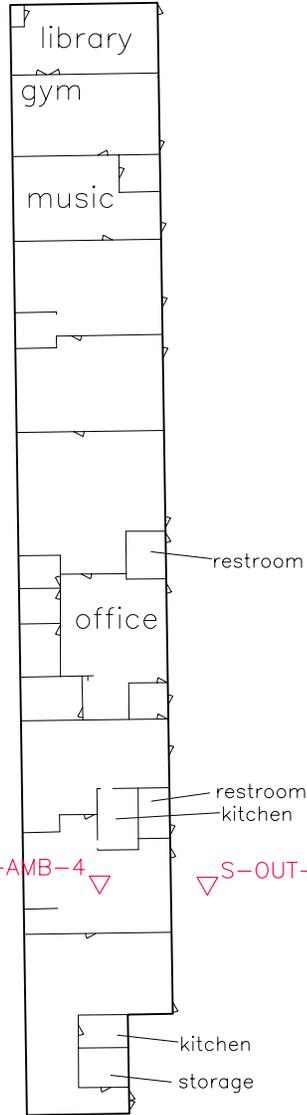
**LEGEND:**

▽ H-AMB-2 AIR SAMPLING LOCATION

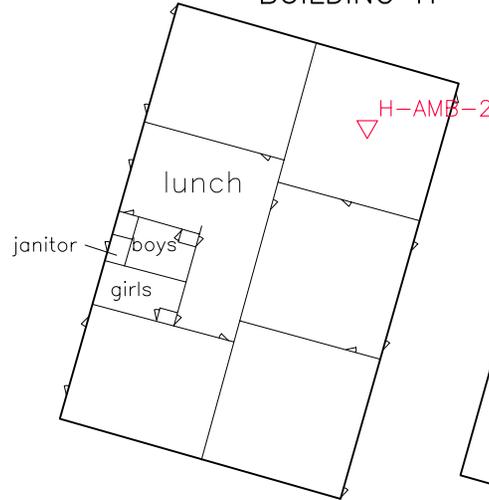
**NOTES:**

1. OUTDOOR SAMPLING LOCATIONS WILL BE PLACED NEAR HVAC INTAKES UNLESS INACCESSIBLE.

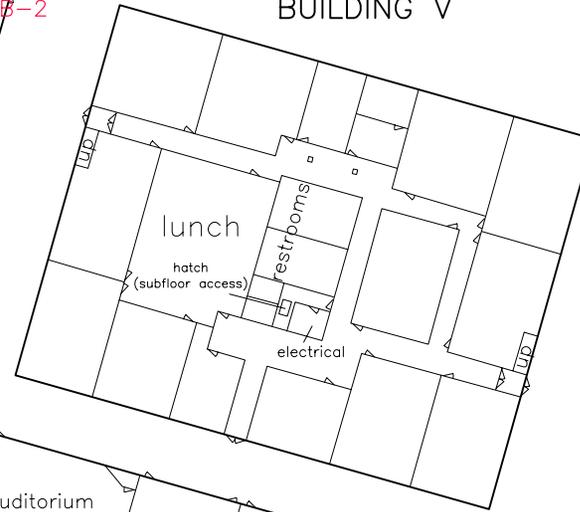
floor elevated ~6"



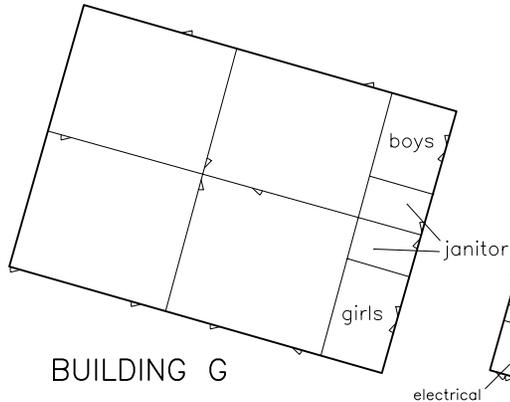
BUILDING H



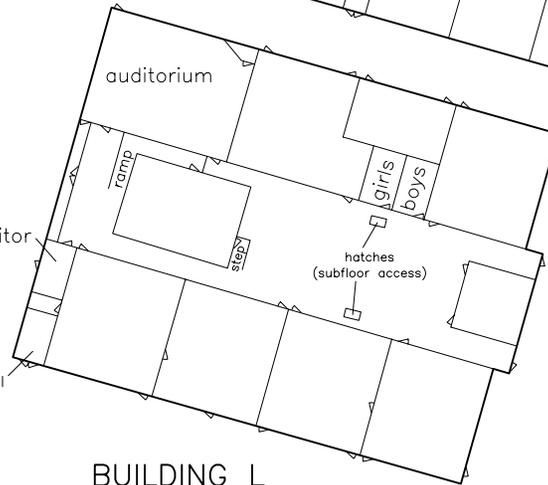
BUILDING V



BUILDING G



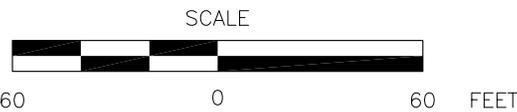
BUILDING L



AIR MONITORING LOCATIONS  
790 EAST DUANE AVENUE  
SUNNYVALE, CALIFORNIA

PREPARED FOR  
**PHILIPS  
ELECTRONICS**

	05 MAY 10	REVISED BUILDING S SAMPLING LOCATIONS	VZC	MJZ	JWH
		ISSUED FOR REPORT	VZC	MMG	JWH
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY



SCALE: AS SHOWN	
DRAWING NO.	<b>27-006-A11</b>
<b>FIGURE 3</b>	

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# APPENDIX A

## LABORATORY REPORTS

5/29/2014

Ms. Nancy-Jeanne LeFevre  
Locus Technologies  
299 Fairchild Drive

Mountain View CA 94043

Project Name: PHILIPS  
Project #: 27006-08-9018  
Workorder #: 1405274

Dear Ms. Nancy-Jeanne LeFevre

The following report includes the data for the above referenced project for sample(s) received on 5/14/2014 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner  
Project Manager

**WORK ORDER #: 1405274**

Work Order Summary

<b>CLIENT:</b>	Ms. Nancy-Jeanne LeFevre Locus Technologies 299 Fairchild Drive Mountain View, CA 94043	<b>BILL TO:</b>	Ms. Nancy-Jeanne LeFevre Locus Technologies 299 Fairchild Drive Mountain View, CA 94043
<b>PHONE:</b>	415-992-5360	<b>P.O. #</b>	30-12708
<b>FAX:</b>	650-960-0739	<b>PROJECT #</b>	27006-08-9018 PHILIPS
<b>DATE RECEIVED:</b>	05/14/2014	<b>CONTACT:</b>	Kelly Buettner
<b>DATE COMPLETED:</b>	05/29/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	H-AMB-2-051114	Modified TO-15	4.3 "Hg	5.4 psi
01B	H-AMB-2-051114	Modified TO-15	4.3 "Hg	5.4 psi
02A	H-AMB-2D-051114	Modified TO-15	4.3 "Hg	5.2 psi
02B	H-AMB-2D-051114	Modified TO-15	4.3 "Hg	5.2 psi
03A	S-OUT-1-051114	Modified TO-15	5.7 "Hg	5.4 psi
03B	S-OUT-1-051114	Modified TO-15	5.7 "Hg	5.4 psi
04A	BLANK-H-051114	Modified TO-15	4.6 psi	5.5 psi
04B	BLANK-H-051114	Modified TO-15	4.6 psi	5.5 psi
05A	Lab Blank	Modified TO-15	NA	NA
05B	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
06B	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCS	Modified TO-15	NA	NA
07B	LCS	Modified TO-15	NA	NA
07BB	LCS	Modified TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 05/29/14  
 \_\_\_\_\_

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935  
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.  
 180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9562  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE  
Modified TO-15 Full Scan/SIM  
Locus Technologies  
Workorder# 1405274**

Four 6 Liter Summa Canister (SIM Certified) samples were received on May 14, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

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

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

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

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### **Definition of Data Qualifying Flags**

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

**Client Sample ID: H-AMB-2-051114**

**Lab ID#: 1405274-01A**

No Detections Were Found.

**Client Sample ID: H-AMB-2-051114**

**Lab ID#: 1405274-01B**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Trichloroethene	0.032	0.11	0.17	0.59
Chloroform	0.016	0.062	0.078	0.30

**Client Sample ID: H-AMB-2D-051114**

**Lab ID#: 1405274-02A**

No Detections Were Found.

**Client Sample ID: H-AMB-2D-051114**

**Lab ID#: 1405274-02B**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Trichloroethene	0.032	0.10	0.17	0.54
Chloroform	0.016	0.062	0.077	0.30

**Client Sample ID: S-OUT-1-051114**

**Lab ID#: 1405274-03A**

No Detections Were Found.

**Client Sample ID: S-OUT-1-051114**

**Lab ID#: 1405274-03B**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Chloroform	0.017	0.041	0.082	0.20

**Client Sample ID: BLANK-H-051114**

**Lab ID#: 1405274-04A**

No Detections Were Found.

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

**Client Sample ID: BLANK-H-051114**

**Lab ID#: 1405274-04B**

No Detections Were Found.

Client Sample ID: H-AMB-2-051114

Lab ID#: 1405274-01A

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

File Name:	c052312	Date of Collection:	5/11/14 5:46:00 PM
Dil. Factor:	1.60	Date of Analysis:	5/23/14 07:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: H-AMB-2-051114

Lab ID#: 1405274-01B

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

<b>File Name:</b>	<b>c052312sim</b>	<b>Date of Collection:</b> 5/11/14 5:46:00 PM
<b>Dil. Factor:</b>	<b>1.60</b>	<b>Date of Analysis:</b> 5/23/14 07:46 PM

<b>Compound</b>	<b>Rot. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	0.11	0.17	0.59
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Chloroform	0.016	0.062	0.078	0.30

**Container Type: 6 Liter Summa Canister (SIM Certified)**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: H-AMB-2D-051114

Lab ID#: 1405274-02A

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

<b>File Name:</b>	<b>c052313</b>	<b>Date of Collection:</b> 5/11/14 5:46:00 PM
<b>Dil. Factor:</b>	<b>1.58</b>	<b>Date of Analysis:</b> 5/23/14 08:47 PM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 113	0.16	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: H-AMB-2D-051114

Lab ID#: 1405274-02B

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

<b>File Name:</b>	<b>c052313sim</b>	<b>Date of Collection:</b> 5/11/14 5:46:00 PM
<b>Dil. Factor:</b>	<b>1.58</b>	<b>Date of Analysis:</b> 5/23/14 08:47 PM

Compound	Rot. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	0.10	0.17	0.54
Tetrachloroethene	0.032	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Chloroform	0.016	0.062	0.077	0.30

**Container Type: 6 Liter Summa Canister (SIM Certified)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: S-OUT-1-051114

Lab ID#: 1405274-03A

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

File Name:	c052314	Date of Collection:	5/11/14 5:49:00 PM
Dil. Factor:	1.69	Date of Analysis:	5/23/14 09:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.17	Not Detected	1.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: S-OUT-1-051114

Lab ID#: 1405274-03B

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

File Name:	c052314sim	Date of Collection:	5/11/14 5:49:00 PM
Dil. Factor:	1.69	Date of Analysis:	5/23/14 09:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
1,2-Dichloroethane	0.034	Not Detected	0.14	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Chloroform	0.017	0.041	0.082	0.20

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: BLANK-H-051114

Lab ID#: 1405274-04A

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

<b>File Name:</b>	<b>c052315</b>	<b>Date of Collection:</b> 5/11/14
<b>Dil. Factor:</b>	<b>1.05</b>	<b>Date of Analysis:</b> 5/23/14 10:31 PM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 113	0.10	Not Detected	0.80	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: BLANK-H-051114

Lab ID#: 1405274-04B

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

File Name:	c052315sim	Date of Collection:	5/11/14
Dil. Factor:	1.05	Date of Analysis:	5/23/14 10:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.027	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.042	Not Detected
1,1-Dichloroethane	0.021	Not Detected	0.085	Not Detected
cis-1,2-Dichloroethene	0.021	Not Detected	0.083	Not Detected
1,1,1-Trichloroethane	0.021	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.021	Not Detected	0.085	Not Detected
Trichloroethene	0.021	Not Detected	0.11	Not Detected
Tetrachloroethene	0.021	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.42	Not Detected
Chloroform	0.010	Not Detected	0.051	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405274-05A

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

<b>File Name:</b>	<b>c052309c</b>	<b>Date of Collection:</b>	<b>NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b>	<b>5/23/14 04:48 PM</b>

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 113	0.10	Not Detected	0.77	Not Detected

Container Type: NA - Not Applicable

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405274-05B

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

File Name:	c052309simc	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/23/14 04:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Chloroform	0.010	Not Detected	0.049	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405274-06A

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

<b>File Name:</b>	<b>c052307</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 5/23/14 03:11 PM

<b>Compound</b>	<b>%Recovery</b>
Freon 113	97

Container Type: NA - Not Applicable

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405274-06B

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

<b>File Name:</b>	<b>c052307sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 5/23/14 03:11 PM

<b>Compound</b>	<b>%Recovery</b>
Vinyl Chloride	102
1,1-Dichloroethene	106
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	107
1,1,1-Trichloroethane	103
1,2-Dichloroethane	103
Trichloroethene	100
Tetrachloroethene	102
trans-1,2-Dichloroethene	105
Chloroform	100

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405274-07A

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

File Name:	c052303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 11:15 AM

Compound	%Recovery	Method Limits
Freon 113	109	70-130

Container Type: NA - Not Applicable

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



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405274-07AA

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

File Name:	c052304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 11:59 AM

Compound	%Recovery	Method Limits
Freon 113	110	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCS

Lab ID#: 1405274-07B

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

<b>File Name:</b>	<b>c052303sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 5/23/14 11:15 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	101	70-130
1,1-Dichloroethene	117	70-130
1,1-Dichloroethane	104	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	100	70-130
1,2-Dichloroethane	95	70-130
Trichloroethene	96	70-130
Tetrachloroethene	98	70-130
trans-1,2-Dichloroethene	89	70-130
Chloroform	99	60-140

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405274-07BB

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

File Name:	c052304sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 11:59 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	99	70-130
1,1-Dichloroethene	117	70-130
1,1-Dichloroethane	103	70-130
cis-1,2-Dichloroethene	120	70-130
1,1,1-Trichloroethane	99	70-130
1,2-Dichloroethane	97	70-130
Trichloroethene	98	70-130
Tetrachloroethene	99	70-130
trans-1,2-Dichloroethene	90	70-130
Chloroform	98	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

5/30/2014

Ms. Nancy-Jeanne LeFevre  
Locus Technologies  
299 Fairchild Drive

Mountain View CA 94043

Project Name: PHILIPS  
Project #: 27006-08-9018  
Workorder #: 1405275

Dear Ms. Nancy-Jeanne LeFevre

The following report includes the data for the above referenced project for sample(s) received on 5/14/2014 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner  
Project Manager

**WORK ORDER #: 1405275**

Work Order Summary

<b>CLIENT:</b>	Ms. Nancy-Jeanne LeFevre Locus Technologies 299 Fairchild Drive Mountain View, CA 94043	<b>BILL TO:</b>	Ms. Nancy-Jeanne LeFevre Locus Technologies 299 Fairchild Drive Mountain View, CA 94043
<b>PHONE:</b>	415-992-5360	<b>P.O. #</b>	30-12708
<b>FAX:</b>	650-960-0739	<b>PROJECT #</b>	27006-08-9018 PHILIPS
<b>DATE RECEIVED:</b>	05/14/2014	<b>CONTACT:</b>	Kelly Buettner
<b>DATE COMPLETED:</b>	05/30/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	S-AMB-4-051114	Modified TO-15	5.3 "Hg	5 psi
01B	S-AMB-4-051114	Modified TO-15	5.3 "Hg	5 psi
02A	Lab Blank	Modified TO-15	NA	NA
02B	Lab Blank	Modified TO-15	NA	NA
03A	CCV	Modified TO-15	NA	NA
03B	CCV	Modified TO-15	NA	NA
04A	LCS	Modified TO-15	NA	NA
04AA	LCSD	Modified TO-15	NA	NA
04B	LCS	Modified TO-15	NA	NA
04BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 05/30/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935  
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards  
 This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15 Full Scan/SIM**  
**Locus Technologies**  
**Workorder# 1405275**

One 6 Liter Summa Canister (SIM Certified) sample was received on May 14, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

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

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

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

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### **Definition of Data Qualifying Flags**

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

**Client Sample ID: S-AMB-4-051114**

**Lab ID#: 1405275-01A**

No Detections Were Found.

**Client Sample ID: S-AMB-4-051114**

**Lab ID#: 1405275-01B**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
1,2-Dichloroethane	0.033	0.033	0.13	0.13
Trichloroethene	0.033	0.12	0.18	0.66



Air Toxics

Client Sample ID: S-AMB-4-051114

Lab ID#: 1405275-01A

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

File Name:	e052308	Date of Collection:	5/11/14 5:48:00 PM	
Dil. Factor:	1.63	Date of Analysis:	5/23/14 01:53 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.16	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: S-AMB-4-051114

Lab ID#: 1405275-01B

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

<b>File Name:</b>	e052308sim	<b>Date of Collection:</b> 5/11/14 5:48:00 PM
<b>Dil. Factor:</b>	1.63	<b>Date of Analysis:</b> 5/23/14 01:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
1,2-Dichloroethane	0.033	0.033	0.13	0.13
Trichloroethene	0.033	0.12	0.18	0.66
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Chloroform	0.016	Not Detected	0.080	Not Detected

**Container Type: 6 Liter Summa Canister (SIM Certified)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405275-02A

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

File Name:	e052307	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/23/14 01:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 113	0.10	Not Detected	0.77	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: Lab Blank

Lab ID#: 1405275-02B

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

File Name:	e052307sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/23/14 01:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Chloroform	0.010	Not Detected	0.049	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405275-03A

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

File Name:	e052302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 08:31 AM

Compound	%Recovery
Freon 113	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405275-03B

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

File Name:	e052302sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 08:31 AM

Compound	%Recovery
Vinyl Chloride	84
1,1-Dichloroethene	80
1,1-Dichloroethane	87
cis-1,2-Dichloroethene	83
1,1,1-Trichloroethane	101
1,2-Dichloroethane	112
Trichloroethene	88
Tetrachloroethene	98
trans-1,2-Dichloroethene	82
Chloroform	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	110	70-130

Client Sample ID: LCS

Lab ID#: 1405275-04A

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

File Name:	e052303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 09:13 AM

Compound	%Recovery	Method Limits
Freon 113	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	107	70-130

Client Sample ID: LCSD

Lab ID#: 1405275-04AA

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

File Name:	e052304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 09:59 AM

Compound	%Recovery	Method Limits
Freon 113	112	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCS

Lab ID#: 1405275-04B

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

File Name:	e052303sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 09:13 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	96	70-130
1,1-Dichloroethene	100	70-130
1,1-Dichloroethane	99	70-130
cis-1,2-Dichloroethene	104	70-130
1,1,1-Trichloroethane	114	70-130
1,2-Dichloroethane	124	70-130
Trichloroethene	98	70-130
Tetrachloroethene	107	70-130
trans-1,2-Dichloroethene	78	70-130
Chloroform	104	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	113	70-130

Client Sample ID: LCSD

Lab ID#: 1405275-04BB

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

File Name:	e052304sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/23/14 09:59 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	96	70-130
1,1-Dichloroethene	100	70-130
1,1-Dichloroethane	99	70-130
cis-1,2-Dichloroethene	104	70-130
1,1,1-Trichloroethane	115	70-130
1,2-Dichloroethane	124	70-130
Trichloroethene	97	70-130
Tetrachloroethene	108	70-130
trans-1,2-Dichloroethene	78	70-130
Chloroform	104	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	111	70-130

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## **APPENDIX B**

# **SAMPLE COLLECTION FIELD LOGS**

SUMMA CANISTER CHECK-IN AND AIR MONITORING LOG

Project Name: Rainbow Air Sampling

Building No.: S & H

Date of sampling: 5/11/2014

Project No.: 27006-08-9018

Current Building Ventilation System Status: On

Samplers: Hawthorne/Liang/LeFevre

Canister Serial Number	Gauge When Received (in. Hg)	Date Checked	Checked By (initials)	Location ID/ Sample Number	Sample Start Time	Sample End Time	Final Gauge Vacuum (in. Hg)	Check Time	Flow Controller Reading	Comments	Check Time	FC Reading
34203	>30	5/6/14	JH	AMB-2	5:46am	17:46	-6	5:46	-30		14:59	-8
								6:15	-29		15:46	-7
								6:46	-27.5		16:43	-5.5
								7:45	-25		17:46	-4.5
								8:44	-22			
								9:45	-19			
								11:39	-14			
96100	-29	5/6/14	NSL	AMB-20	5:46am	17:46	-5.5	5:46	-28.5		14:59	-8
								6:15	-27		15:46	-7
								6:45	-25.5		16:43	-6
								7:45	-23		17:46	-5
								8:44	-20.5			
								9:45	-18			
								11:39	-13.5			
35164	>30	5/16/2014	SL	S-AMB-4	5:49	17:48	-6.5	5:49	-30		15:09	-10
								6:18	-29		15:48	-9
								6:48	-28.0		16:46	-7.5
								7:48	-25		17:48	-6.5
								8:46	-23			
								9:46	-20.5			
								11:41	-16			
					13:48	-12						

SUMMA CANISTER CHECK-IN AND AIR MONITORING LOG

Project Name: Rainbow Air Sampling

Building No.: S & H

Date of sampling: 5/11/2014

Project No.: 27006-08-9018

Current Building Ventilation System Status: On

Samplers: Hawthorne/Liang/Lefevre

Canister Serial Number	Gauge When Received (in. Hg)	Date Checked	Checked By (initials)	Location ID/ Sample Number	Sample Start Time	Sample End Time	Final Gauge Vacuum (in. Hg)	Check Time	Flow Controller Reading	Comments	Check Time	FC Reading
R-14	>30	5/11/14	T.H.	S-OUT-1	5:48	17:49	-7.5	5:48	-30		15:10	-9
								5:47	-29.5		15:47	-8
								6:47	-28.0		16:45	-7.5
								7:46	-25		17:49	-6.5
								8:45	-23			
								9:46	-20			
								11:40	-15.5			
							12:49	-11				
9572	>0	5/6/14	JH	BLANK	—	—	70					
25310	>30	5/11/14	JWH									

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# APPENDIX C

## VENTILATION SYSTEM CHECKLISTS

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	H
Ventilation Unit	4
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	But dirty filter
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	H
Ventilation Unit	Room # 2 Carrier ser. # 2413030198
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	But dirty filters
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	H
Ventilation Unit	ser.# 3112G10296 Carrier
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	But dirty filters
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	H
Ventilation Unit	H3
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	very dirty filter 1/20x20x1
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	Good man ser.# 091263310
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	exact 20 <sup>3</sup> / <sub>4</sub> x 16 <sup>1</sup> / <sub>2</sub> x 1 needs 1 new outdoor air screen
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	filters are <del>are</del> Dirty
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	<del>AC</del> AC 3
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	L4
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dirty
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	L # 5
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not working
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ok filters
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	L6
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dirty
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Insulation in filter section falling down,
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	L7
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	out door air screen dirty
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dirty filters
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	L 10
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Little dirty
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	L9
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	clean
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.



# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	L
Ventilation Unit	Lennox ser# 5612A05802
Date of Inspection	4/5/14
Inspected By	Giovann

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	not working
Outdoor air is moving into intake.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

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# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	G
Ventilation Unit	G4
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ok filter
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	G
Ventilation Unit	Ducane ser.# 1612602647
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	G
Ventilation Unit	Ducape ser. # 1612 B00377
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	G
Ventilation Unit	Trane serial 439100178L
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Little dirty
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	G
Ventilation Unit	serves G1 and G2 ser.# 4307640443
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	N/A
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dirty
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	5
Ventilation Unit	51
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input type="checkbox"/>	<input type="checkbox"/>	
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

unit is off <sup>at</sup> disconnect.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	S
Ventilation Unit	S2
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Indoor air intakes have detectable suction.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

# Ventilation Checklist

790 East Duane Avenue, Sunnyvale, California

Building	S
Ventilation Unit	53
Date of Inspection	4/5/14
Inspected By	Giovanni

	Yes	No	Comments
Outdoor air intakes not obstructed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air intake is clear of nearby pollutant sources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Outdoor air damper operating properly. (If manual, should be at least partially open.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If economizer is installed, ensure it opens and closes properly.	<input type="checkbox"/>	<input type="checkbox"/>	
Outdoor air is moving into intake.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fans supplying outdoor air operate continuously during occupied periods.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Filters are in good condition, properly installed, and have no major air leaks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	' Dirty
Clocks, timers, and switches are properly set.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Air flow detected near indoor exhausts.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Indoor air intakes have detectable suction.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments for Building or Ventilation Unit.

Supply fan disconnected.