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Infrastructure · Water · Environment · Buildings

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ENVIRONMENT

Roger Papler
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject:
Second Quarter 2014 - Vapor Intrusion Evaluation Data Submittal for the Former Teledyne Semiconductor and Spectra-Physics Laser, Inc., Sites Located in Mountain View, California

Date:
June 16, 2014

Contact:
Erica Kalve

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Our ref:
EM001727.0070

Dear Mr. Papler:

ARCADIS U.S., Inc. (ARCADIS) has prepared this quarterly vapor intrusion evaluation data submittal to document the results of testing conducted to date in accordance with the September 24, 2010 “Work Plan to Evaluate Potential Vapor Intrusion in the Off-Property Study Area and at 1250 West Middlefield Road” for the former Teledyne Semiconductor and former Spectra-Physics Lasers Sites (“2010 Work Plan”) and associated addenda (ARCADIS 2010, 2013, 2014a, 2014b). ARCADIS prepared the 2010 Work Plan and associated addenda on behalf of TDY Industries, LLC, for the former Teledyne Semiconductor (“Semiconductor”) facility (located at 1300 Terra Bella Avenue) and Thermo Fisher Scientific, Inc., for the former Spectra-Physics Lasers, Inc. (“Spectra-Physics”) facility (located at 1250 Middlefield Road) in Mountain View, California (Figure 1). TDY Industries, LLC, and Thermo Fisher Scientific, Inc., are collectively referred to as “the Companies.”

Figure 2 shows the buildings included in the vapor intrusion (VI) study area. Samples have been collected from residential and commercial buildings located within the VI study area. Residential building sample results for samples collected to date are summarized in Table 1. Commercial building sample results for samples collected to date with heating, ventilation, and air conditioning (HVAC) on are summarized in Table 2 (breathing zone results) and Table 3 (pathway results). Commercial building sample results for samples collected to date with HVAC off are summarized in Table 4 (breathing zone results) and Table 5 (pathway results).

ARCADIS continues to collect samples in the VI study area in accordance with the 2010 Work Plan and associated addenda. Data submittals will be updated and

submitted quarterly through 2014. Additionally, the complete VI evaluation summary report will be submitted by February 27, 2015 (in accordance with the extension provided by the Regional Water Quality Control Board on June 10, 2014).

Please let us know if you have any questions.

Sincerely,

ARCADIS U.S., Inc.

Erica Kalve, P.G.
Senior Geologist

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Attachments:

Table 1	Data Summary for Residential Indoor Air Sample Results
Table 2	HVAC On Commercial Air Sampling Results for Breathing Zones
Table 3	HVAC On Commercial Air Sampling Results for Pathways
Table 4	HVAC Off Commercial Air Sampling Results for Breathing Zones
Table 5	HVAC Off Commercial Air Sampling Results for Pathways
Figure 1	Site Vicinity Map and Property Locations
Figure 2	Residential and Commercial Buildings Included in the Vapor Intrusion Study Area

References:

ARCADIS. 2010. Work Plan to Evaluate Potential Vapor Intrusion in the Off-Property Study Area and at 1250 West Middlefield Road, Teledyne Semiconductor and Spectra-Physics Laser, Inc., Sites, Mountain View, CA. September 24.

ARCADIS. 2013. Work Plan Addendum for Vapor Intrusion Evaluation of Fourteen Properties in the Off-Property Study Area, Former Teledyne/Spectra-Physics Sites, Mountain View, California. December 19.

ARCADIS. 2014a. Work Plan Addendum for Vapor Intrusion Evaluation of Residential Buildings in the Off-Property Study Area. February 7.

ARCADIS. 2014b. Work Plan Addendum for Vapor Intrusion Evaluation of 1245 Terra Bella Avenue, Mountain View, California. May 9.

ATSDR. 2013. Minimum Risk Levels List. Available at: http://www.atsdr.cdc.gov/mrls/mrllist.asp. Revised July 2013.

USEPA, 2013. EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites. December 3.

USEPA, 2014. Regional Screening Levels for Chemical Contaminants. Available at: http://www.epa.gov/region9/superfund/prg/. Revised May 2014.

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Tables

Table 1
Data Summary for Residential Indoor Air Sample Results
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	Sample Type[1]	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
Tier 1 - Comparison to Background/Outdoor Ambient Air													
SSRB3-OA-5**	10/27/2010	OA	Summa (1)	<0.38	<0.28	<0.089	<0.47	<1.4	<0.28	<0.42	<0.38	<0.34	0.62
SSRB11-OA-22	12/14/2010	OA	Summa (1)	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	0.22	0.77
SSRB11-OA-22-EPA	12/14/2010	OA	Summa (1)	<0.4 J,Q2	<0.3 J,Q2	<0.19 J,Q2	<0.51 J,Q2	<0.3 C1	<0.3 J,Q2	<0.45 J,Q2	<0.41 J,Q2	<0.37 J,Q2	0.3 C1,J,Q2
SSRB11-OA-23	12/14/2010	OA	Summa (1)	<0.2	<0.14	<0.047	<0.25	<0.72	<0.15	<0.22	<0.2	<0.18	0.54
SSRB8-OA-30	12/15/2010	OA	Summa (1)	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	0.53
SSRB9-OA-36	12/15/2010	OA	Summa (1)	0.92	<0.14	<0.047	<0.25	3	<0.15	<0.22	<0.2	<0.18	0.59
SSRB9-OA-42	12/16/2010	OA	Summa (1)	1.2	<0.14	<0.044	<0.23	<0.68	<0.14	<0.2	<0.19	0.26	0.63
SSRB-13-50	09/01/2011	OA	Summa (1)	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	0.18	0.50
NBRB-15-OA-56	7/18/2013	OA	Summa (1)	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	0.26	0.58
SSRB3-OA-57	2/18/2014	OA	Passive (14)	<0.078	<0.086	<0.24	<0.091	<0.18	<0.085	<0.092	<0.086	0.090	NA
SSRB16-OA-77	2/18/2014	OA	Passive (14)	<0.079	<0.087	<0.24	<0.092	<0.18	<0.086	<0.094	<0.088	0.083	NA
SSRB17-OA-80	2/24/2014	OA	Passive (14)	<0.079	<0.087	<0.24	<0.092	<0.18	<0.086	<0.094	<0.087	0.093	NA
SSRB5-OA-94	3/7/2014	OA	Passive (17)	<0.064	<0.071	<0.20	<0.075	<0.15	<0.070	<0.077	<0.072	0.071	NA
SSRB20-OA-97	3/7/2014	OA	Passive (13)	<0.081	<0.090	<0.25	<0.095	<0.19	<0.089	<0.097	<0.090	<0.075	NA
SSRB6-OA-100	5/20/2014	OA	Passive (14)	<0.074	<0.082 C	<0.23 C	<0.086	<0.17 C	<0.081 C	<0.088 C	<0.082	<0.068	NA
Tier 2 - Comparison to Long-Term Health Risk-Based Screening Criteria													
Residential Screening Level (May 2014)[2,4]				0.48	NA	0.17	0.4	NA	1.8	210	5,200	0.20	31,000
Tier 3 - Comparison to Short-Term Health Risk-Based Screening Criteria													
Acute Screening Level (July 2013)[3]				NA	793*	1,278	1,357	793	NA	NA	10,914	488	NA
Short-Term Screening Levels (July 2013)[3]				NA	793*	77	NA	793	NA	NA	3,820	244	NA
Interim Indoor Short-Term Response Action Levels[4]				2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indoor Air Sample Results													
SSRB1-IA-1	10/27/2010	LR	Summa (1)	<0.22	<0.16	<0.053	0.63	<0.82	<0.17	<0.25	<0.22	0.58	0.58
SSRB1-IA-71	2/18/2014	LR	Passive (14)	0.29	<0.087	<0.24	0.19	<0.18	<0.086	<0.093	<0.087	0.32	NA
SSRB1-IA-2	10/27/2010	CS	Summa (1)	<0.17	<0.12	<0.04	<0.21	<0.63	<0.13	<0.19	<0.17	0.3	0.62
SSRB1-IA-72	2/18/2014	CS	Passive (14)	0.088	<0.087	<0.24	0.12	<0.18	<0.086	<0.093	<0.087	0.087	NA
SSRB2-IA-3	10/27/2010	LR***	Summa (1)	0.23	<0.1	<0.033	<0.18	<0.52	<0.1	<0.16	<0.14	1.5	0.99
SSRB2-IA-4	10/27/2010	CS	Summa (1)	0.22	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.28	0.57
SSRB3-IA-6**	10/27/2010	LR	Summa (1)	<0.41	<0.3	<0.098	<0.52	<1.5	<0.31	2	<0.42	2.5	0.7
SSRB3-IA-6-EPA	10/27/2010	LR***	Summa (1)	0.22 C1,J	<0.2	<0.13	0.23 C1,J	<0.2	<0.2	3.5	<0.27	3.1	0.61
SSRB3-IA-58	2/18/2014	LR	Passive (14)	0.22	<0.086	<0.24	0.31	<0.18	<0.085	<0.093	<0.087	2.7	NA
SSRB3-IA-7	10/27/2010	CS***	Summa (1)	0.36	<0.11	<0.034	<0.18	<0.53	<0.11	<0.16	<0.15	0.32	1.2
SSRB3-IA-7-EPACS	10/27/2010	CS***	Summa (1)	0.4	<0.2	<0.13	0.25 C1,J	<0.2	<0.2	<0.3	<0.27	0.37	0.69
SSRB3-IA-59	2/18/2014	CS	Passive (14)	0.28	<0.086	<0.24	0.11	<0.18	<0.085	<0.093	<0.087	0.11	NA
SSRB4-IA-8	10/27/2010	LR	Summa (1)	<0.16	<0.12	<0.039	<0.21	<0.6	<0.12	<0.18	<0.16	1.4	0.55
SSRB4-IA-8-EPA	10/27/2010	LR***	Summa (1)	<0.27	<0.2	<0.13	<0.34	<0.2	<0.2	<0.3	<0.27	2.4	0.56
SSRB4-IA-9	10/27/2010	CS	Summa (1)	<0.2	<0.14	<0.047	<0.25	<0.72	<0.15	<0.22	<0.2	0.51	1
SSRB4-IA-9-EPACS	10/27/2010	CS***	Summa (1)	<0.27	<0.2	<0.13	<0.34	<0.2	<0.2	<0.3	<0.27	0.3	0.57

Table 1
Data Summary for Residential Indoor Air Sample Results
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	Sample Type[1]	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
SSRB5-IA-10	10/27/2010	LR	Summa (1)	0.16	<0.12	<0.037	<0.2	<0.58	<0.12	<0.18	<0.16	1.1	0.99
SSRB5-IA-92	3/7/2014	LR	Passive (17)	0.13	<0.071	<0.20	<0.075	<0.15	<0.070	<0.076	<0.072	0.72	NA
SSRB5-IA-11	10/27/2010	CS	Summa (1)	0.2	<0.12	<0.04	<0.21	<0.61	<0.12	<0.19	<0.17	0.33	0.65
SSRB5-IA-93	3/7/2014	CS	Passive (17)	0.14	<0.071	<0.20	<0.075	<0.15	<0.070	<0.076	<0.072	0.080	NA
SSRB6-IA-12	10/27/2010	LR	Summa (1)	1.2	<0.14	<0.045	0.24	<0.69	<0.14	<0.21	0.19	0.54	0.71
SSRB6-IA-34	12/15/2010	LR	Summa (1)	1.8	<0.15	<0.048	0.28	<0.74	<0.15	<0.22	0.2	0.5	0.54
SSRB6-IA-60	2/18/2014	LR	Passive (14)	0.69	<0.086	<0.24	0.22	<0.18	<0.085	<0.092	0.20	0.70	NA
SSRB6-IA-98	5/20/2014	LR[6]	Passive (14)	0.17	<0.082 C	<0.23 C	0.11	<0.17 C	<0.081 C	<0.088 C	0.15	1.3	NA
SSRB6-IA-13	10/27/2010	CS***	Summa (1)	0.81	<0.1	<0.034	<0.18	<0.52	<0.11	<0.16	<0.14	0.34	0.65
SSRB6-IA-35	12/15/2010	CS	Summa (1)	0.75	<0.14	<0.044	<0.23	<0.68	<0.14	<0.2	<0.19	0.18	0.55
SSRB6-IA-61	2/18/2014	CS	Passive (14)	0.47	<0.086	<0.24	<0.091	<0.18	<0.085	<0.092	<0.086	0.099	NA
SSRB6-CS-99	5/20/2014	CS[6]	Passive (14)	0.075	<0.082 C	<0.23 C	<0.086	<0.17 C	<0.081 C	<0.088 C	<0.082	0.11	NA
SSRB7-IA-14	10/27/2010	LR	Summa (1)	0.98	<0.11	<0.037	0.46	<0.57	<0.12	<0.17	0.74	1.2	0.7
SSRB7-IA-46	12/16/2010	LR	Summa (1)	1.2	<0.14	<0.045	0.52	<0.69	<0.14	<0.21	4.3	0.9	0.56
SSRB7-IA-15	10/27/2010	CS	Summa (1)	1.2	<0.11	<0.036	<0.19	<0.55	<0.11	<0.17	<0.15	0.32	0.73
SSRB7-IA-47	12/16/2010	CS	Summa (1)	0.88	<0.12	<0.04	<0.21	<0.63	<0.13	<0.19	<0.17	0.27	0.54
SSRB8-IA-16	10/27/2010	LR	Summa (1)	1.8	<0.13	<0.043	<0.23	<0.67	<0.14	<0.2	1.9	3.7	0.79
SSRB8-IA-16-EPA	10/27/2010	LR***	Summa (1)	1.8	<0.2	<0.13	0.32 C1,J	<0.2	<0.2	<0.3	1.9	3.2 RE2	0.7
SSRB8-IA-31	12/15/2010	LR	Summa (1)	1.3	<0.14	<0.047	3.9	<0.72	<0.15	<0.22	2.8	2.8	0.64
SSRB8-IA-31-EPA	12/15/2010	LR***	Summa (1)	0.78 J,Q2	<0.25 J,Q2	<0.16 J,Q2	4.2 J,Q2	0.13 J,C1	<0.25 J,Q2	<0.38 J,Q2	2.8 J,Q2	2.3 J,Q2	0.33 Q2,C1,J
SSRB8-IA-73	2/18/2014	LR	Passive (14)	2.9	<0.087	<0.24	0.17	<0.18	<0.086	<0.094	1.5	1.3	NA
SSRB8-IA-101	5/20/2014	LR[6]	Passive (14)	0.66	<0.082 C	<0.23 C	<0.087	<0.17 C	<0.081 C	<0.088 C	2.9	1.2	NA
SSRB8-IA-17	10/27/2010	CS***	Summa (1)	0.8	<0.1	<0.033	0.19	<0.52	<0.1	<0.16	<0.14	0.42	0.68
SSRB8-IA-17-EPACS	10/27/2010	CS***	Summa (1)	0.95	0.14 C1 J	<0.13	0.34	<0.2	<0.2	<0.3	<0.27	0.44	0.59
SSRB8-IA-32	12/15/2010	CS	Summa (1)	0.59	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.17	0.74
SSRB8-IA-32-CSEPA	12/15/2010	CS***	Summa (1)	<0.27 J,Q2	<0.2 J,Q2	<0.13 J,Q2	<0.34 J,Q2	<0.2 U	<0.2 J,Q2	<0.3 J,Q2	<0.27 J,Q2	<0.24 J,Q2	0.29 C1,J,Q2
SSRB8-IA-74	2/18/2014	CS	Passive (14)	0.48	<0.087	<0.24	0.098	<0.18	<0.086	<0.094	<0.088	0.098	NA
SSRB8-CS-102	5/20/2014	CS[6]	Passive (14)	<0.074	<0.082 C	<0.23 C	<0.087	<0.17 C	<0.081 C	<0.088 C	<0.082	0.12	NA
SSRB8-IA-33	12/15/2010	BR	Summa (1)	1.2	<0.14	<0.046	4.8	<0.71	<0.14	<0.22	2.2	8.4	0.6
SSRB9-IA-18	10/27/2010	LR	Summa (1)	0.56	<0.11	<0.035	0.19	<0.54	P	<0.16	<0.15	1.7	0.71
SSRB9-IA-37	12/16/2010	LR	Summa (1)	0.84	<0.16	<0.053	0.32	<0.82	<0.17	<0.25	<0.22	1.3	0.58
SSRB9-IA-43	12/16/2010	LR	Summa (1)	0.82	<0.14	<0.047	0.26	<0.72	<0.15	<0.22	<0.2	1.2	0.6
SSRB9-IA-69	2/18/2014	LR	Passive (14)	<0.078	<0.086	<0.24	0.18	<0.18	<0.086	<0.093	<0.087	0.59	NA
SSRB9-IA-19	10/27/2010	CS***	Summa (1)	0.95	<0.1	<0.033	<0.18	<0.52	<0.1	<0.16	<0.14	0.28	0.97
SSRB9-IA-38	12/15/2010	CS	Summa (1)	0.89	<0.14	<0.046	<0.24	<0.71	<0.14	<0.22	<0.2	<0.17	0.6
SSRB9-IA-44	12/16/2010	CS	Summa (1)	1.3	<0.13	<0.042	<0.22	<0.65	<0.13	<0.2	<0.18	0.26	0.65
SSRB9-IA-70	2/18/2014	CS	Passive (14)	<0.078	<0.086	<0.24	<0.092	<0.18	<0.086	<0.093	<0.087	0.11	NA
SSRB9-IA-39	12/15/2010	GR	Summa (1)	0.43	<0.14	<0.047	<0.25	<0.72	<0.15	<0.22	0.91	<0.18	<0.28
SSRB9-IA-45	12/16/2010	GR	Summa (1)	0.84	<0.14	<0.047	1.4	<0.72	<0.15	<0.22	0.48	0.3	0.56

Table 1
Data Summary for Residential Indoor Air Sample Results
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	Sample Type[1]	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
SSRB10-IA-20	12/14/2010	LR	Summa (1)	0.53	<0.15	<0.049	0.33	<0.76	<0.15	<0.23	<0.21	3.2	0.59
SSRB10-IA-20-EPA	12/14/2010	LR***	Summa (1)	0.27 J,Q2	<0.2 J,Q2	<0.13 J,Q2	0.29 C1,J,Q2	<0.2 U	<0.2 J,Q2,U	<0.3 J,Q2	<0.27 J,Q2,U	2.1 J,Q2	0.29 C1,J,Q2
SSRB10-IA-21	12/14/2010	CS	Summa (1)	0.84	<0.15	<0.049	<0.26	<0.76	<0.15	<0.23	<0.21	<0.19	0.56
SSRB10-IA-21-CSEPA	12/14/2010	CS	Summa (1)	0.57 J,Q2	<0.33 J,Q2	<0.21 J,Q2	<0.56 J,Q2	<0.33 U	<0.34 J,Q2	<0.5 J,Q2	<0.45 J,Q2	<0.41 J,Q2	0.32 C1,J,Q2
SSRB11-IA-24	12/14/2010	LR***	Summa (1)	0.31	<0.1	<0.034	0.19	<0.52	<0.11	<0.16	<0.14	0.83	0.71
SSRB11-IA-24-EPA	12/14/2010	LR	Summa (1)	0.21 C1,J,Q2	<0.3 J,Q2	<0.19 J,Q2	<0.51 J,Q2	<0.3 U	<0.3 J,Q2	<0.45 J,Q2	<0.41 J,Q2	0.53 J,Q2	0.3 Q2,C1,J
SSRB11-IA-66	2/18/2014	LR	Passive (14)	0.33	<0.086	<0.24	0.12	<0.18	<0.086	<0.093	<0.087	0.44	NA
SSRB11-IA-25	12/14/2010	CS	Summa (1)	<0.2	<0.15	<0.048	<0.25	<0.74	<0.15	<0.22	<0.2	0.19	0.58
SSRB11-IA-25-CSEPA	12/14/2010	CS	Summa (1)	<0.4 J,Q2	<0.3 J,Q2	<0.19 J,Q2	<0.51 J,Q2	<0.3 C1	<0.3 J,Q2	<0.45 J,Q2	<0.41 J,Q2	<0.37 J,Q2	0.3 Q2,C1,J
SSRB11-IA-67	2/18/2014	CS	Passive (14)	0.18	<0.086	<0.24	0.12	<0.18	<0.086	<0.093	<0.087	0.092	NA
SSRB11-IA-68 (duplicate)	2/18/2014	CS	Passive (14)	0.20	<0.086	<0.24	0.13	<0.18	<0.086	<0.093	<0.087	0.090	NA
SSRB12-IA-26	12/14/2010	LR	Summa (1)	0.27	<0.16	<0.05	<0.26	<0.78	<0.16	<0.24	<0.21	5.2	0.51
SSRB12-IA-62	2/18/2014	LR-K	Passive (14)	0.20	<0.086	<0.24	0.11	<0.18	<0.085	<0.093	<0.087	1.1	NA
SSRB12-IA-63	2/18/2014	LR-NR	Passive (14)	0.23	<0.086	<0.24	0.12	<0.18	<0.085	<0.093	<0.087	1.3	NA
SSRB12-IA-64 (duplicate)	2/18/2014	LR-NR	Passive (14)	0.24	<0.086	<0.24	0.12	<0.18	<0.085	<0.093	<0.087	1.3	NA
SSRB12-IA-27	12/14/2010	CS	Summa (1)	0.28	<0.15	<0.049	<0.26	<0.76	<0.15	<0.23	<0.21	<0.19	0.51
SSRB12-IA-65	2/18/2014	CS	Passive (14)	0.23	<0.086	<0.24	<0.091	<0.18	<0.085	<0.093	<0.087	<0.072	NA
SSRB13-IA-28	12/14/2010	LR	Summa (1)	0.85	<0.16	<0.05	<0.26	<0.78	<0.16	<0.24	<0.21	2.4	0.57
SSRB-13-48	09/01/2011	LR	Summa (1)	1.5	1.4	0.068	<0.23	<0.68	<0.14	<0.21	<0.19	3.1	0.68
SSRB-13-51	09/01/2011	LR	Summa (1)	1.6	1.4	0.07	<0.33	<0.97	<0.20	<0.29	<0.27	3.4	0.66
SSRB13-IA-29	12/14/2010	CS	Summa (1)	0.56	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	0.26	0.6
SSRB-13-49	09/01/2011	CS	Summa (1)	0.26	<0.14	<0.046	<0.24	<0.71	<0.14	<0.22	<0.20	0.18	0.49
SSRB14-IA-40-EPA-1	12/14/2010	LR***	Summa (1)	0.28 J,Q2	<0.2 J,Q2	<0.13 J,Q2	1.4 J,Q2	<0.2 U	<0.2 J,Q2	<0.3 J,Q2	<0.27 J,Q2	1.3 J,Q2	0.3 C1,J,Q2
SSRB14-IA-40-EPA-2	12/14/2010	LR	Summa (1)	<10	<8	<5	<10	<8	<8	<10	<10	<10	<20
SSRB14-IA-85	2/24/2014	LR	Passive (14)	0.13	<0.087	<0.24	0.22	<0.18	<0.086	<0.094	<0.088	0.91	NA
SSRB14-IA-87 (duplicate)	2/24/2014	LR	Passive (14)	0.13	<0.087	<0.24	0.20	<0.18	<0.086	<0.094	<0.088	0.86	NA
SSRB14-IA-86	2/24/2014	LR-K	Passive (14)	0.13	<0.087	<0.24	0.21	<0.18	<0.086	<0.094	<0.088	0.95	NA
SSRB14-IA-41-EPACS	12/14/2010	CS***	Summa (1)	<8	<6	<4	<10	<6	<6	<9	<8	<7	<10
SSRB14-IA-88	2/24/2014	CS	Passive (14)	0.12	<0.087	<0.24	<0.092	<0.18	<0.087	<0.094	<0.088	0.094	NA
SSRB14-IA-89 (duplicate)	2/24/2014	CS	Passive (14)	0.13	<0.087	<0.24	<0.092	<0.18	<0.087	<0.094	<0.088	0.093	NA
NBRB-15-IA-54	7/18/2013	LR	Summa (1)	0.22	<0.14	<0.046	<0.25	<0.72	<0.15	<0.22	<0.20	0.77	0.55
NBRB-15-IA-55	7/18/2013	LR	Summa (1)	0.25	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	1.1	0.56
NBRB-15-DUP (duplicate to IA-55)	7/18/2013	LR	Summa (1)	0.25	<0.14	<0.046	<0.24	<0.72	<0.15	<0.22	<0.20	1.2	0.56
NBRB15-IA-90	2/26/2014	LR	Passive (16)	0.42	<0.076	<0.21	0.087	0.55 C	0.28 C	<0.082	<0.077	0.20	NA
NBRB-15-CS-52	7/18/2013	CS	Summa (1)	<0.18	<0.13	<0.042	<0.22	<0.66	<0.13	<0.20	<0.18	0.21	0.57
NBRB-15-CS-53	7/18/2013	CS	Summa (1)	0.22	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.23	0.55
NBRB15-IA-91	2/26/2014	CS	Passive (16)	0.076	<0.076	<0.21	<0.081	<0.16	<0.076	<0.082	<0.077	0.090	NA
SSRB16-IA-75	2/18/2014	LR-K	Passive (14)	0.28	<0.087	<0.24	<0.092	<0.18	<0.086	<0.094	0.16	0.40	NA
SSRB16-IA-76	2/18/2014	CS	Passive (14)	0.25	<0.087	<0.24	<0.092	<0.18	<0.086	<0.094	<0.088	0.093	NA

Table 1
Data Summary for Residential Indoor Air Sample Results
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	Sample Type[1]	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
SSRB17-IA-79	2/24/2014	LR	Passive (14)	0.34	<0.087	<0.24	0.12	<0.18	<0.086	<0.094	<0.087	0.44	NA
SSRB17-IA-78	2/24/2014	CS	Passive (14)	0.27	<0.087	<0.24	<0.092	<0.18	<0.086	<0.093	<0.087	0.12	NA
SSRB18-IA-81	2/24/2014	LR	Passive (14)	<0.078	<0.087	<0.24	0.92	<0.18	<0.086	<0.093	0.096	0.28	NA
SSRB18-IA-82	2/24/2014	CS	Passive (14)	<0.079	<0.087	<0.24	<0.092	<0.18	<0.086	<0.094	<0.087	0.091	NA
SSRB19-IA-83	2/24/2014	LR	Passive (14)	0.32	<0.087	<0.24	0.12	<0.18	<0.086	<0.094	<0.088	1.1	NA
SSRB19-IA-84	2/24/2014	CS	Passive (14)	0.20	<0.087	<0.24	<0.092	<0.18	<0.086	<0.094	<0.088	0.11	NA
SSRB20-IA-95	3/7/2014	LR	Passive (13)	0.13	<0.090	<0.25	<0.095	<0.19	<0.089	<0.097	<0.090	0.22	NA
SSRB20-IA-96	3/7/2014	CS[5]	Passive (13)	0.17	<0.090	<0.25	<0.095	<0.19	<0.089	<0.097	<0.091	0.34	NA

Notes:

1. Sample type (exposure duration in days). Samples collected prior to February 2014 were collected using Summa canisters with a 1-day exposure duration. Samples collected in 2014 were collected using Radiello passive samplers for approximately 14 days.

2. USEPA RSLs, revised May 2014. Available at: http://www.epa.gov/region9/superfund/prg/; PCE screening level as described in the Memo from USEPA to Stephen Hill (RWQCB 2013). "EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites." December 3.

3. ATSDR MRLs, revised July 2013. Available at: http://www.atsdr.cdc.gov/mrls/mrllist.asp
Acute MRLs are derived for exposure durations of 1 to 14 days. Short-term (intermediate) MRLs are derived for exposure durations of >14 to 364 days.

4. Memo from USEPA to Stephen Hill (RWQCB 2013). "EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites". December 3. USEPA Interim Indoor Air Short-Term Response Action Levels for TCE (2 µg/m^3). California-modified indoor air screening level for PCE (0.4 µg/m^3).

5. Crawl space of the home was not accessible, thus the sample was placed at the bottom of the closet that likely leads to the crawl space.

6. Sample deployed 30+ days after the installation of an active mitigation system in the crawl space of the residence.

Units in micrograms per cubic meter (µg/m³) at 25° Celsius and 1 atmosphere.

* = Trans-1,2-DCE MRLs and RSLs are used for cis-1,2-DCE

** = Sample canister had a high vacuum at the time of sample collection that resulted in a large dilution factor

*** = Sample considered a grab sample due to low vacuum measured at the time of sample collection

1,2-DCB = 1,2-dichlorobenzene
1,1-DCA = 1,1-dichloroethane
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
1,1,1-TCA = 1,1,1-trichloroethane
TCE = trichloroethene
VC = vinyl chloride

BR = Bathroom
CS = crawl space sample location
GR = Garage
LR = living area sample location
LR-K = kitchen area sample location
LR-NR = nap room sample location
OA = outdoor air sample location
NA = not available

C = Estimated concentration due to calculated sampling rate
C1 = The reported concentration for this analyte is below the quantitation limit
J = The reported result for this analyte should be considered an estimated value
Q2 = The laboratory control standard associated with this sample did not meet recovery criteria for this analyte
RE2 = Result is from a sample re-analysis
U = Compound analyzed for but not detected above reporting limit

ATSDR = Agency for Toxic Substances and Disease Registry
USEPA = United States Environmental Protection Agency
RSLs = Regional Screening Levels
RWQCB = Regional Water Quality Control Board
MRLs = Minimal Risk Levels

Table 2
HVAC On Commercial Air Sampling Results for Breathing Zones
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
Tier 1 - Comparison to Background/Outdoor Ambient Air												
NBCB1-OA-5	08/31/2011	OA	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	0.18	0.52
NBCB2-OA-13	08/31/2011	OA	<0.20	<0.15	<0.048	<0.25	<0.74	<0.15	0.77	<0.20	<0.18	0.56
SPCB3-OA-19	09/01/2011	OA	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	0.57
NBCB4-OA-25	09/01/2011	OA	<0.19	<0.14	<0.046	<0.24	<0.70	<0.14	<0.21	<0.19	<0.17	0.53
NBCB-5-OA-45	12/20/2012	OA	<0.17	<0.12	<0.040	0.38	<0.61	<0.12	<0.19	<0.17	<0.15	0.53
NBCB-6-OA-35	12/20/2012	OA	<0.16	<0.12	<0.037	0.29	<0.58	<0.12	<0.18	<0.16	<0.14	0.51
NBCB-7-OA-36	12/20/2012	OA	<0.16	<0.12	<0.037	0.26	<0.58	<0.12	<0.18	<0.16	<0.14	0.56
NBCB-8-OA-55	2/6/2013	OA	<0.17	<0.12	<0.040	<0.21	<0.62	<0.13	<0.19	<0.17	0.24	0.62
NBCB-9-OA-63	2/6/2013	OA	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.22	0.62
NBCB-10-OA-68	2/6/2013	OA	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.28	0.67
NBCB-11-OA-74	2/6/2013	OA	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	0.21	0.64
NBCB-11-OA-82	4/11/2013	OA	<0.17	<0.12	<0.040	<0.21	<0.62	<0.13	<0.19	<0.17	<0.15	0.59
NBCB-12-Ambient	7/18/2013	OA	<0.19	<0.14	<0.046	<0.24	<0.72	<0.15	<0.22	<0.20	0.21	0.54
NBCB-8-OA-92	9/12/2013	OA	<0.16	<0.12	<0.038	0.47	<0.59	<0.12	<0.18	<0.16	0.15	0.54
Tier 2 - Comparison to Long-Term Health Risk-Based Screening Criteria												
Industrial/Commercial Screening Level (May 2014)[1,3]			3	NA	2.8	2	NA	7.7	880	22,000	0.53	130,000
Tier 3 - Comparison to Short-Term Health Risk-Based Screening Criteria												
Acute Screening Level (July 2013)[2]			NA	793*	1,278	1,357	793	NA	NA	10,914	488	NA
Short-Term Screening Levels (July 2013)[2]			NA	793*	77	NA	793	NA	NA	3,820	244	NA
Interim Indoor Short-Term Response Action Levels[3]			7**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indoor Air Sample Results												
NBCB1-BZ-6	08/31/2011	BZ	<0.18	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.77	0.53
NBCB1-BZ-7	08/31/2011	BZ	<0.18	<0.13	<0.042	<0.22	<0.66	<0.13	<0.20	<0.18	0.95	0.57
NBCB2-BZ-9	08/31/2011	BZ	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.31	0.54
SPCB3-BZ-14	09/01/2011	BZ	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	0.20	0.62
SPCB3-BZ-15	09/01/2011	BZ	0.50	<0.14	<0.045	0.55	<0.69	<0.14	<0.21	0.31	0.31	0.56
SPCB3-BZ-16	09/01/2011	BZ	0.80	<0.13	<0.043	0.38	<0.67	<0.14	<0.20	2.1	0.30	0.76
NBCB4-BZ-20	09/01/2011	BZ	0.36	<0.13	<0.042	<0.22	1.2	<0.13	<0.20	<0.18	0.34	0.51
NBCB4-BZ-21 (duplicate)	09/01/2011	BZ	0.37	<0.13	<0.041	<0.22	1.2	<0.13	<0.19	<0.18	0.35	0.52
NBCB4-BZ-24	09/01/2011	BZ	0.50	<0.13	<0.043	<0.23	1.4	<0.14	<0.20	<0.18	0.38	0.58
NBCB4-BZ-26	09/01/2011	BZ	0.41	<0.14	<0.044	<0.23	1.3	<0.14	<0.21	<0.19	0.38	0.54
NBCB-5-BZ-28	12/20/2012	BZ	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	0.53
NBCB-5-BZ-30 (duplicate)	12/20/2012	BZ	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.20	<0.19	<0.17	0.52
NBCB-6-BZ-31	12/20/2012	BZ	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	0.51
NBCB-6-BZ-32 (duplicate)	12/20/2012	BZ	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	0.54
NBCB-6-BZ-33	12/20/2012	BZ	<0.17	<0.12	<0.040	0.29	<0.63	<0.13	<0.19	<0.17	<0.15	0.51

Table 2
HVAC On Commercial Air Sampling Results for Breathing Zones
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
NBCB-7-BZ-37	12/20/2012	BZ	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	<0.16	0.44
NBCB-7-BZ-38	12/20/2012	BZ	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	<0.16	0.44
NBCB-7-BZ-40	12/20/2012	BZ	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	<0.16	0.42
NBCB-7-BZ-41	12/20/2012	BZ	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	<0.16	0.44
NBCB-8-BZ-50	2/6/2013	BZ	3.4	<0.12	<0.040	0.50	<0.62	<0.13	<0.19	<0.17	0.63	0.65
NBCB-8-BZ-51	2/6/2013	BZ	<0.17	<0.12	<0.040	<0.21	<0.62	<0.13	<0.19	<0.17	0.46	0.63
NBCB-8-BZ-52	2/6/2013	BZ	0.6	<0.13	<0.042	<0.22	<0.66	<0.13	<0.20	<0.18	0.46	0.63
NBCB-8-BZ-53	2/6/2013	BZ	6.4	0.38	<0.044	0.26	<0.68	<0.14	<0.21	<0.19	0.39	0.69
NBCB-8-BZ-54 (duplicate)	2/6/2013	BZ	6.3	0.40	<0.043	0.26	<0.67	<0.14	<0.20	<0.18	0.39	0.67
NBCB-8-BZ-91	9/12/2013	BZ	0.66	<0.13	<0.042	1.4	<0.65	<0.13	<0.20	<0.18	0.37	0.52
NBCB-8-BZ-95	9/12/2013	BZ	0.37	<0.13	<0.042	0.46	<0.65	<0.13	<0.20	<0.18	0.26	0.64
NBCB-8-BZ-96	9/12/2013	BZ	0.59	<0.12	<0.040	0.26	<0.63	<0.13	<0.19	<0.17	1.9	0.61
NBCB-9-BZ-57	2/6/2013	BZ	<0.18	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.25	0.61
NBCB-9-BZ-58	2/6/2013	BZ	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.29	0.62
NBCB-9-BZ-61	2/6/2013	BZ	<0.17	<0.12	<0.040	<0.21	<0.63	<0.13	<0.19	<0.17	0.29	0.59
NBCB-10-BZ-64	2/6/2013	BZ	<0.18	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.40	0.64
NBCB-10-BZ-65	2/6/2013	BZ	<0.18	<0.13	<0.042	0.29	<0.66	<0.13	<0.20	<0.18	0.31	0.60
NBCB-10-BZ-66	2/6/2013	BZ	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.27	0.60
NBCB-10-BZ-67 (duplicate)	2/6/2013	BZ	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.30	0.60
NBCB-11-BZ-70	2/6/2013	BZ	0.57	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	0.26	0.64
NBCB-11-BZ-71	2/6/2013	BZ	5.2	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	0.28	0.62
NBCB-11-BZ-72 (duplicate)	2/6/2013	BZ	5.4	<0.14	<0.045	<0.24	<0.70	<0.14	<0.21	<0.19	0.28	0.64
NBCB-11-BZ-73	2/6/2013	BZ	<0.18	<0.13	<0.043	<0.23	1.6	<0.14	<0.20	<0.18	0.26	0.64
NBCB-11-BZ-77	4/11/2013	BZ	<0.17	<0.13	<0.041	<0.22	<0.63	<0.13	<0.19	<0.17	<0.16	0.60
NBCB-11-BZ-78	4/11/2013	BZ	<0.17	<0.12	<0.040	<0.21	<0.61	<0.12	<0.19	<0.17	0.16	0.59
NBCB-11-BZ-79	4/11/2013	BZ	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	<0.16	0.62
NBCB-11-BZ-81	4/11/2013	BZ	<0.17	<0.13	<0.041	<0.22	<0.63	<0.13	<0.19	<0.17	<0.16	0.60

Table 2
HVAC On Commercial Air Sampling Results for Breathing Zones
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
NBCB-12-BZ-83	7/18/2013	BZ	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	0.30	0.57
NBCB-12-BZ-84	7/18/2013	BZ	<0.19	<0.14	<0.045	<0.24	<0.70	<0.14	<0.21	<0.19	0.25	0.57
NBCB-12-BZ-85	7/18/2013	BZ	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	0.40	0.54
NBCB-12-BZ-86	7/18/2013	BZ	<0.19	<0.14	<0.045	<0.24	<0.70	<0.14	<0.21	<0.19	0.48	0.55
NBCB-12-BZ-88	7/18/2013	BZ	0.22	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	0.37	0.58
NBCB-12-DUP (duplicate to BZ-88)	7/18/2013	BZ	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	0.55
NBCB-12-BZ-90	7/18/2013	BZ	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	0.36	0.56

Notes:

1. USEPA Regional Screening Levels (RSLs), revised May 2014. Available at: http://www.epa.gov/region9/superfund/prg/
Industrial Air RSLs are derived for exposure durations of 8 hours per day, 250 days per year for 25 years.

2. ATSDR MRLs, revised July 2013. Available at: http://www.atsdr.cdc.gov/mrls/mrllist.asp
Acute MRLs are derived for exposure durations of 1 to 14 days. Short-term (intermediate) MRLs are derived for exposure durations of >14 to 364 days.

3. Memo from USEPA to Stephen Hill (RWQCB 2013). "EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites." December 3. USEPA Interim Indoor Air Short-Term Response Action Levels for TCE (7 µg/m^3). California-modified indoor air screening level for PCE (2 µg/m^3).

Units in micrograms per cubic meter (µg/m^3) at 25° Celsius and 1 atmosphere.

* = Trans-1,2-DCE MRLs and RSLs are used for cis-1,2-DCE

** = 10-hour workday as recommended by USEPA for South Bay Sites; 8-hour workday scenario screening level is 9µg/m^3.

1,2-DCB = 1,2-dichlorobenzene
1,1-DCA = 1,1-dichloroethane
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
1,1,1-TCA = 1,1,1-trichloroethane
TCE = trichloroethene
VC = vinyl chloride

BZ = breathing zone sample location
NA = not available
OA = outdoor air sample location

ATSDR = Agency for Toxic Substances and Disease Registry
USEPA = United States Environmental Protection Agency
RSLs = Regional Screening Levels
RWQCB = Regional Water Quality Control Board
MRLs = Minimal Risk Levels

Table 3
HVAC On Commercial Air Sampling Results for Pathways
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
Indoor Air Sample Results												
NBCB1-PW-1	08/31/2011	PW	<0.18	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	1.2	0.52
NBCB1-PW-2 (duplicate)	08/31/2011	PW	<0.18	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	1.2	0.53
NBCB1-PW-3	08/31/2011	PW	<0.18	<0.13	<0.042	0.24	<0.65	<0.13	<0.20	<0.18	1	0.59
NBCB1-PW-4	08/31/2011	PW	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	2.5	0.54
NBCB2-PW-10	08/31/2011	PW	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	0.32	0.57
NBCB2-PW-11	08/31/2011	PW	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	0.24	0.55
NBCB2-PW-12	08/31/2011	PW	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	1.8	0.57
NBCB2-PW-8	08/31/2011	PW	<0.18	<0.13	<0.042	<0.22	<0.66	<0.13	<0.20	<0.18	1.1	0.57
SPCB3-PW-17	09/01/2011	PW	<0.19	<0.14	<0.046	<0.24	<0.70	<0.14	<0.21	<0.19	0.42	0.53
SPCB3-PW-18	09/01/2011	PW	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	0.66	0.55
NBCB4-PW-22	09/01/2011	PW	1.7	<0.14	<0.044	<0.23	1.3	<0.14	<0.21	<0.19	3.8	0.55
NBCB4-PW-23	09/01/2011	PW	0.36	<0.14	<0.047	<0.25	1.6	<0.15	<0.22	<0.20	0.41	0.55
NBCB-5-PW-27	12/20/2012	PW	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	0.50
NBCB-5-PW-29	12/20/2012	PW	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	0.28	0.54
NBCB-5-PW-46	12/20/2012	PW	<0.16	<0.12	<0.038	<0.20	<0.59	<0.12	<0.18	<0.16	<0.14	0.53
NBCB-6-PW-34	12/20/2012	PW	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.20	<0.19	0.30	0.55
NBCB-6-PW-47	12/20/2012	PW	0.15	<0.11	<0.035	<0.18	<0.54	<0.11	<0.16	<0.15	<0.13	0.52
NBCB-7-PW-39	12/20/2012	PW	<0.18	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	<0.16	0.52
NBCB-7-PW-42	12/20/2012	PW	0.22	0.18	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.41	0.45
NBCB-7-PW-43 (duplicate)	12/20/2012	PW	0.33	0.21	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.45	0.46
NBCB-7-PW-44	12/20/2012	PW	0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.20	<0.19	0.27	0.43
NBCB-7-PW-48	12/20/2012	PW	<0.16	<0.12	<0.038	<0.20	<0.59	<0.12	<0.18	<0.16	<0.14	0.28
NBCB-8-PW-49	2/6/2013	PW	0.76	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	1.8	0.63
NBCB-8-PW-56	2/6/2013	PW	6.0	4.1	0.44	<1.9	<5.6	<1.1	<1.7	<1.5	2.6	<2.2
NBCB-8-PW-93	9/12/2013	PW	0.35	<0.13	<0.041	0.27	<0.64	<0.13	<0.19	<0.18	0.20	0.56
NBCB-8-PW-94 (duplicate)	9/12/2013	PW	0.40	<0.12	<0.038	0.30	<0.59	<0.12	<0.18	<0.16	0.20	0.61
NBCB-9-PW-59	2/6/2013	PW	2.8	1.8	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.64	0.62
NBCB-9-PW-60 (duplicate)	2/6/2013	PW	2.8	1.7	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.61	0.62
NBCB-9-PW-62	2/6/2013	PW	0.16	<0.11	<0.035	<0.19	<0.55	<0.11	<0.16	<0.15	0.60	0.49
NBCB-9-PW-80	4/11/2013	PW	1.6	0.85	0.12	<0.22	<0.65	<0.13	<0.20	<0.18	0.45	0.62
NBCB-10-PW-75	2/6/2013	PW	0.69	<0.11	<0.036	<0.19	<0.56	<0.11	<0.17	<0.15	0.39	0.62
NBCB-11-PW-76	4/11/2013	PW	<0.17	<0.13	<0.041	<0.22	<0.63	<0.13	<0.19	<0.17	0.17	0.59

Table 3
HVAC On Commercial Air Sampling Results for Pathways
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
NBCB-12-PW-87	7/18/2013	PW	<0.17	<0.13	<0.041	<0.22	<0.63	<0.13	<0.19	<0.17	0.37	0.57
NBCB-12-PW-89	7/18/2013	PW	0.23	<0.14	<0.047	<0.25	<0.72	<0.15	<0.22	<0.20	0.38	0.56

Notes:

Units in micrograms per cubic meter (µg/m³) at 25° Celsius and 1 atmosphere

1,1-DCA = 1,1-dichloroethane
1,2-DCB = 1,2-dichlorobenzene
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
1,1,1-TCA = 1,1,1-trichloroethane
TCE = trichloroethene
VC = vinyl chloride
PW= pathway sample location

Table 4
HVAC Off Commercial Air Sampling Results for Breathing Zones
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
Tier 1 - Comparison to Background/Outdoor Ambient Air												
NBCB-8-OA-106	11/17/2013	OA	<0.16	<0.12	<0.038	<0.20	<0.60	<0.12	<0.18	<0.16	0.51	0.73
SPCB-13-OA-12	5/22/2014	OA	<0.19	<0.14	<0.045	<0.24	<0.70	<0.14	<0.21	<0.19	<0.17	0.59
Tier 2 - Comparison to Long-Term Health Risk-Based Screening Criteria												
Industrial/Commercial Screening Level (May 2014)[1,3]			3.0	NA	2.8	2	NA	7.7	880	22,000	0.53	130,000
Tier 3 - Comparison to Short-Term Health Risk-Based Screening Criteria												
Acute Screening Level (July 2013)[2]			NA	793*	1,278	1,357	793	NA	NA	10,914	488	NA
Short-Term Screening Levels (July 2013)[4]			NA	793*	77	NA	793	NA	NA	3,820	244	NA
Interim Indoor Short-Term Response Action Levels[3]			7**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indoor Air Sample Results												
NBCB-8-BZ-97	11/7/2013	BZ	6.5	4.8	0.47	0.28	<0.65	<0.13	<0.20	<0.18	2.1	0.77
NBCB-8-BZ-98	11/7/2013	BZ	0.48	<0.12	<0.040	0.34	<0.62	<0.13	<0.19	<0.17	0.46	0.72
NBCB-8-BZ-99	11/7/2013	BZ	1.3	<0.12	<0.040	<0.21	<0.62	<0.13	<0.19	<0.17	0.49	0.82
NBCB-8-BZ-100	11/7/2013	BZ	0.77	<0.12	<0.039	1.8	<0.60	<0.12	<0.18	<0.16	0.73	0.72
NBCB-8-BZ-101	11/7/2013	BZ	0.29	<0.12	<0.040	0.23	<0.62	<0.13	<0.19	<0.17	0.50	0.84
NBCB-8-BZ-102	11/7/2013	BZ	0.34	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.49	0.74
NBCB-8-BZ-103	11/7/2013	BZ	0.27	<0.12	0.16	<0.21	<0.61	<0.12	<0.18	<0.17	3.4	0.74
NBCB-8-BZ-103-D (duplicate)	11/7/2013	BZ	0.27	<0.12	<0.040	<0.21	<0.62	<0.13	<0.19	<0.17	0.51	0.73
NBCB-8-BZ-104	11/7/2013	BZ	0.80	<0.13	<0.041	<0.22	<0.63	<0.13	<0.19	<0.17	0.46	0.76
NBCB-8-BZ-105	11/7/2013	BZ	14	<0.12	<0.040	2.2	<0.63	<0.13	<0.19	<0.17	0.53	1.2
SPCB-13-BZ-2	5/22/2014	BZ	1.3	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.17	0.62
SPCB-13-BZ-6	5/22/2014	BZ	0.29	<0.14	<0.044	<0.23	<0.68	<0.14	<0.20	<0.19	0.17	0.60
SPCB-13-BZ-8	5/22/2014	BZ	0.36	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.17	0.60
SPCB-13-BZ-9	5/22/2014	BZ	1.80	<0.13	<0.042	<0.22	<0.66	<0.13	<0.20	<0.18	0.17	0.73
SPCB-13-BZ-10	5/22/2014	BZ	0.34	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.16	0.61
SPCB-13-BZ-11	5/22/2014	BZ	0.39	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	<0.17	0.58

Table 4
HVAC Off Commercial Air Sampling Results for Breathing Zones
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

Notes:

1. USEPA Regional Screening Levels (RSLs), revised May 2014. Available at: http://www.epa.gov/region9/superfund/prg/
Industrial Air RSLs are derived for exposure durations of 8 hours per day, 250 days per year for 25 years.

2. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs), revised July 2013. Available at: http://www.atsdr.cdc.gov/mrls/mrllist.asp
Acute MRLs are derived for exposure durations of 1 to 14 days. Short-term (intermediate) MRLs are derived for exposure durations of >14 to 364 days.

3. Letter from USEPA to Stephen Hill (RWQCB 2013). "EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites." December 3. Includes Short-Term Response Action Levels for TCE and California-modified long-term screening criteria for PCE.

Units in micrograms per cubic meter (µg/m³) at 25° Celsius and 1 atmosphere.

* = Trans-1,2-DCE MRLs and RSLs are used for cis-1,2-DCE

** = 10-hour workday as recommended by USEPA for South Bay Sites; 8-hour workday scenario screening level is 9 µg/m^3.

1,1-DCA = 1,1-dichloroethane
1,2-DCB = 1,2-dichlorobenzene
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
1,1,1-TCA = 1,1,1-trichloroethane
TCE = trichloroethene
VC = vinyl chloride

BZ = breathing zone sample location
NA = not available
OA = outdoor air sample location

ATSDR = Agency for Toxic Substances and Disease Registry
USEPA = United States Environmental Protection Agency
RSLs = Regional Screening Levels
RWQCB = Regional Water Quality Control Board
MRLs = Minimal Risk Levels

Table 5
HVAC Off Commercial Air Sampling Results for Pathways
Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities
Mountain View, California

(concentrations reported in micrograms per cubic meter)

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
SPCB-13-PW-1	5/22/2014	PW	<0.17	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.30	0.60
SPCB-13-PW-3	5/22/2014	PW	8.4	2.0	0.14	1.2	<0.63	<0.13	<0.19	<0.17	7.5	0.91
SPCB-13-PW-4	5/22/2014	PW	0.86	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.37	0.60
SPCB-13-PW-5	5/22/2014	PW	0.58	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	0.17	0.66
SPCB-13-PW-7	5/22/2014	PW	6.0	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.18	1.2

Notes:

Units in micrograms per cubic meter (µg/m³) at 25° Celsius and 1 atmosphere.

1,1-DCA = 1,1-dichloroethane
1,2-DCB = 1,2-dichlorobenzene
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
1,1,1-TCA = 1,1,1-trichloroethane
TCE = trichloroethene
VC = vinyl chloride
PW = pathway sample location

ARCADIS

Figures

0 1/2 MILE

GRAPHIC SCALE

SOURCE: THOMAS BROS GUIDE

FORMER SPECTRA-PHYSICS LASERS AND
FORMER TELEDYNE SEMICONDUCTOR SITES
MOUNTAIN VIEW, CALIFORNIA

SITE VICINITY MAP AND PROPERTY LOCATIONS

ARCADIS

FIGURE
1

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Legend

RESIDENTIAL BUILDING INCLUDED IN VAPOR INTRUSION STUDY AREA

COMMERCIAL BUILDING INCLUDED IN VAPOR INTRUSION STUDY AREA

N

0 500 1,000 Feet

FORMER SPECTRA-PHYSICS LASERS, FORMER TELEDYNE SEMICONDUCTOR

RESIDENTIAL AND COMMERCIAL BUILDINGS INCLUDED IN THE VAPOR INTRUSION STUDY AREA

ARCADIS

FIGURE **2**

Path: K:\001_EMV\09132_Spectra\GIS\ArcGIS\Projects\2014\Permit Application\FIGURE 2 Work Plan Addendum ResCom.mxd Date Saved: 6/13/2014 8:42:47 AM Author: M Miller