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June 20, 2014

Mr. Ed Jones, Project Manager  
Washington State Department of Ecology  
3190 160<sup>th</sup> Avenue Southeast  
Bellevue, Washington 98008-5452

**RE: PROGRESS REPORT, JANUARY THROUGH JUNE 2014, QUARTERS 1 AND 2  
REMEDIAL INVESTIGATION MONITORING AND FEASIBILITY STUDY  
CAPITAL INDUSTRIES, INC., SEATTLE, WASHINGTON  
AGREED ORDER NO. DE 10402  
FARALLON PN: 457-008**

Dear Mr. Jones:

Farallon Consulting, L.L.C. (Farallon) has prepared this progress report on behalf of Capital Industries, Inc. (Capital) to summarize the activities conducted in the first and second quarters of 2014, January through June, as part of the ongoing Remedial Investigation (RI) monitoring and Feasibility Study (FS) work being conducted at the Capital Site at 5801 3<sup>rd</sup> Avenue South in Seattle, Washington. This progress report has been prepared in accordance with Agreed Order No. DE 10402 entered into by Capital and the Washington State Department of Ecology (Ecology) dated April 23, 2014 (Agreed Order).

### **ACTIVITIES DURING REPORTING PERIOD**

Activities completed during the progress reporting period are summarized below. These activities include ongoing groundwater monitoring and sampling, and vapor intrusion investigation and mitigation. Farallon also initiated work on the Feasibility Study components under Agreed Order No. DE 10402.

### **MONITORING AND SAMPLING ACTIVITIES**

Activities conducted during this reporting period included ongoing groundwater monitoring and sampling and Tier 3 Vapor Intrusion Assessment work. The activities completed are described below.

#### **Groundwater Monitoring and Sampling**

Farallon completed a semiannual groundwater monitoring and sampling event March 10 to 13, 2014 in accordance with the *Revised 2013 Groundwater Monitoring Plan Addendum, Capital Industries, Inc., 5801 3<sup>rd</sup> Avenue South, Seattle, Washington* dated February 20, 2013 (2013 Groundwater Monitoring Plan). A summary table of the results of the groundwater sample laboratory analyses is attached. Summary figures that include groundwater elevation contours, analytical data, and isoconcentration contours depicting the estimated limits of select constituents of concern in the three water-bearing zones will be provided to Ecology in early July.

#### **Tier 3 Vapor Intrusion Assessment Work**

Farallon entered into a Site Access Agreement with Pacific Food Systems on April 2, 2014 to allow Farallon access to the Pacific Food Systems North Building to complete additional Tier 3 Vapor



Intrusion Assessment work. Farallon was granted access to the building on April 24, 2014 and again on May 5, 2014 to complete indoor air sampling.

Farallon conducted indoor and outdoor air sampling on April 24, 2014 with the existing parts cleaner in-place. The parts cleaner and associated solvent were removed from the building and the building was ventilated by opening the doors during business operations and running the existing ventilation system to increase the air exchange rate. Farallon returned to the Site on May 5, 2014 to perform a second round of indoor air sampling.

The laboratory data were reviewed and a final laboratory report was issued to Farallon on June 9, 2014. The laboratory report, summary figure, and summary tables are attached. An updated Tier 3 Vapor Intrusion Assessment Report will be submitted to Ecology by July 3, 2014.

The results of the air sampling indicate that the parts cleaner and associated solvent is not a contributing source of tetrachloroethene or trichloroethene to indoor air. Tier 4 mitigation measures are recommended and Farallon is proceeding with acquiring approval to complete the design and installation of a subslab depressurization system.

Farallon reviewed the performance of the existing subslab depressurization system at the Olympic Medical Center building in January 2014. The building is now occupied by Natus Medical Incorporated and newly hired personnel are maintaining the system and operation log. The system was in good working order, although the log of operations was not completed from April through July 2013. The new maintenance personnel reported that they began documenting the system performance in August 2013. No other issues were noted with the system operation.

## **INTERIM MEASURES**

No interim measures were implemented during this reporting period.

## **FEASIBILITY STUDY WORK**

Agreed Order No. DE 10402 was signed on April 23, 2014. Farallon has since been working with the West of 4th Group to complete the drafts of the Deliverable Management Plan and Preliminary Cleanup Standards Memoranda that will be provided to Ecology for review by June 23, 2014. Farallon is reviewing data gaps specific to Capital and Site Unit 2 to evaluate what additional work, if any, is necessary to support completion of the Feasibility Study and preparation of the draft Cleanup Action Plan.

## **PUBLIC COMMUNICATIONS**

No public communication activities were completed during this period.

## **ANTICIPATED WORK IN THE NEXT QUARTER**

Work anticipated to be performed during third quarter 2014, July through September, is summarized below.



Washington State Department of Ecology  
June 20, 2014  
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## MONITORING AND SAMPLING ACTIVITIES

Farallon will complete the summary figures for groundwater monitoring and sampling performed in March 2014. The next groundwater monitoring and sampling event is scheduled for September 2014.

## VAPOR INTRUSION

Upon authorization from Capital, Farallon will initiate the design and installation of a subslab depressurization system at the Pacific Food Systems North Building.

## INTERIM MEASURES

No interim measures are anticipated during the next reporting period.

## PUBLIC COMMUNICATIONS

The project website will be updated with an electronic copy of this progress report. The next progress report will summarize activities completed from June through September 2014 and will be submitted on or before September 22, 2014.

## CLOSING

Farallon trusts that this quarterly progress report provides sufficient information for Ecology. If you have questions regarding this project, please contact either of the undersigned at (425) 295-0800.

Sincerely,

**Farallon Consulting, L.L.C.**

A handwritten signature in blue ink that reads "Jeffrey Kaspar".

Jeffrey Kaspar, L.G., L.H.G.  
Senior Project Manager

A handwritten signature in blue ink that reads "Peter Jewett".

Peter Jewett, L.G., L.E.G.  
Principal

Attachment: Attachment A, March 2014 Groundwater Monitoring and Sampling Preliminary Results  
Attachment B, Pacific Food Systems North Building Tier 3 Vapor Intrusion Preliminary Results

cc: Ron Taylor, Capital Industries, Inc.  
Donald Verfurth, Gordon and Rees, L.L.P.

E-mail with link to electronic copy on project website:

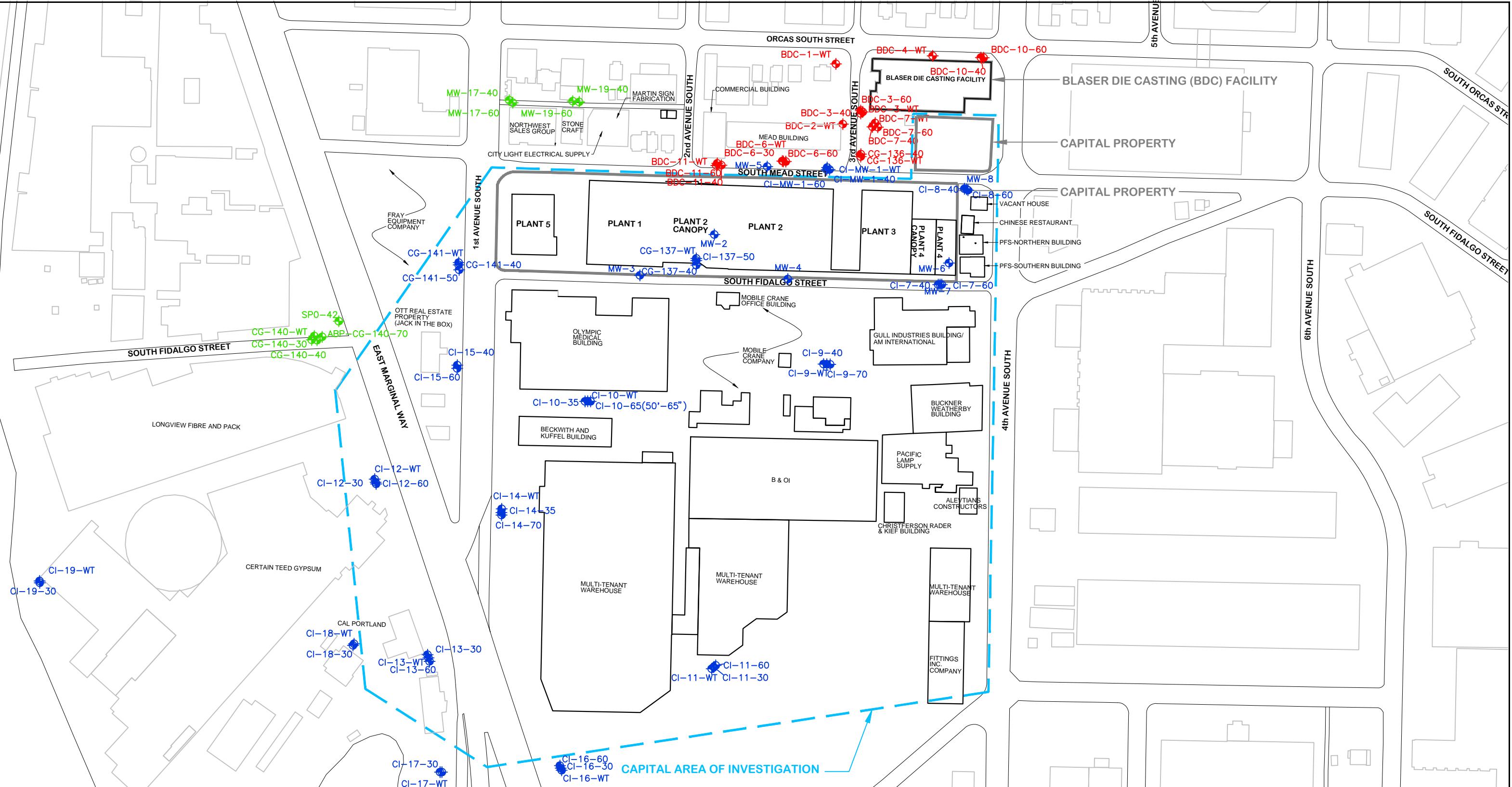
Janet Knox, Pacific Groundwater Group  
Dana Cannon, Aspect Consulting  
Bill Carroll, Arrow Environmental  
Bill Beck, Phillips Service Corporation

JK/PJ:bw

**ATTACHMENT A**  
**MARCH 2014 GROUNDWATER MONITORING AND SAMPLING**  
**PRELIMINARY RESULTS**

PROGRESS REPORT, JANUARY THROUGH JUNE 2014  
QUARTERS 1 AND 2  
Capital Industries, Inc.  
Seattle, Washington

Farallon PN: 457-008



0 200  
APPROXIMATE SCALE IN FEET



- LEGEND**
- CAPITAL INDUSTRIES MONITORING WELL
  - BLASER DIE CASTING BORING MONITORING WELL

ALL LOCATIONS ARE APPROXIMATE

- PSC MONITORING WELL
- ART BRASS PLATING BORING MONITORING WELL

  
FARALLON CONSULTING  
975 5th Avenue Northwest  
Issaquah, WA 98027

**FIGURE 1**

GROUNDWATER MONITORING AND  
SAMPLING PLAN ADDENDUM FOR 2013  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

FARALLON PN: 457-004

Drawn By:DEW Checked By:JK/PJ Date:1/21/13 Disk Reference:457004j



**Table 1**  
**Analytical Results for HVOCS in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-007**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>					
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride	
Capital Industries, Inc. (continued)	MW-4	3/25/2010	MW-4-032510	5.73 to -4.27	10 to 20	1.1	0.2 U	0.2 U	1.7	0.67	
		6/17/2010	MW-4-061710	5.73 to -4.27	10 to 20	1.2	0.2 U	0.2 U	2.5	0.2 U	
		9/29/2010	MW-4-092910	5.73 to -4.27	10 to 20	2	0.2 U	0.2 U	2.4	0.34	
		12/15/2010	MW-4-121510	5.73 to -4.27	10 to 20	3.3	0.2 U	0.2 U	4.4	0.36	
		3/13/2013	MW-4-031313	5.73 to -4.27	10 to 20	1.1	0.2 U	0.2 U	1.7	0.2 U	
		8/8/2013	MW-4-080813	5.73 to -4.27	10 to 20	1.8	0.2 U	0.22	1.7	0.2 U	
		3/13/2014	MW-4-031314	5.73 to -4.27	10 to 20	1.1	0.2 U	0.2 U	1.3	0.2 U	
	MW-7	3/24/2010	MW-7-032410	7.04 to -2.96	10 to 20	5.9	0.2 U	<b>22</b>	<b>17</b>	0.2 U	
		6/17/2010	DUP-MW-7-061710	7.04 to -2.96	10 to 20	6.2	0.2 U	<b>13 J</b>	<b>9.3</b>	0.38	
		6/17/2010	MW-7-061710	7.04 to -2.96	10 to 20	5.8	0.2 U	<b>9.4 J</b>	<b>8.1</b>	0.43	
		9/30/2010	DUP-MW-7-093010	7.04 to -2.96	10 to 20	3.8	0.2 U	<b>18</b>	<b>9.6</b>	0.45	
		9/30/2010	MW-7-093010	7.04 to -2.96	10 to 20	3.8	0.2 U	<b>17</b>	<b>9.7</b>	0.44	
		12/14/2010	MW-7-121410	7.04 to -2.96	10 to 20	4.3	0.2 U	2.4 J	6.5	0.57	
		12/14/2010	MW-7-121410-DUP	7.04 to -2.96	10 to 20	4.3	0.2 U	<b>3.5 J</b>	<b>5.8</b>	0.47	
MTCA Method C Modified Screening Levels-Water Table Zone		3/15/2011	DUP-MW-7-031511	7.04 to -2.96	10 to 20	3.3	0.2 U	<b>5.8</b>	<b>7.9</b>	0.22	
		3/15/2011	MW-7-031511	7.04 to -2.96	10 to 20	3.5	0.2 U	<b>5.3</b>	<b>7.3</b>	0.28	
		9/29/2011	MW-7-092911	7.04 to -2.96	10 to 20	3.4	0.2 U	<b>17</b>	<b>9.2</b>	0.39	
		5/4/2012	MW-7-050412	7.04 to -2.96	10 to 20	2.9	0.2 U	<b>26</b>	<b>19</b>	0.2 U	
		9/26/2012	MW-7-092612	7.04 to -2.96	10 to 20	3.2	0.2 U	<b>3.6</b>	4.7	0.2 U	
		3/13/2013	MW-7-031313	7.04 to -2.96	10 to 20	2.9	0.2 U	<b>21</b>	<b>14</b>	0.2 U	
		8/8/2013	MW-7-031313	7.04 to -2.96	10 to 20	4.7	0.2 U	<b>8.6</b>	4.6	0.2 U	
		3/12/2014	MW-7-031214	7.04 to -2.96	10 to 20	2.8	0.2 U	<b>21</b>	<b>12</b>	0.2 U	
							<b>590<sup>5</sup></b>	<b>56<sup>6</sup></b>	3.3 <sup>7</sup>	6.8 <sup>6</sup>	
										1.28 <sup>6</sup>	





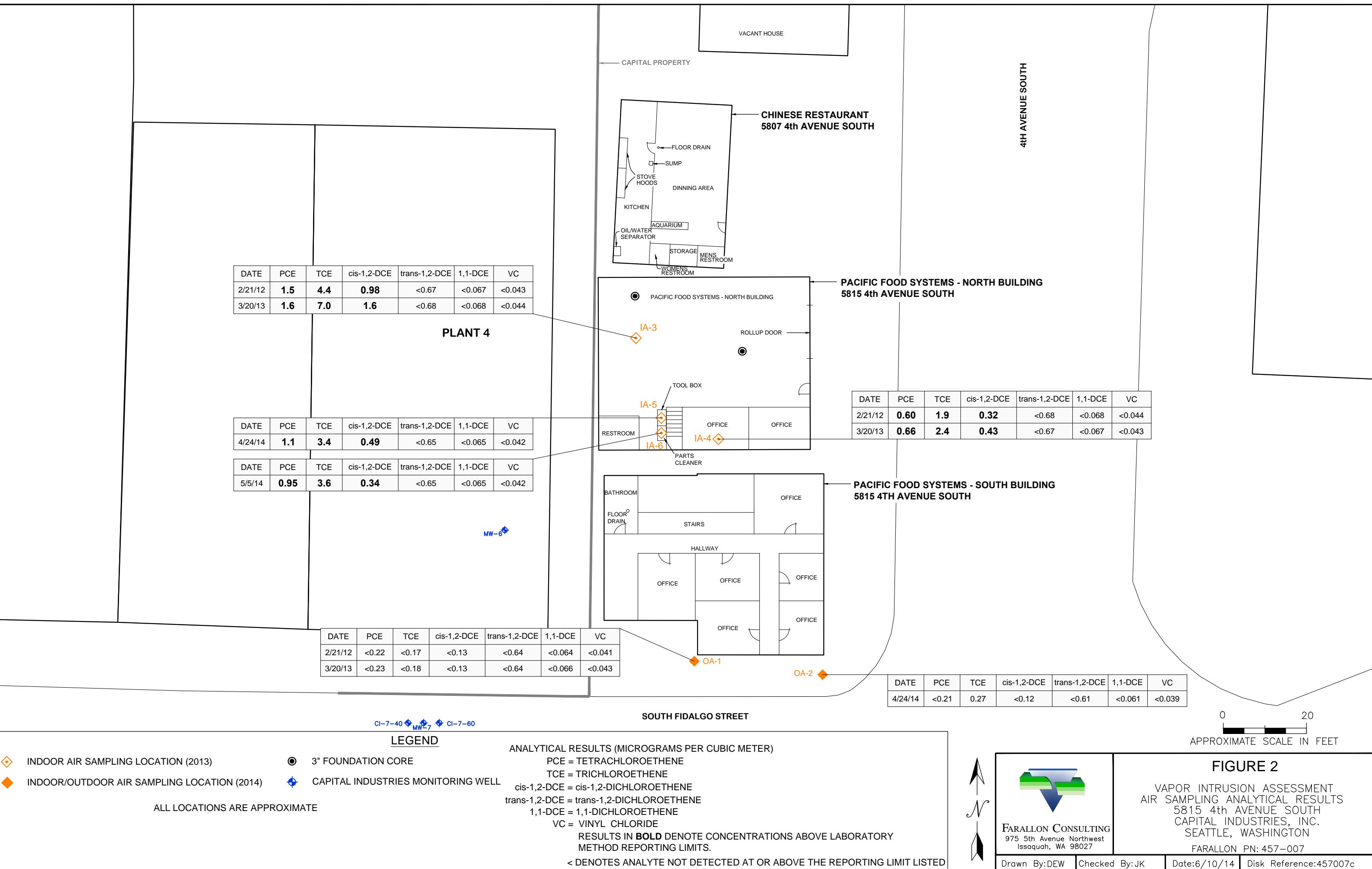




**ATTACHMENT B  
PACIFIC FOOD SYSTEMS NORTH BUILDING  
TIER 3 VAPOR INTRUSION PRELIMINARY RESULTS**

**PROGRESS REPORT, JANUARY THROUGH JUNE 2014  
QUARTERS 1 AND 2  
Capital Industries, Inc.  
Seattle, Washington**

**Farallon PN: 457-008**



**Table 1**  
**Summary of COPC Analytical Results for Soil and Soil Gas**  
**5815 4th Avenue South - North Building Vicinity**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN 457-007**

Sample Location	Sample Identification	Sample Depth <sup>1</sup>	Sample Date	Analytical Results (milligrams per kilogram) <sup>2</sup>				
				PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
<b>Soil</b>								
ECS28	ECS28	2.6	May-05	0.034	0.027	0.0037	<0.005	<0.005
ECS28	ECS28	6.0	May-05	0.037	0.013	0.005	<0.005	<0.005
ECS30	ECS30	2.9	May-05	0.016	0.14	0.006	<0.005	<0.005
ECS30	ECS30	6.5	May-05	0.017	0.046	0.017	<0.005	<0.005
ECS32	ECS32	2.1	May-05	<0.005	0.037	0.0046	<0.005	<0.005
ECS32	ECS32	4.5	May-05	<0.005	0.045	0.0048	<0.005	<0.005
ECS38	ECS38	4.2	May-05	0.014	0.006	0.0029	<0.005	<0.005
ECS38	ECS38	6.4	May-05	0.038	0.0041	0.0022	<0.005	<0.005
ECS39	ECS39	0.7	May-05	0.006	0.015	0.017	<0.005	<0.005
ECS39	ECS39	2.2	May-05	0.009	0.013	0.038	<0.005	<0.005
ECS39	ECS39	6.7	May-05	0.0024	0.0024	0.0263	<0.005	<0.005
ECS39	ECS39	9.5	May-05	<0.005	<0.005	0.0037	<0.005	<0.005
ECS40	ECS40	0.6	May-05	0.0015	0.0044	<0.005	<0.005	<0.005
ECS40	ECS40	2.4	May-05	0.009	0.015	0.029	<0.005	<0.005
ECS40	ECS40	7.3	May-05	0.0045	0.009	0.01	<0.005	<0.005
ECS41	ECS41	0.1	May-05	<0.005	<0.005	<0.005	<0.005	<0.005
ECS41	ECS41	2.5	May-05	<0.005	0.0015	<0.005	<0.005	<0.005
ECS41	ECS41	6.8	May-05	<0.005	0.0014	0.002	<0.005	<0.005
B18	B18-120908-2	2.0	12/9/2008	<0.0011	0.0017	<0.0011	<0.0011	<0.0055
B18	B18-120908-5	5.0	12/9/2008	0.008	0.0060	<0.0012	<0.0012	<0.0061
B18	B18-120908-7	7.0	12/9/2008	0.021	0.012	<0.0011	<0.0011	<0.0053
Sample Location	Sample Identification	Sample Date	Analytical Results (micrograms/cubic meter) <sup>3</sup>					
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	
<b>Soil Gas</b>								
SS-2	5815N-Warehouse1-041311	4/13/2011	<b>840</b>	<b>1,400</b>	74	<1.4	<0.44	
SS-3	5815N-Warehouse2-041311	4/13/2011	<b>4,200</b>	<b>28,000</b>	<42	<42	<27	
<b>Commercial Sub-Slab Soil Gas IPIMAL - Cancer</b>			<b>220</b>	<b>15</b>	<b>Not Established</b>	<b>Not Established</b>	<b>6.6</b>	
<b>Commercial Sub-Slab Soil Gas IPIMAL - Non-cancer</b>			<b>75</b>	<b>3.9</b>	<b>Not Established</b>	<b>120</b>	<b>190</b>	

**NOTES:**

Results in **bold** denote concentrations above applicable screening levels.

< denotes analyte not detected at or above the reporting limit listed.

Samples collected by Farallon Consulting, L.L.C.

<sup>1</sup>Depth in feet below ground surface.

<sup>2</sup>Analyzed using U.S. Environmental Protection Agency Method 8260B.

<sup>3</sup>Sub-slab soil gas samples analyzed by U.S. Environmental Protection Agency Method

COPC = constituent of potential concern

DCE = dichloroethene

PCE = tetrachloroethene

TCE = trichloroethene

**Table 2**  
**Summary of Vapor Intrusion Assessment Sampling Parameters**  
**5815 4th Avenue South - North Building**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-007**

<b>Sample Location</b>	<b>Sample Type</b>	<b>Sample Identification</b>	<b>Sample Date</b>	<b>Sample Start Time</b>	<b>Sample End Time</b>	<b>Sample Duration</b>	<b>Initial Pressure (inches of mercury)</b>	<b>Final Pressure (inches of mercury)</b>	<b>Sampling Shroud Helium Concentration (percent)</b>	<b>Leak Test Helium Concentration (percent)</b>
SS-2	Sub-Slab	5815N-Warehouse1-041311	4/13/2011	11:10	12:02	0:52	29.5	4.5	22.5	Not Applicable
SS-3	Sub-Slab	5815N-Warehouse2-041311	4/13/2011	14:09	14:54	0:45	29.5	6.5	13.3	Not Applicable
IA-3	Indoor Air	FAR-36029-022112	2/21/2012	8:17	16:17	8:00	30	7.0	Not Applicable	Not Applicable
		IA-3-1565-032013	3/20/2013	8:30	16:30	8:00	28.5	6.5		
IA-4	Indoor Air	FAR-25243-022112	2/21/2012	8:10	16:10	8:00	30	7.5	Not Applicable	Not Applicable
		IA-4-34193-032013	3/20/2013	8:35	16:35	8:00	29.5	7.5		
IA-5	Indoor Air	IA-5-13844-042414	4/24/2014	8:26	16:06	7:40	30	6.0	Not Applicable	Not Applicable
IA-6	Indoor Air	IA-6-33970-050514	5/5/2014	9:15	17:10	7:55	30	6.0	Not Applicable	Not Applicable
OA-1	Outdoor Air	FAR-5659-022112	2/21/2012	8:46	16:46	8:00	30	5.0	Not Applicable	Not Applicable
		IA-5-931-032013	3/20/2013	9:00	17:00	8:00	30	7.5		
OA-2	Outdoor Air	OA-2-34748-042414	4/24/2014	8:41	16:46	8:05	30	6.0	Not Applicable	Not Applicable

**Table 3**  
**Summary of Soil Gas and Air Sampling Analytical Results**  
**5815 4th Ave South - North Building**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-007**

Sample Type	Location	Sample Identification	Sample Date	Analytical Results (micrograms per cubic meter)						
				PCE <sup>1</sup>	TCE <sup>1</sup>	cis-1,2-Dichloroethene <sup>1</sup>	trans-1,2-Dichloroethene <sup>1</sup>	1,1-Dichloroethene <sup>1</sup>	Vinyl Chloride <sup>1</sup>	Helium (%)
Sub-Slab	SS-2	5815N-Warehouse1-041311	4/13/2011	<b>840</b>	<b>1,400</b>	<b>74</b>	<1.4	<0.68	<0.44	<b>0.44</b>
Sub-Slab	SS-3	5815N-Warehouse2-041311	4/13/2011	<b>4,200</b>	<b>28,000</b>	<42	<42	<42	<27	<0.11
Indoor Air	IA-3	FAR-36029-022112	2/21/2012	<b>1.5</b>	<b>4.4</b>	<b>0.98</b>	<0.67	<0.067	<0.043	NA
		IA-3-1565-032013	3/20/2013	<b>1.6</b>	<b>7.0</b>	<b>1.6</b>	<0.68	<0.068	<0.044	
Indoor Air	IA-4	FAR-25243-022112	2/21/2012	<b>0.60</b>	<b>1.9</b>	<b>0.32</b>	<0.68	<0.068	<0.044	NA
		IA-4-34193-032013	3/20/2013	<b>0.66</b>	<b>2.4</b>	<b>0.43</b>	<0.67	<0.067	<0.043	
Indoor Air	IA-5	IA-5-13844-042414	4/24/2014	<b>1.1</b>	<b>3.4</b>	<b>0.49</b>	<0.65	<0.065	<0.042	NA
Indoor Air	IA-6	IA-6-33970-050514	5/5/2014	<b>0.95</b>	<b>3.6</b>	<b>0.34</b>	<0.65	<0.065	<0.042	NA
Outdoor Air	OA-1	FAR-5659-022112	2/21/2012	<0.22	<0.17	<0.13	<0.64	<0.064	<0.041	NA
		OA-1-35995-032013	3/20/2013	<0.23	<0.18	<0.13	<0.66	<0.066	<0.043	
Outdoor Air	OA-2	OA-2-34748-040214	4/24/2014	<0.21	<b>0.27</b>	<0.12	<0.61	<0.061	<0.039	NA

NOTES:

Results in **bold** denote concentrations above laboratory method reporting limits.

< denotes analyte not detected at or above the reporting limit listed.

<sup>1</sup> Sub-slab samples analyzed by U.S. Environmental Protection Agency (EPA) Method Modified TO-15. Indoor and outdoor air samples analyzed by EPA Method Modified TO-15/SIM

<sup>2</sup> Helium analyzed by Modified ASTM Method D-1946 for Helium in air using GC/TCD

PCE = tetrachloroethene

TCE = trichloroethene

NA = not analyzed

**Table 4**  
**Summary of Sub-Slab Soil Gas Sample Cumulative Exceedance Factors**  
**5815 4th Avenue South - North Building**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-007**

Indoor Air Sampling Locations <sup>1,2</sup>	Sample Date	Tetrachloroethene			Trichloroethene			cis-1,2-dichloroethene			trans-1,2-dichloroethene			Vinyl Chloride			1,1-Dichloroethene			CCEF <sup>1</sup>	NCCEF <sup>2</sup>
		C <sub>soilgas</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>soilgas</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>soilgas</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>soilgas</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>soilgas</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>soilgas</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>		
SS-2 5815N-Warehouse1-041311	4/13/2011	840	3.82	11.20	1,400	93.33	358.97	74	-	-	0.7	-	0.006	0.22	0.033	0.001	0.34	-	0.0009	97	370
SS-3 5815N-Warehouse2-041311	4/13/2011	4,200	19.09	56.00	28,000	1,866.67	7179.49	21	-	-	21	-	0.18	13.5	2.05	0.071	21	-	0.054	1,888	7,236
Commercial Sub-Slab Soil Gas IPIMAL - Cancer <sup>3</sup>		<b>220</b>			<b>15</b>			-			-			<b>6.6</b>			--				
Commercial Sub-Slab Soil Gas IPIMAL - Non-cancer <sup>3</sup>		<b>75</b>			<b>3.9</b>			-			<b>120</b>			<b>190</b>			<b>390</b>			<b>10</b>	<b>10</b>

NOTES:

Where concentrations are below the method reporting limit, a value one-half of the method reporting limit is recorded for calculations herein.

<sup>1</sup>Locations with a CCEF exceeding 10 are presented in **bold** and indicate that they are proposed for further evaluation. These buildings have a potential vapor intrusion risk due to a cumulative inhalation cancer risk of greater than 1E-05.

<sup>2</sup>Locations with a NCCEF exceeding 10 are presented in **bold** and indicate that they are proposed for further evaluation. These buildings have a potential vapor intrusion risk due to a cumulative noncancer hazard index greater than 1.

<sup>3</sup>Concentrations in micrograms/cubic meter ( $\mu\text{g}/\text{m}^3$ ).

CCEF = cancer cumulative exceedance factor

EF<sub>Cancer</sub> = Cancer exceedance factor

EF<sub>Noncancer</sub> = Noncancer exceedance factor

C<sub>soilgas</sub> = Concentration of compound in sub-slab soil gas sample

CCEF and NCCEF values = cumulative total of individual EF values

IPIMAL = inhalation pathway interim measure action level

NCCEF = non-cancer cumulative exceedance factor

**Table 5**  
**Summary of Indoor and Outdoor Air Sample Cumulative Exceedance Factors**  
**5815 4th Avenue South - North Building**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-007**

Indoor Air Sampling Locations	Sample Date	Tetrachloroethene					Trichloroethene					cis-1,2-dichloroethene				
		C <sub>outdoor</sub> <sup>3</sup>	C <sub>indoor</sub> <sup>3</sup>	C <sub>indoor_corr</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>outdoor</sub> <sup>3</sup>	C <sub>indoor</sub> <sup>3</sup>	C <sub>indoor_corr</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>outdoor</sub> <sup>3</sup>	C <sub>indoor</sub> <sup>3</sup>	C <sub>indoor_corr</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>
IA-3	2/21/2012	0.110	1.50	1.39	0.06	0.185	0.085	4.4	4.32	2.88	11.06	0.065	0.98	0.92	-	-
	3/20/2013	0.115	1.60	1.49	0.07	0.198	0.090	7.0	6.91	4.61	17.72	0.065	1.60	1.54	-	-
IA-4	2/21/2012	0.110	0.60	0.49	0.02	0.065	0.085	1.9	1.82	1.21	4.65	0.065	0.32	0.26	-	-
	3/20/2013	0.115	0.66	0.55	0.025	0.073	0.090	2.4	2.31	1.54	5.92	0.065	0.430	0.365	-	-
IA-5	4/24/2014	0.105	1.1	1.00	0.045	0.133	0.27	3.4	3.13	2.09	8.03	0.060	0.49	0.430	-	-
IA-6	5/5/2014	0.105	0.95	0.85	0.038	0.113	0.27	3.6	3.33	2.22	8.54	0.060	0.34	0.280	-	-
<b>Commercial Indoor Air IPIMAL - Cancer<sup>3</sup></b>		<b>22</b>					<b>1.5</b>					<b>-</b>				
<b>Commercial Indoor Air IPIMAL - Non-cancer<sup>3</sup></b>		<b>7.5</b>					<b>0.39</b>					<b>-</b>				

NOTES:

Where concentrations are below the method reporting limit, a value one-half of the method reporting limit is recorded for calculations herein.

Where outdoor air concentrations exceed indoor air concentrations, this results in negative corrected concentrations. These are included in the CCEF and NCCEF totals.

<sup>1</sup>Samples with a CCEF exceeding 10 are presented in **bold** and indicate a potential cumulative inhalation cancer risk due to vapor intrusion greater than 1E-05.

<sup>2</sup>Samples with a NCCEF exceeding 10 are presented in **bold** and indicate a potential cumulative risk due to vapor intrusion with a hazard index greater than 1.

<sup>3</sup>Concentrations in micrograms/cubic meter ( $\mu\text{g}/\text{m}^3$ )

CCEF = cancer cumulative exceedance factor

EF<sub>Cancer</sub> = Cancer exceedance factor

EF<sub>Noncancer</sub> = Noncancer exceedance factor

C<sub>outdoor</sub> = Concentration of compound in outdoor air sample

C<sub>indoor</sub> = Concentration of compound in indoor air sample

C<sub>indoor\_corr</sub> = C<sub>indoor</sub> - C<sub>outdoor</sub>

CCEF and NCCEF values = cumulative total of individual EF values

Exceedance Factors = Corrected indoor air concentration/IPIMAL

IPIMAL = inhalation pathway interim measure action level

NCCEF = non-cancer cumulative exceedance factor

**Table 5**  
**Summary of Indoor and Outdoor Air Sample Cumulative Exceedance Factors**  
**5815 4th Avenue South - North Building**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-007**

Indoor Air Sampling Locations	Sample Date	trans-1,2-dichloroethene					Vinyl Chloride					1,1-Dichloroethene					CCEF <sup>1</sup>	NCCEF <sup>2</sup>
		C <sub>outdoor</sub> <sup>3</sup>	C <sub>indoor</sub> <sup>3</sup>	C <sub>indoor_corr</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>outdoor</sub> <sup>3</sup>	C <sub>indoor</sub> <sup>3</sup>	C <sub>indoor_corr</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>	C <sub>outdoor</sub> <sup>3</sup>	C <sub>indoor</sub> <sup>3</sup>	C <sub>indoor_corr</sub> <sup>3</sup>	EF <sub>Cancer</sub>	EF <sub>Noncancer</sub>		
IA-3	2/21/2012	0.32	0.34	0.02	-	0.001	0.020	0.022	0.002	0.002	0.0001	0.032	0.034	0.002	-	0.00004	2.9	<b>11.3</b>
	3/20/2013	0.33	0.34	0.01	-	0.001	0.022	0.022	0.001	0.001	0.0000	0.033	0.034	0.001	-	0.00003	4.7	<b>17.9</b>
IA-4	2/21/2012	0.32	0.34	0.02	-	0.002	0.020	0.022	0.002	0.003	0.0001	0.032	0.034	0.002	-	0.0001	1.2	4.7
	3/20/2013	0.33	0.34	0.01	-	0.000	0.022	0.022	0.000	0.000	0.0000	0.033	0.034	0.001	-	0.00001	1.6	6.0
IA-5	4/24/2014	0.31	0.33	0.02	-	0.002	0.0195	0.021	0.002	0.002	0.0001	0.031	0.033	0.002	-	0.0001	2.1	8.2
IA-6	5/5/2014	0.31	0.33	0.02	-	0.002	0.0195	0.021	0.002	0.002	0.0001	0.031	0.033	0.002	-	0.0001	2.3	8.7
<b>Commercial Indoor Air IPIMAL - Cancer<sup>3</sup></b>		-					<b>0.66</b>					--					<b>10</b>	<b>10</b>
<b>Commercial Indoor Air IPIMAL - Non-cancer<sup>3</sup></b>		<b>12</b>					<b>19</b>					<b>39</b>						

NOTES:

Where concentrations are below the method reporting limit, a value one-half of the method reporting limit is recorded for calculations herein.

Where outdoor air concentrations exceed indoor air concentrations, this results in negative corrected concentrations. These are included in the CCEF and NCCEF totals.

<sup>1</sup>Samples with a CCEF exceeding 10 are presented in **bold** and indicate a potential cumulative inhalation cancer risk due to vapor intrusion greater than 1E-05.

<sup>2</sup>Samples with a NCCEF exceeding 10 are presented in **bold** and indicate a potential cumulative risk due to vapor intrusion with a hazard index greater than 1.

<sup>3</sup>Concentrations in micrograms/cubic meter ( $\mu\text{g}/\text{m}^3$ )

CCEF = cancer cumulative exceedance factor

EF<sub>Cancer</sub> = Cancer exceedance factor

EF<sub>Noncancer</sub> = Noncancer exceedance factor

C<sub>outdoor</sub> = Concentration of compound in outdoor air sample

C<sub>indoor</sub> = Concentration of compound in indoor air sample

C<sub>indoor\_corr</sub> = C<sub>indoor</sub> - C<sub>outdoor</sub>

CCEF and NCCEF values = cumulative total of individual EF values

Exceedance Factors = Corrected indoor air concentration/IPIMAL

IPIMAL = inhalation pathway interim measure action level

NCCEF = non-cancer cumulative exceedance factor

6/9/2014  
Mr. Jeffrey Kaspar  
Farallon Consulting, LLC  
975 Fifth Avenue NW

Issaquah WA 98027-3333

Project Name:  
Project #:  
Workorder #: 1405197R1

Dear Mr. Jeffrey Kaspar

The following report includes the data for the above referenced project for sample(s) received on 5/9/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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

**A Eurofins Lancaster Laboratories Company**

**WORK ORDER #:** 1405197R1

## Work Order Summary

**CLIENT:** Mr. Jeffrey Kaspar  
 Farallon Consulting, LLC  
 975 Fifth Avenue NW  
 Issaquah, WA 98027-3333

**BILL TO:** Mr. Jeffrey Kaspar  
 Farallon Consulting, LLC  
 975 Fifth Avenue NW  
 Issaquah, WA 98027-3333

**PHONE:** 425-295-0808      **P.O. #** Task 8

**FAX:** 425-427-0067      **PROJECT #**

**DATE RECEIVED:** 05/09/2014      **CONTACT:** Kelly Buettner

**DATE COMPLETED:** 05/22/2014

**DATE REISSUED:** 06/09/2014

<b><u>FRACTION #</u></b>	<b><u>NAME</u></b>	<b><u>TEST</u></b>	<b><u>RECEIPT</u></b>	<b><u>FINAL</u></b>
			<b><u>VAC./PRES.</u></b>	<b><u>PRESSURE</u></b>
01A	IA-5-13844-042414	Modified TO-15 SIM	5.3 "Hg	5.1 psi
02A	OA-2-34748-042414	Modified TO-15 SIM	3.9 "Hg	4.9 psi
03A	IA-6-33970-050514	Modified TO-15 SIM	5.3 "Hg	5 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
04B	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
05B	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA
06B	LCS	Modified TO-15 SIM	NA	NA
06BB	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY:

DATE: 06/09/14

Technical Director

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 SIM**  
**Farallon Consulting, LLC**  
**Workorder# 1405197R1**

Three 6 Liter Summa Canister (SIM Certified) samples were received on May 09, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

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.

<b>Requirement</b>	<b>TO-15</b>	<b>ATL Modifications</b>
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+ - 30% Difference	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**

There were no analytical discrepancies.

THE WORKORDER WAS REISSUED ON 6/9/14 TO REPORT THE ADDITIONAL COMPOUND 1,1-DICHLOROETHENE PER CLIENT'S REQUEST.

### **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, LOD, or MDL value. See

data page for project specific U-flag definition.

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



Air Toxics

## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM

**Client Sample ID: IA-5-13844-042414**

**Lab ID#: 1405197R1-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	0.033	0.12	0.13	0.49
Trichloroethene	0.033	0.64	0.18	3.4
Tetrachloroethene	0.033	0.16	0.22	1.1

**Client Sample ID: OA-2-34748-042414**

**Lab ID#: 1405197R1-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.031	0.050	0.16	0.27

**Client Sample ID: IA-6-33970-050514**

**Lab ID#: 1405197R1-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	0.033	0.087	0.13	0.34
Trichloroethene	0.033	0.68	0.18	3.6
Tetrachloroethene	0.033	0.14	0.22	0.95



Air Toxics

Client Sample ID: IA-5-13844-042414

Lab ID#: 1405197R1-01A

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

File Name:	v052007simr1	Date of Collection:	4/24/14 8:26:00 AM	
Dil. Factor:	1.64	Date of Analysis:	5/20/14 03:14 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
cis-1,2-Dichloroethene	0.033	0.12	0.13	0.49
Trichloroethene	0.033	0.64	0.18	3.4
Tetrachloroethene	0.033	0.16	0.22	1.1
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	117	70-130



Air Toxics

Client Sample ID: OA-2-34748-042414

Lab ID#: 1405197R1-02A

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

File Name:	v052108simr1	Date of Collection:	4/24/14 8:41:00 AM	
Dil. Factor:	1.53	Date of Analysis:	5/21/14 01:34 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.061	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	0.050	0.16	0.27
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: IA-6-33970-050514

Lab ID#: 1405197R1-03A

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

File Name:	v052009simr1	Date of Collection:	5/5/14 9:15:00 AM	
Dil. Factor:	1.63	Date of Analysis:	5/20/14 04:30 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
cis-1,2-Dichloroethene	0.033	0.087	0.13	0.34
Trichloroethene	0.033	0.68	0.18	3.6
Tetrachloroethene	0.033	0.14	0.22	0.95
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	115	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405197R1-04A

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

File Name:	v052006sim	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	5/20/14 01:51 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
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	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

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405197R1-04B

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

File Name:	v052107sim	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	5/21/14 12:45 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
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	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

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405197R1-05A

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

File Name:	v052003sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/20/14 10:36 AM

Compound	%Recovery
Vinyl Chloride	78
1,1-Dichloroethene	91
cis-1,2-Dichloroethene	94
Trichloroethene	96
Tetrachloroethene	104
trans-1,2-Dichloroethene	93

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	116	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405197R1-05B

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

File Name:	v052102sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/21/14 09:11 AM

Compound	%Recovery
Vinyl Chloride	73
1,1-Dichloroethene	88
cis-1,2-Dichloroethene	92
Trichloroethene	94
Tetrachloroethene	101
trans-1,2-Dichloroethene	90

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	118	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405197R1-06A

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

File Name:	v052004sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/20/14 11:45 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	72	70-130
1,1-Dichloroethene	96	70-130
cis-1,2-Dichloroethene	101	70-130
Trichloroethene	93	70-130
Tetrachloroethene	100	70-130
trans-1,2-Dichloroethene	76	70-130

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	116	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405197R1-06AA

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

File Name:	v052005sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/20/14 12:26 PM
Compound	%Recovery	Method	Limits
Vinyl Chloride	71	70-130	
1,1-Dichloroethene	95	70-130	
cis-1,2-Dichloroethene	100	70-130	
Trichloroethene	91	70-130	
Tetrachloroethene	99	70-130	
trans-1,2-Dichloroethene	74	70-130	

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
1,2-Dichloroethane-d4	83	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	119	70-130	



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405197R1-06B

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

File Name:	v052103sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/21/14 09:55 AM
Compound	%Recovery	Method	Limits
Vinyl Chloride	73	70-130	
1,1-Dichloroethene	101	70-130	
cis-1,2-Dichloroethene	105	70-130	
Trichloroethene	97	70-130	
Tetrachloroethene	104	70-130	
trans-1,2-Dichloroethene	79	70-130	

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method	Limits
1,2-Dichloroethane-d4	83	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	115	70-130	



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405197R1-06BB

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

File Name:	v052104sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/21/14 10:37 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	73	70-130
1,1-Dichloroethene	99	70-130
cis-1,2-Dichloroethene	103	70-130
Trichloroethene	96	70-130
Tetrachloroethene	103	70-130
trans-1,2-Dichloroethene	78	70-130

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	117	70-130