

Response to PADEP Comments
Received June 16, 2017
AOI 3 RIR
PES Refining Complex

Soil

1. The RIR should provide information on which substances exceed soil-to-groundwater MSCs and where those exceedances occur. [§250.408(d)]

Updated soil results tables from the RIR (Table 4 - Summary of Surface Soil Sample Analytical Results and Table 5 - Summary of Subsurface Soil Sample Analytical Results) that include the PADEP soil-to-groundwater MSCs are attached.

Groundwater

2. Some of the most impacted monitoring wells are located in the northwest of AOI 3, near the Schuylkill River (S-280, S-382, and S-414). Shallow groundwater flow in this area was inferred to the southeast (Jun 2015) and to the east and southeast (Dec 2015). There are no monitoring points between these impacted wells and the river. Groundwater elevations were ~0–1'. The average stage of the river is ~0.5' (Appendix I). Evergreen should better determine groundwater flow in this area to determine if contamination is reaching the river. This will require further monitoring, and it may also involve the placement of additional monitoring wells closer to the river, piezometers near the river bank, a tidal study, and/or other actions.

The most recently installed monitoring wells in the northwest corner of AOI 3 were advanced in areas as close to the river that were deemed safe and accessible per underground utilities and pipelines. Additional groundwater monitoring in this area is planned per the response to Comment number 3 below. Evergreen will evaluate the performance of a tidal study in the northwest portion of AOI 3.

3. Certain wells appear to reflect increasing trends of benzene and MTBE, as described in Appendix I. DEP recommends more frequent sampling of those wells to better evaluate the trends.

Evergreen is evaluating the monitoring wells that are included in the current annual sampling at the PES Refining Complex in order to address any data gaps that may exist. The AOI 3 monitoring wells with increasing benzene and MTBE trends will be considered as part of this evaluation.

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4. Langan concluded that LNAPL in AOI 3 is “stable and immobile.” However, compared to some other recent reports submitted by Evergreen, there is little discussion and supporting information for this statement. For instance, there has been no evaluation of LNAPL transmissivity, use of the API model, or a lines-of-evidence assessment. DEP requests further evaluation and discussion of the LNAPL stability conclusions.

Attached is a PDF of “Figure 10 - Apparent LNAPL Thickness” from the 2010 AOI 3 SCR/RIR. The 2010 LNAPL thickness figure shows similar aerial extent as what was presented in the 2017 RIR. The northern LNAPL plume appears larger in the 2017 RIR figure because the original plume was extended across the AOI 3/AOI 4 boundary to include monitoring well S-282. LNAPL was present in S-282 in 2010; however, it was depicted as a separate plume in AOI 4. In addition, monitoring well S-410 was installed in October 2015 and found to contain LNAPL. A plume is included for this well on the 2017 RIR figure.

Also attached are LNAPL trend graphs (Figures G-1 through G-7) for select AOI-3 monitoring wells consisting of RW-2, S-5, S-19, S-60, S-113, S-285 and S-410. The hydrograph displayed in Figure G-7 for monitoring well S-410 displays a recent increase in apparent LNAPL thickness; however, LNAPL is not always evident immediately after installation. In general, LNAPL thickness fluctuations have been observed in monitoring and recovery wells throughout AOI 3. However, as shown in Figures G-1 through G-7, the overall LNAPL thickness trend is stable, and the fluctuations can be attributed to water table fluctuation and variable pumping conditions.

5. When was the RW-2 total fluids recovery system installed?

The exact installation date of the RW-2 total fluids recovery system is not known, however; gauging data for the system recovery well dates back to 1997. Also, the boring log states that RW-2 was installed in 1997. The system at RW-2 was most likely installed around this time.

Inhalation Pathway

6. Please document conditions at the time of air sampling, including indoor and outdoor temperatures, weather conditions (e.g., wind, precipitation, barometric pressure changes), and building characteristics (HVAC operation, ventilation, etc.).

All available information from the field sheets related to the indoor and outdoor air sampling events is attached.

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7. Aerial images show dozens of trailers south and northeast of the central warehouse building. Only two trailers were chosen for indoor air sampling. Explain how those two structures were selected. We request that Evergreen provide a listing of all trailers and other enclosed structures intended for human occupancy currently in AOI 3. Evergreen should document whether each structure is a potential VI receptor. (For instance, do the trailers have skirts which will cause an accumulation of vapors under the floors? Are they regularly occupied?) For each structure an explanation should be provided of how the vapor intrusion pathway is being evaluated. We recommend that Evergreen collect additional representative data from multiple trailers if the exposure pathway for occupants may be complete. [§250.404(a), 408(a)]

A table summarizing the buildings within AOI-3 is provided below.

Occupied Structures in AOI-3		
Building Name	Description	VI Evaluation
Central Warehouse (Bldg 3324)	Warehouse with bay doors and office space - Occupied daily - only permanent structure in AOI-3	Sampled (6 locations: AOI3-AI-16-002 through AOI3-AI-16-007)
Contractor Processing Center	Elevated trailer with skirt - Occupied daily	Sampled (AOI3-AI-16-009)
Contractor Facility Entrance Kiosk	Open air kiosk - Occupied daily	Not sampled - open air
Contractor trailer area - north of warehouse	Includes storage containers/trailers and elevated trailers with daily but intermittent use. Five skirted.	Sampled 1/5 skirted trailers (AOI3-AI-16-001)
Contractor trailers - south of warehouse	Trailers - some occupied daily. 24 skirted.	Sampled 1/24 skirted trailers (AOI3-AI-16-008)

The sample from the trailer area south of the Central Warehouse was collected near the well with the highest groundwater concentration at/near the southeast corner of the area. This sample, AOI3-AI-16-008, was collected from the "TechSolv" trailer, which is the

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largest footprint trailer in the southern portion of the area, was routinely occupied, and does have a metal skirt. Most of the skirted trailers in the area south of the Central Warehouse are more routinely occupied during the day as some house PES employees in addition to contractors.

In the area north of the Central Warehouse, there are only five trailers with skirts. The trailers are solely contractor trailers that are occupied sporadically throughout the day. The sample, AOI3-AI-16-001, was collected from the health and safety trailer in the southern row of trailers, as this structure is more routinely occupied, although it did not have a metal "skirt".

The attached Trailer Location Figure illustrates which trailers have skirts. It has previously been discussed that non-skirted trailers are not of VI concern. The trailers located in the northwestern corner of this area do not have skirts (note that during Evergreen's confirmation of the trailer construction in this area, there was a new trailer/structure [above ground, skirted, trailer-type] observed in the northwestern trailer area that was not marked and its use is unknown – this feature will be added to future sampling events if deemed necessary). Evergreen feels that based on the number of trailers in the northern area with skirts (5 total), that one location (20% of skirted trailers sampled) was sufficient. In the area south of the warehouse, there are 24 trailers with skirts, one of which was sampled. However, this trailer was considered to be the most likely to have VI concern based on proximity to groundwater impacts. A second round of indoor air samples has already been collected and a summary letter from GHD is attached. Please note that this letter was prepared for informational purposes to provide a summary of data results only. The data will be evaluated and incorporated in future Cleanup Plan documents along with additional sampling performed as needed.

8. As noted in the report, some reporting levels in the indoor air sample analyses exceeded applicable screening values. If Evergreen will be using risk-based screening values rather than occupational criteria (PELs), then those exceedances will need to be addressed.

Langan is preparing a Human Health Risk Assessment for the PES Refining Complex. Reporting limit exceedances of applicable screening values will be addressed in the HHRA as discussed in Section 11.0 "Conclusions and Recommendations", page 48, of the RIR.

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9. DEP recommends that GHD and Evergreen obtain the full analytical data packages for the indoor air sampling and report the MDLs and the PQLs pursuant to §250.4(c)(2). Both 1,2dibromoethane and naphthalene were nondetect in all samples, and the lab's LOQs (which may equal the PQLs) exceeded DEP's screening values. However, to attain a standard, concentrations for screening are not required to be less than PQLs (§250.701(c)).

The analytical laboratories reported MDLs and PQLs in the data reports. Evergreen is working to obtain PQL information from all labs with regard to the air data. Evergreen will revise the indoor air summary tables, as part of a future submittal, to show the PQLs reported by the analytical laboratories.

10. The results of the outdoor air testing were presented in Section 5.9 and Table 9. However, there was no discussion of those results. They were not compared to occupational criteria in the table. Evergreen should interpret the results and discuss if they will be screened, used in a risk assessment, or addressed through compliance with occupational criteria.

Outdoor air data were collected as a point of reference to assist in the multiple lines of evidence evaluation of indoor air results. The results of the outdoor air samples will be discussed in the Human Health Risk Assessment for the PES Refining Complex. Table 8 of the RIR has been updated with the applicable ACGIH TLVs and NIOSH RELs and is also attached. Concentrations of constituents in outdoor air are below the applicable ACGIH TLVs and NIOSH RELs for all analytes.

11. For future outdoor air sampling, DEP recommends the collection of a sample at an upwind location for context.

Generally, Evergreen agrees that collecting outdoor air samples at upwind locations is a best practice. However, at locations that are at or near major water bodies it is not possible to situate outdoor air samples "upwind" because of sea and land breezes, where wind blows onshore during the day as the temperature rises and the wind blows offshore during the evening and when the temperature drops. This was recently observed during outdoor air sampling along the river, where a 180-degree wind direction change was observed during placement of an 'upwind' sampler. Therefore, the outdoor air samples have been located to be central to an AOI to reflect the typical outdoor air concentrations in an area, or above LNAPL plumes, and/or adjacent to buildings where indoor air samples are collected. The data can then be used in a multiple lines of evidence evaluation of potential vapor intrusion.

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Exposure Pathways

12. In the July 2015 PNDI review, DCNR identified one endangered species and one special concern species. Further ecological evaluation is required for these two plant species. [§250.402(d)]

Evergreen will conduct an ecological evaluation for the Special Concern Species Waterhemp Ragweed (Amaranthus cannabinus) and the Endangered Walter's Barnyard-grass (Echinochloa walteri).

13. The Pennsylvania Fish and Boat Commission identified the eastern redbelly turtle and the Atlantic sturgeon as species of concern in the vicinity of AOI 3. AECOM's Oct 2015 report indicated that interior areas of AOI 3 are unlikely habitat for the eastern redbelly turtle, but the Schuylkill River and its bank is viable habitat for the turtle. The river is also presumably habitat for the Atlantic sturgeon. Because there is a potentially complete exposure pathway for threatened/endangered species, further ecological assessment is required. [§250.402(d)]

A Species Impact Review (SIR) as part of a PNDI search was requested by AECOM for Evergreen at AOI 3. The SIR concluded that the Atlantic Sturgeon and Eastern Redbelly Turtle did not have suitable habitat within AOI 3 and the Pennsylvania Fish and Boat Commission reply letter (dated November 10, 2015), stated in the first page, second paragraph, second sentence that "I concur with the results of your evaluation; therefore, I do not foresee the proposed project resulting in adverse impacts to the Atlantic Sturgeon (Acipenser oxyrinchus) or Eastern Redbelly Turtle (Pseudemys rubriventris)." However, Evergreen will conduct an ecological evaluation for AOI 3.

14. Evergreen must document whether or not there are any exceptional value wetlands in AOI 3. [§250.402(c), §250.311(a)]

Evergreen will review site conditions for any exceptional value wetlands in AOI 3.

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Tables, Figures, and Appendices

15. In Table 8, 26 ug/m³ is presented as the "RSL" for trimethylbenzenes. However, this is not EPA's published RSL, but rather a calculated value using the Sep 2016 IRIS RfC value. EPA will presumably post a new RSL in the near future. Exceedances of vapor intrusion screening values should generally be addressed through a risk assessment.

Langan is preparing a Human Health Risk Assessment for the PES Refining Complex that will address the vapor intrusion pathway.

16. Several screening values in Table 8 are incorrect. For example, the benzene screening value based on EPA's RSLs is 13 ug/m³, not 16 ug/m³. Screening values must be the lower of the cancer and non-cancer values. (See DEP's vapor intrusion training materials.)

Table 7 has been revised and is attached. None of the indoor air samples exhibited benzene exceedances of the EPA industrial RSL at a target cancer risk of 1E-05 and hazard quotient of 0.1(13 ug/m³). There are nine indoor air samples that exhibited benzene exceedances of the EPA industrial RSL at a target cancer risk of 1E-06 and hazard quotient of 0.1 (1.6 ug/m³).

Also, indoor air sample AOI3-AI-16-003 exhibit an exceedance of the ethylbenzene screening value of 4.9 ug/m³ for the EPA industrial RSL at a target cancer risk of 1E-06 and hazard quotient of 0.1.

17. Groundwater elevation contours (Figure 7–12) are truncated at the AOI boundaries. I recommend that contouring include data in adjacent areas and that the maps show those contours for better context.

The groundwater elevation contours are presented for AOI 3 only due to different months for gauging within the other adjacent AOIs. Utilizing data that is not consistent with a recent gauging timeframe will distort actual groundwater elevation conditions in AOI 3 that are displayed on Figures 7 through 12. Attached are Figure 4 "Water-Table Groundwater Elevation Map May 2016" and Figure 5 "Lower Aquifer Groundwater Elevation Map May 2016" from the Groundwater Remediation Status Report First Half 2016 prepared by Stantec and dated July 29, 2016, which depict groundwater flow throughout the Refining Complex.

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18. Please provide separate figures of the shallow and deep groundwater analytical data (Figure 14).

Evergreen has attached two new figures. Figure 14A presents perched and unconfined aquifer groundwater exceedances and Figure 14B exhibits lower aquifer groundwater exceedances.

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Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	BH-10-01				BH-10-02				BH-10-03				BH-10-04				S-280				S-284				S-285					
				Sample ID	BH-10-01 1-2				BH-10-02 1-2				BH-10-03 1-2				BH-10-04 1-2				S-280 1-2				S-284 1-2				S-285 1-2					
				Sample Date	4/26/2010				4/26/2010				4/27/2010				5/13/2010				4/28/2010				5/13/2010				4/27/2010					
				Sample Interval (ft bgs)	1-2				1-2				1-2				1-2				1-2				1-2				1-2					
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil				Soil					
Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF		
Volatile Organic Compounds																																		
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	0.22	J	0.001	41.81	0.75		0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	ND	U	0.001	0.89		
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	ND	U	0.001	41.81	ND	U	0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	ND	U	0.001	0.89		
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	ND	U	0.001	41.81	0.12	J	0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	ND	U	0.001	0.89		
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	0.053	J	0.001	41.81	0.33		0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	ND	U	0.001	0.89		
Benzene	71-43-2	290	0.5	mg/kg	0.75		0.0005	41.81	0.3		0.0005	49.96	ND	U	0.0005	0.88	ND	U	0.0005	0.87	ND	U	0.0005	0.82	ND	U	0.0005	0.76	0.017		0.0005	0.89		
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	0.31		0.001	41.81	1.8		0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	0.01		0.001	0.89		
Ethylbenzene	100-41-4	890	70	mg/kg	0.16	J	0.001	41.81	0.31		0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	ND	U	0.001	0.89		
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	3		0.001	41.81	ND	U	0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	ND	U	0.001	0.89		
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.0005	41.81	ND	U	0.0005	49.96	ND	U	0.0005	0.88	ND	U	0.0005	0.87	ND	U	0.0005	0.82	ND	U	0.0005	0.76	ND	U	0.0005	0.89		
Toluene	108-88-3	10,000	100	mg/kg	0.077	J	0.001	41.81	0.91		0.001	49.96	ND	U	0.001	0.88	ND	U	0.001	0.87	ND	U	0.001	0.82	ND	U	0.001	0.76	ND	U	0.001	0.89		
Semi Volatile Organic Compounds																																		
Anthracene	120-12-7	190,000	350	mg/kg	0.29		0.033	1	0.1	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	0.29		0.033	1	0.29		0.033	1	ND	U	0.033	1	ND	U	0.033	1	0.3		0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	0.19		0.033	1	0.29		0.033	1	ND	U	0.033	1	ND	U	0.033	1	0.22		0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	0.23		0.033	1	0.4		0.033	1	ND	U	0.033	1	ND	U	0.033	1	0.29		0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	0.2		0.033	1	0.38		0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Chrysene	218-01-9	760	230	mg/kg	0.33		0.033	1	0.43		0.033	1	0.2		0.033	1	ND	U	0.033	1	0.3		0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Fluorene	86-73-7	130,000	3,800	mg/kg	0.67		0.033	1	0.05	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Naphthalene	91-20-3	760	25	mg/kg	0.23		0.033	1	1.5		0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Phenanthrene	85-01-8	190,000	10,000	mg/kg	1.7		0.033	1	0.43		0.033	1	0.2		0.033	1	ND	U	0.033	1	0.24		0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Pyrene	129-00-0	96,000	2,200	mg/kg	0.65		0.033	1	0.53		0.033	1	0.33		0.033	1	ND	U	0.033	1	0.48		0.033	1	ND	U	0.033	1	ND	U	0.033	10		
Metals																																		
Lead*	7439-92-1	2,240	450	mg/kg	130		0.02	5	5,540		0.02	100	73.9		0.02	2	32.2		0.02	2	266		0.02	10	14.3		0.02	2	536		0.02	20		

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/kg - milligram per kilogram
mg/l - milligram per liter
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface
*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

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Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead

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Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.

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DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

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Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	S-286				S-288				S-290				S-291				S-382				S-383				S-384				
				Sample ID	S-286 1-2				S-288 1-2				S-290 1-2				S-291 1-2				AOI3 S-382 1.5-2 72613				AOI3 S-383 0-1 072613				AOI3 S-384 1-2 72213				
				Sample Date	4/27/2010				6/17/2010				4/27/2010				4/26/2010				7/26/2013				7/26/2013				7/22/2013				
				Sample Interval (ft bgs)	1-2				1-2				1-2				1-2				1.5-2				0-1				1-2				
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil				Soil				
Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	
Volatile Organic Compounds																																	
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	ND	U	0.001	47.48	ND	U	0.001	0.88	0.079	J	0.001	52.82	ND	U	0.001	0.8	ND	U	0.00025	1	ND	U	0.00028	1	0.0113		0.00021	1	
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	ND	U	0.001	47.48	ND	U	0.001	0.88	ND	U	0.001	52.82	ND	U	0.001	0.8	ND	U	0.0011	1	ND	U	0.0011	1	ND	U	0.0011	1	
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	ND	U	0.001	47.48	ND	U	0.001	0.88	ND	U	0.001	52.82	ND	U	0.001	0.8	ND	U	0.00016	1	ND	U	0.00018	1	ND	U	0.00013	1	
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.001	47.48	ND	U	0.001	0.88	ND	U	0.001	52.82	ND	U	0.001	0.8	ND	U	0.00019	1	ND	U	0.00021	1	0.0044	J	0.00016	1	
Benzene	71-43-2	290	0.5	mg/kg	0.031	J	0.0005	47.48	0.008		0.0005	0.88	0.034	J	0.0005	52.82	ND	U	0.0005	0.8	ND	U	0.00014	1	ND	U	0.00016	1	0.0013		0.00012	1	
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.001	47.48	0.005		0.001	0.88	0.12	J	0.001	52.82	ND	U	0.001	0.8	ND	U	0.00017	1	ND	U	0.00019	1	0.0101		0.00014	1	
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.001	47.48	ND	U	0.001	0.88	ND	U	0.001	52.82	ND	U	0.001	0.8	ND	U	0.00032	1	ND	U	0.00035	1	0.0038		0.00026	1	
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.001	47.48	ND	U	0.001	0.88	ND	U	0.001	52.82	ND	U	0.001	0.8	ND	U	0.00009	1	ND	U	0.000099	1	0.0085		0.000073	1	
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.0005	47.48	ND	U	0.0005	0.88	ND	U	0.0005	52.82	ND	U	0.0005	0.8	ND	U	0.00028	1	ND	U	0.00031	1	ND	U	0.00023	1	
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.001	47.48	0.009		0.001	0.88	ND	U	0.001	52.82	ND	U	0.001	0.8	ND	U	0.00013	1	ND	U	0.00014	1	0.00069	J	0.0001	1	
Semi Volatile Organic Compounds																																	
Anthracene	120-12-7	190,000	350	mg/kg	2.1		0.033	10	3.5		0.033	1	ND	U	0.033	10	ND	U	0.033	1	0.0176	J	0.012	1	0.0269	J	0.012	1	0.0626		0.013	1	
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	2.6		0.033	10	7.6		0.033	5	0.62	J	0.033	10	ND	U	0.033	1	0.0848		0.012	1	0.0428		0.012	1	0.0905		0.012	1	
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	1.4	J	0.033	10	7.2		0.033	5	ND	U	0.033	10	ND	U	0.033	1	0.0912		0.011	1	0.0546		0.011	1	0.121		0.011	1	
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	2		0.033	10	8.6		0.033	5	0.48	J	0.033	10	ND	U	0.033	1	0.0992		0.012	1	0.0867		0.012	1	0.128		0.012	1	
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	1.1	J	0.033	10	5		0.033	5	ND	U	0.033	10	ND	U	0.033	1	0.0787		0.013	1	0.0686		0.013	1	0.147		0.014	1	
Chrysene	218-01-9	760	230	mg/kg	2.4		0.033	10	7.6		0.033	5	0.81	J	0.033	10	ND	U	0.033	1	0.107		0.012	1	0.0784		0.012	1	0.0986		0.012	1	
Fluorene	86-73-7	130,000	3,800	mg/kg	ND	U	0.033	10	1.6		0.033	1	ND	U	0.033	10	ND	U	0.033	1	ND	U	0.012	1	ND	U	0.012	1	0.0345	J	0.012	1	
Naphthalene	91-20-3	760	25	mg/kg	ND	U	0.033	10	2.9		0.033	1	ND	U	0.033	10	ND	U	0.033	1	ND	U	0.0097	1	ND	U	0.0097	1	0.0513		0.01	1	
Phenanthrene	85-01-8	190,000	10,000	mg/kg	3.8		0.033	10	16		0.033	5	0.82	J	0.033	10	ND	U	0.033	1	0.0826		0.016	1	0.0382		0.016	1	0.167		0.017	1	
Pyrene	129-00-0	96,000	2,200	mg/kg	5.3		0.033	10	13		0.033	5	1.1	J	0.033	10	ND	U	0.033	1	0.12		0.014	1	0.0768		0.014	1	0.138		0.014	1	
Metals																																	
Lead*	7439-92-1	2,240	450	mg/kg	151		0.02	5	223		0.005	10	320		0.02	10	254		0.02	5	85.4		0.24	1	519		0.23	1	118		0.45	2	

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/kg - milligram per kilogram
mg/l - milligram per liter
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface
*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

- 10

Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead
- 10

Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
- 10

DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	S-385				S-386				S-387				AOI3_BH-13-107				AOI3_BH-13-108				AOI3_BH-13-109				AOI3_BH-13-110			
				Sample ID	AOI3 S-385 1-2 72613				AOI3 S-386 0.5-1.0 72213				AOI3-S-387 1-2 73113				AOI3_BH-13-107 0-1 73013				AOI3_BH-13-108 1-2 73013				AOI3_BH-13-109 1-2 72413				AOI3_BH-13-110 0-1 72413			
				Sample Date	7/26/2013				7/22/2013				7/31/2013				7/30/2013				7/30/2013				7/24/2013				7/24/2013			
				Sample Interval (ft bgs)	1-2				0.5-1				1-2				0-1				1-2				1-2				0-1			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																																
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	ND	U	0.00026	1	ND	U	0.00023	1	0.00068	J	0.00027	1	ND	U	0.0002	1	ND	U	0.00027	1	ND	U	0.00022	1	ND	U	0.00021	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	ND	U	0.0011	1	ND	U	0.0011	1	ND	U	0.0012	1	ND	U	0.00097	1	ND	U	0.0011	1	ND	U	0.0012	1	ND	U	0.0012	1
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	ND	U	0.00017	1	ND	U	0.00015	1	ND	U	0.00017	1	ND	U	0.00013	1	ND	U	0.00017	1	ND	U	0.00014	1	ND	U	0.00014	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.0002	1	ND	U	0.00018	1	ND	U	0.0002	1	ND	U	0.00015	1	ND	U	0.00021	1	ND	U	0.00017	1	ND	U	0.00016	1
Benzene	71-43-2	290	0.5	mg/kg	ND	U	0.00015	1	0.00056	J	0.00013	1	ND	U	0.00015	1	ND	U	0.00011	1	ND	U	0.00015	1	ND	U	0.00013	1	ND	U	0.00012	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.00017	1	ND	U	0.00015	1	ND	U	0.00018	1	0.00072	J	0.00013	1	ND	U	0.00018	1	ND	U	0.00015	1	ND	U	0.00014	1
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.00033	1	ND	U	0.00029	1	ND	U	0.00034	1	ND	U	0.00025	1	ND	U	0.00034	1	ND	U	0.00028	1	ND	U	0.00027	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.000093	1	ND	U	0.000082	1	ND	U	0.000095	1	0.0004	J	0.00007	1	ND	U	0.000096	1	ND	U	0.000079	1	ND	U	0.000076	1
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.00029	1	ND	U	0.00026	1	ND	U	0.0003	1	ND	U	0.00022	1	ND	U	0.0003	1	ND	U	0.00025	1	ND	U	0.00024	1
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.00013	1	ND	U	0.00012	1	ND	U	0.00013	1	ND	U	0.000099	1	ND	U	0.00014	1	ND	U	0.00011	1	ND	U	0.00011	1
Semi Volatile Organic Compounds																																
Anthracene	120-12-7	190,000	350	mg/kg	0.233		0.013	1	0.121		0.012	1	0.0486		0.014	1	0.0158	J	0.011	1	0.0303	J	0.013	1	ND	U	0.014	1	0.0723		0.013	1
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	0.704		0.012	1	0.131		0.011	1	0.0913		0.013	1	0.0682		0.01	1	0.0807		0.012	1	0.0424		0.013	1	0.145		0.012	1
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	0.749		0.011	1	0.174		0.011	1	0.0839		0.012	1	0.0664		0.0098	1	0.0772		0.011	1	0.0355	J	0.012	1	0.139		0.011	1
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	0.952		0.012	1	0.218		0.012	1	0.102		0.013	1	0.0823		0.011	1	0.0964		0.012	1	0.0491		0.013	1	0.186		0.013	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	0.415		0.013	1	0.382		0.013	1	0.0586		0.014	1	0.0628		0.012	1	0.0785		0.013	1	0.0343	J	0.015	1	0.13		0.014	1
Chrysene	218-01-9	760	230	mg/kg	0.782		0.012	1	0.194		0.012	1	0.105		0.013	1	0.0858		0.011	1	0.088		0.012	1	0.0655		0.014	1	0.248		0.013	1
Fluorene	86-73-7	130,000	3,800	mg/kg	0.0646		0.012	1	0.0294	J	0.012	1	ND	U	0.013	1	ND	U	0.011	1	ND	U	0.012	1	ND	U	0.013	1	0.418		0.012	1
Naphthalene	91-20-3	760	25	mg/kg	0.0378		0.0099	1	0.0643		0.0096	1	ND	U	0.011	1	ND	U	0.0088	1	ND	U	0.0098	1	ND	U	0.011	1	0.195		0.01	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	0.648		0.017	1	0.214		0.016	1	0.0871		0.018	1	0.065		0.015	1	0.1		0.016	1	0.0476		0.018	1	0.446		0.017	1
Pyrene	129-00-0	96,000	2,200	mg/kg	1.1		0.014	1	0.185		0.014	1	0.154		0.015	1	0.131		0.012	1	0.173		0.014	1	0.0575		0.015	1	0.242		0.014	1
Metals																																
Lead*	7439-92-1	2,240	450	mg/kg	168		0.26	1	674		0.26	1	409		0.26	1	17.8		1	5	46.9		1.2	5	93.7		0.27	1	507		0.27	1

Notes:
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PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
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*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:
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10

Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead

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Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.

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DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AOI3_BH-13-112				AOI3_BH-13-114				AOI3-BH-15-1				AOI3-BH-15-2				AOI3-BH-15-3				AOI3-BH-15-4				AOI3-BH-15-5			
				Sample ID	AOI3_BH-13-112_1-2_72913				AOI3_BH-13-114_0-1_72913				AOI3_BH-15-1_0-2_100615				AOI3_BH-15-2_0-2_100615				AOI3_BH-15-3_0-2_100615				AOI3_BH-15-4_0-2_100515				AOI3_BH-15-5_0-2_100515			
				Sample Date	7/29/2013				7/29/2013				10/6/2015				10/6/2015				10/6/2015				10/5/2015				10/5/2015			
				Sample Interval (ft bgs)	1-2				0-1				0-2				0-2				0-2				0-2				0-2			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF
Volatile Organic Compounds																																
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	ND	U	0.00019	1	ND	U	0.00023	1	0.0024	J	0.00025	1	0.00032	J	0.00024	1	ND	U	0.00026	1	0.215	J	0.024	1	ND	U	0.00023	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	ND	U	0.0011	1	ND	U	0.0011	1	ND	U	0.00046	1	ND	U	0.00046	1	ND	U	0.00047	1	ND	U	0.00049	1	ND	U	0.00047	1
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	ND	U	0.00012	1	ND	U	0.00015	1	ND	U	0.00017	1	ND	U	0.00016	1	ND	U	0.00017	1	ND	U	0.016	1	ND	U	0.00016	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.00015	1	ND	U	0.00017	1	ND	U	0.00024	1	ND	U	0.00023	1	ND	U	0.00025	1	0.0335	J	0.023	1	ND	U	0.00022	1
Benzene	71-43-2	290	0.5	mg/kg	0.0006	J	0.00011	1	ND	U	0.00013	1	0.0023		0.00017	1	0.00034	J	0.00016	1	ND	U	0.00017	1	ND	U	0.016	1	ND	U	0.00016	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.00013	1	ND	U	0.00015	1	0.00074	J	0.00034	1	ND	U	0.00033	1	ND	U	0.00035	1	ND	U	0.033	1	ND	U	0.00032	1
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.00024	1	ND	U	0.00029	1	0.0119		0.0002	1	ND	U	0.0002	1	ND	U	0.00021	1	ND	U	0.02	1	ND	U	0.00019	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.000068	1	ND	U	0.000081	1	0.0114		0.00013	1	ND	U	0.00013	1	ND	U	0.00014	1	ND	U	0.013	1	ND	U	0.00012	1
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.00021	1	ND	U	0.00026	1	ND	U	0.00019	1	0.00069	J	0.00018	1	ND	U	0.0002	1	ND	U	0.019	1	ND	U	0.00018	1
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.000096	1	ND	U	0.00011	1	ND	U	0.00026	1	ND	U	0.00025	1	ND	U	0.00027	1	ND	U	0.025	1	ND	U	0.00024	1
Semi Volatile Organic Compounds																																
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.013	1	ND	U	0.013	1	0.0383		0.0032	1	0.168		0.0031	1	ND	U	0.0032	1	ND	U	0.0034	1	ND	U	0.0031	1
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	ND	U	0.012	1	0.0814		0.012	1	0.0569		0.0071	1	0.646		0.0069	1	0.0411		0.0071	1	0.0191	J	0.0076	1	0.0368		0.007	1
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	ND	U	0.011	1	0.0898		0.011	1	0.0438		0.0079	1	0.655		0.0076	1	0.0437		0.0078	1	ND	U	0.0084	1	0.039		0.0078	1
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	ND	U	0.012	1	0.117		0.012	1	0.0567		0.0076	1	0.915		0.0074	1	0.0462		0.0076	1	ND	U	0.0081	1	0.048		0.0075	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.014	1	0.0878		0.014	1	0.0256	J	0.011	1	0.448		0.011	1	0.083		0.011	1	ND	U	0.012	1	0.0334	J	0.011	1
Chrysene	218-01-9	760	230	mg/kg	ND	U	0.012	1	0.0973		0.013	1	0.0479		0.006	1	0.657		0.0058	1	0.0354	J	0.0059	1	0.0225	J	0.0063	1	0.0363		0.0059	1
Fluorene	86-73-7	130,000	3,800	mg/kg	ND	U	0.012	1	ND	U	0.012	1	0.112		0.0044	1	0.0368		0.0043	1	ND	U	0.0044	1	1.19		0.0047	1	ND	U	0.0043	1
Naphthalene	91-20-3	760	25	mg/kg	ND	U	0.01	1	ND	U	0.01	1	0.0651		0.0059	1	0.0693		0.0057	1	ND	U	0.0059	1	ND	U	0.0063	1	ND	U	0.0058	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	ND	U	0.017	1	0.0341	J	0.017	1	0.202		0.0041	1	0.498		0.004	1	0.0379		0.0041	1	2.22		0.0044	1	0.026	J	0.004	1
Pyrene	129-00-0	96,000	2,200	mg/kg	ND	U	0.014	1	0.164		0.014	1	0.109		0.0046	1	0.964		0.0045	1	0.0613		0.0046	1	0.165		0.0049	1	0.0632		0.0046	1
Metals																																
Lead*	7439-92-1	2,240	450	mg/kg	104		0.24	1	123		0.8	3	51.1		0.26	1	166		0.25	1	41.8		0.27	1	44.9		1.4	5	165		0.27	1

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/kg - milligram per kilogram
mg/l - milligram per liter
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
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ft bgs - feet below ground surface
*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

10

Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead

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Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.

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DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
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AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AOI3-BH-15-6				AOI3-BH-15-7				AOI3-BH-15-8				AOI3-BH-15-9				AOI3-BH-15-10				AOI3-BH-16-1				AOI3-BH-16-2			
				Sample ID	AOI3 BH-15-6 0-2 100515				AOI3 BH-15-7 0-2 100515				AOI3 BH-15-8 1-2 100915				AOI3 BH-15-9 1-2 100915				AOI3 BH-15-10 1-2 100915				AOI3 BH-16-1 0-2 020916				AOI3 BH-16-2 0-2 020916			
				Sample Date	10/5/2015				10/5/2015				10/9/2015				10/9/2015				10/9/2015				2/9/2016				2/9/2016			
				Sample Interval (ft bgs)	0-2				0-2				1-2				1-2				1-2				0-2				0-2			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF
Volatile Organic Compounds																																
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	ND	U	0.00032	1	ND	U	0.00022	1	ND	U	0.00026	1	ND	U	0.0002	1	ND	U	0.00027	1	NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	ND	U	0.00054	1	ND	U	0.00043	1	ND	U	0.0005	1	ND	U	0.00053	1	ND	U	0.00056	1	NA				NA			
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	ND	U	0.00022	1	ND	U	0.00015	1	ND	U	0.00017	1	ND	U	0.00013	1	ND	U	0.00018	1	NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.00031	1	ND	U	0.00021	1	ND	U	0.00025	1	ND	U	0.00019	1	ND	U	0.00026	1	NA				NA			
Benzene	71-43-2	290	0.5	mg/kg	ND	U	0.00021	1	ND	U	0.00015	1	0.00033	J	0.00017	1	0.00045	J	0.00013	1	0.0012		0.00018	1	NA				NA			
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.00044	1	0.0098		0.0003	1	0.00055	J	0.00035	1	ND	U	0.00027	1	ND	U	0.00037	1	NA				NA			
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.00026	1	0.0011		0.00018	1	ND	U	0.00021	1	ND	U	0.00016	1	ND	U	0.00022	1	NA				NA			
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.00017	1	ND	U	0.00012	1	ND	U	0.00014	1	ND	U	0.0001	1	ND	U	0.00014	1	NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.00025	1	ND	U	0.00017	1	ND	U	0.0002	1	ND	U	0.00015	1	ND	U	0.00021	1	NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.00033	1	ND	U	0.00023	1	ND	U	0.00027	1	ND	U	0.0002	1	ND	U	0.00028	1	NA				NA			
Semi Volatile Organic Compounds																																
Anthracene	120-12-7	190,000	350	mg/kg	0.0768		0.0035	1	ND	U	0.003	1	ND	U	0.0035	1	0.0771		0.0037	1	0.0898		0.0038	1	NA				NA			
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	0.242		0.0079	1	0.0159	J	0.0066	1	ND	U	0.0078	1	0.163		0.0082	1	0.217		0.0085	1	NA				NA			
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	0.274		0.0087	1	0.0161	J	0.0073	1	ND	U	0.0086	1	0.167		0.0091	1	0.21		0.0094	1	NA				NA			
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	0.306		0.0084	1	0.0208	J	0.0071	1	ND	U	0.0083	1	0.23		0.0088	1	0.266		0.0091	1	NA				NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	0.227		0.012	1	0.0192	J	0.01	1	ND	U	0.012	1	0.155		0.013	1	0.146		0.013	1	NA				NA			
Chrysene	218-01-9	760	230	mg/kg	0.301		0.0066	1	0.0155	J	0.0055	1	0.0248	J	0.0065	1	0.211		0.0068	1	0.212		0.0071	1	NA				NA			
Fluorene	86-73-7	130,000	3,800	mg/kg	0.0275	J	0.0049	1	ND	U	0.0041	1	ND	U	0.0048	1	0.0506		0.0051	1	0.042	J	0.0053	1	NA				NA			
Naphthalene	91-20-3	760	25	mg/kg	0.0209	J	0.0065	1	ND	U	0.0055	1	ND	U	0.0064	1	0.49		0.0068	1	0.0527		0.0071	1	NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	0.318		0.0045	1	ND	U	0.0038	1	0.0746		0.0045	1	0.388		0.0047	1	0.394		0.0049	1	NA				NA			
Pyrene	129-00-0	96,000	2,200	mg/kg	0.42		0.0051	1	0.0178	J	0.0043	1	0.0236	J	0.005	1	0.36		0.0053	1	0.429		0.0055	1	NA				NA			
Metals																																
Lead*	7439-92-1	2,240	450	mg/kg	3,100		1.5	5	65.1		0.25	1	17.7		0.29	1	722		1.5	5	40.7		0.32	1	2,800		0.42	1	885		0.44	1

Notes:
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MSC - Medium Specific Concentration
mg/kg - milligram per kilogram
mg/l - milligram per liter
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface
*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

- 10

Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead
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Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
- 10

DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AOI3-BH-16-3				AOI3-BH-16-4				AOI3-BH-16-5				AOI3-BH-16-006				AOI3-BH-16-7				AOI3-BH-16-8				AOI3-BH-16-9			
				Sample ID	AOI3_BH-16-3 0-2_020916				AOI3_BH-16-4 0-2_020916				AOI3_BH-16-5 0-2_021016				AOI3_BH-16-6 0-2				AOI3_BH-16-7 0-2				AOI3_BH-16-8 0-2				AOI3_BH-16-9 0-2			
				Sample Date	2/9/2016				2/9/2016				2/10/2016				3/1/2016				3/1/2016				3/1/2016				3/1/2016			
				Sample Interval (ft bgs)	0-2				0-2				0-2				0-2				0-2				0-2				0-2			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF
Volatile Organic Compounds																																
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	NA				NA				NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	NA				NA				NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	NA				NA				NA				NA				NA				NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Benzene	71-43-2	290	0.5	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Ethylbenzene	100-41-4	890	70	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Semi Volatile Organic Compounds																																
Anthracene	120-12-7	190,000	350	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Chrysene	218-01-9	760	230	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Fluorene	86-73-7	130,000	3,800	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Naphthalene	91-20-3	760	25	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Pyrene	129-00-0	96,000	2,200	mg/kg	NA				NA				NA				NA				NA				NA				NA			
Metals																																
Lead*	7439-92-1	2,240	450	mg/kg	176		0.28	1	342		0.5	1	121		0.29	1	1,800		0.57	1	796		0.47	1	2,270		0.45	1	844		0.58	1

Notes:
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ND - Not Detected
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*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

- 10

Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead
- 10

Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
- 10

DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AOI3-BH-16-10				AOI3-BH-16-11				S-407				S-408				S-410				S-411				S-412				
				Sample ID	AOI3_BH-16-10_0-2				AOI3_BH-16-11_0-2				AOI3_S-407_0-2_100715				AOI4_S-408_0-2_100915				AOI3_S-410_0-2_100815				AOI3_S-411_0-2_100715				AOI3_S-412_0-2_101315				
				Sample Date	3/1/2016				3/1/2016				10/7/2015				10/9/2015				10/8/2015				10/7/2015				10/13/2015				
				Sample Interval (ft bgs)	0-2				0-2				0-2				0-2				0-2				0-2								
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil								
Unit	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	
Volatile Organic Compounds																																	
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	NA				NA					ND	U	0.00016	1	0.0016	J	0.0002	1	ND	U	0.00031	1	ND	U	0.00023	1	ND	U	0.00025	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	NA				NA					ND	U	0.00048	1	ND	U	0.00048	1	ND	U	0.00047	1	ND	U	0.00051	1	ND	U	0.00047	1
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	NA				NA					ND	U	0.00011	1	ND	U	0.00013	1	ND	U	0.00021	1	ND	U	0.00015	1	ND	U	0.00017	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA					ND	U	0.00016	1	0.00039	J	0.00019	1	ND	U	0.00029	1	ND	U	0.00022	1	ND	U	0.00024	1
Benzene	71-43-2	290	0.5	mg/kg	NA				NA					ND	U	0.00011	1	0.00051		0.00013	1	ND	U	0.0002	1	ND	U	0.00015	1	0.00043	J	0.00017	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	NA				NA				0.00049	J	0.00022	1	0.0026		0.00027	1	ND	U	0.00042	1	ND	U	0.00032	1	ND	U	0.00034	1	
Ethylbenzene	100-41-4	890	70	mg/kg	NA				NA					ND	U	0.00013	1	0.00037	J	0.00016	1	ND	U	0.00025	1	ND	U	0.00019	1	ND	U	0.0002	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA					ND	U	0.000087	1	0.00022	J	0.00011	1	0.00096	J	0.00016	1	ND	U	0.00012	1	ND	U	0.00013	1
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	NA				NA					ND	U	0.00013	1	ND	U	0.00015	1	ND	U	0.00024	1	ND	U	0.00018	1	ND	U	0.00019	1
Toluene	108-88-3	10,000	100	mg/kg	NA				NA				0.00028	J	0.00017	1	0.00045	J	0.00021	1	ND	U	0.00032	1	ND	U	0.00024	1	ND	U	0.00026	1	
Semi Volatile Organic Compounds																																	
Anthracene	120-12-7	190,000	350	mg/kg	NA				NA					ND	U	0.0033	1	0.0486		0.0033	1	ND	U	0.0031	1	0.086		0.0035	1	0.156		0.0032	1
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	NA				NA					ND	U	0.0074	1	0.0951		0.0073	1	0.0306	J	0.0069	1	0.237		0.0078	1	0.396		0.0072	1
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	NA				NA					ND	U	0.0082	1	0.0836		0.0081	1	ND	U	0.0077	1	0.274		0.0086	1	0.45		0.008	1
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	NA				NA					ND	U	0.0079	1	0.123		0.0078	1	0.017	J	0.0074	1	0.354		0.0083	1	0.598		0.0077	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	NA				NA					ND	U	0.012	1	0.0966		0.011	1	ND	U	0.011	1	0.208		0.012	1	0.404		0.011	1
Chrysene	218-01-9	760	230	mg/kg	NA				NA					ND	U	0.0062	1	0.138		0.0061	1	0.0342	J	0.0058	1	0.266		0.0065	1	0.394		0.006	1
Fluorene	86-73-7	130,000	3,800	mg/kg	NA				NA					ND	U	0.0046	1	ND	U	0.0045	1	ND	U	0.0043	1	0.0406		0.0048	1	0.0347	J	0.0044	1
Naphthalene	91-20-3	760	25	mg/kg	NA				NA					ND	U	0.0062	1	0.0766		0.0061	1	0.0151	J	0.0058	1	0.0551		0.0064	1	0.166		0.006	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	NA				NA					ND	U	0.0043	1	0.246		0.0042	1	0.0223	J	0.004	1	0.402		0.0045	1	0.577		0.0041	1
Pyrene	129-00-0	96,000	2,200	mg/kg	NA				NA					ND	U	0.0048	1	0.234		0.0047	1	0.0598		0.0045	1	0.404		0.005	1	0.623		0.0047	1
Metals																																	
Lead*	7439-92-1	2,240	450	mg/kg	409		0.49	1	194		0.52	1	13.4		0.29	1	1,560		0.53	2	16		0.26	1	139		0.28	1	128		0.52	2	

Notes:
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Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	S-413				S-414				832 LINE 1				832 LINE 10				832 LINE 11			
				Sample ID	AOI3 S-413 0-2 100715				AOI3 S-414 0-2 100715				832 Line 1				832 Line 10				832 Line 11			
				Sample Date	10/7/2015				10/7/2015				8/25/2006				8/25/2006				8/25/2006			
				Sample Interval (ft bgs)	0-2				0-2				0 - 0.5				0 - 0.5				0 - 0.5			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	ND	U	0.00022	1	ND	U	0.00024	1	NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	ND	U	0.00048	1	ND	U	0.00048	1	NA				NA				NA			
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	ND	U	0.00015	1	ND	U	0.00016	1	NA				NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.00022	1	ND	U	0.00023	1	NA				NA				NA			
Benzene	71-43-2	290	0.5	mg/kg	ND	U	0.00015	1	0.0119		0.00016	1	ND	U	0.0005	48.64	ND	U	0.0005	48.78	ND	U	0.0005	49.07
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.00031	1	ND	U	0.00034	1	0.47		0.001	48.64	ND	U	0.001	48.78	ND	U	0.001	49.07
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.00018	1	ND	U	0.0002	1	0.24	J	0.001	48.64	ND	U	0.001	48.78	ND	U	0.001	49.07
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.00012	1	ND	U	0.00013	1	NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.00017	1	ND	U	0.00019	1	ND	U	0.001	48.64	ND	U	0.001	48.78	ND	U	0.001	49.07
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.00023	1	ND	U	0.00025	1	NA				NA				NA			
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	0.0191	J	0.0033	1	0.0417		0.0031	1	0.073	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	0.0804		0.0074	1	0.206		0.007	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	0.0939		0.0082	1	0.238		0.0077	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	0.118		0.0079	1	0.31		0.0075	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	0.0622		0.012	1	0.174		0.011	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Chrysene	218-01-9	760	230	mg/kg	0.0799		0.0062	1	0.216		0.0058	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Fluorene	86-73-7	130,000	3,800	mg/kg	ND	U	0.0046	1	ND	U	0.0043	1	0.06	J	0.033	1	0.46		0.033	1	ND	U	0.033	1
Naphthalene	91-20-3	760	25	mg/kg	ND	U	0.0061	1	0.052		0.0058	1	ND	U	0.001	48.64	ND	U	0.001	48.78	ND	U	0.001	49.07
Phenanthrene	85-01-8	190,000	10,000	mg/kg	0.0807		0.0043	1	0.193		0.004	1	ND	U	0.033	1	0.66		0.033	1	ND	U	0.033	1
Pyrene	129-00-0	96,000	2,200	mg/kg	0.12		0.0048	1	0.306		0.0045	1	0.043	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Metals																								
Lead*	7439-92-1	2,240	450	mg/kg	114		0.28	1	544		0.55	2	NA				NA				NA			

Notes:

- CAS - Chemical Abstracts Service Registry Number
- PADEP - Pennsylvania Department of Environmental Protection
- MSC - Medium Specific Concentration
- mg/kg - milligram per kilogram
- mg/l - milligram per liter
- Q - Lab Qualifier
- DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
- DF - Dilution Factor
- ND - Not Detected
- NA - Not Analyzed
- ft bgs - feet below ground surface

*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:

- U - The analyte was analyzed but not detected above the detection limit.
- J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

10	Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	832 LINE 12				832 LINE 2				832 LINE 3				832 LINE 4				832 LINE 5			
				Sample ID	832 Line 12				832 Line 2				832 Line 3				832 Line 4				832 Line 5			
				Sample Date	8/25/2006				8/25/2006				8/25/2006				8/25/2006				8/25/2006			
				Sample Interval (ft bgs)	0 - 0.5				0 - 0.5				0 - 0.5				0 - 0.5				0 - 0.5			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	NA				NA				NA				NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA			
Benzene	71-43-2	290	0.5	mg/kg	ND	U	0.0005	46.86	0.036	J	0.0005	46.86	ND	U	0.0005	51.12	0.15	J	0.0005	48.92	ND	U	0.0005	46.25
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.001	46.86	0.22	J	0.001	46.86	ND	U	0.001	51.12	1.3		0.001	48.92	ND	U	0.001	46.25
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.001	46.86	0.066	J	0.001	46.86	ND	U	0.001	51.12	0.61		0.001	48.92	ND	U	0.001	46.25
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.001	46.86	0.29		0.001	46.86	ND	U	0.001	51.12	0.56		0.001	48.92	ND	U	0.001	46.25
Toluene	108-88-3	10,000	100	mg/kg	NA				NA				NA				NA				NA			
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	0.52		0.033	1	0.3		0.033	1	ND	U	0.033	1	3.3		0.033	1	ND	U	0.033	1
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	ND	U	0.033	1	0.039	J	0.033	1	ND	U	0.033	1	0.57	J	0.033	1	ND	U	0.033	1
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	ND	U	0.033	1	0.036	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	0.19	J	0.033	1	ND	U	0.033	1
Chrysene	218-01-9	760	230	mg/kg	ND	U	0.033	1	0.12	J	0.033	1	ND	U	0.033	1	2.3		0.033	1	ND	U	0.033	1
Fluorene	86-73-7	130,000	3,800	mg/kg	2.9		0.033	1	0.43		0.033	1	0.035	J	0.033	1	7.7		0.033	1	ND	U	0.033	1
Naphthalene	91-20-3	760	25	mg/kg	0.17	J	0.001	46.86	1.2		0.001	46.86	2.9		0.001	51.12	4.6		0.001	48.92	0.99		0.001	46.25
Phenanthrene	85-01-8	190,000	10,000	mg/kg	6.2		0.033	2	0.97		0.033	1	0.048	J	0.033	1	20		0.033	1	ND	U	0.033	1
Pyrene	129-00-0	96,000	2,200	mg/kg	0.39		0.033	1	0.26		0.033	1	ND	U	0.033	1	U		0.033	1	ND	U	0.033	1
Metals																								
Lead*	7439-92-1	2,240	450	mg/kg	NA				NA				NA				NA				NA			

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/kg - milligram per kilogram
mg/l - milligram per liter
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface
*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

10	Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	832 LINE 6				832 LINE 7				832 LINE 8				832 LINE 9				AST-834-LINE-1			
				Sample ID	832 Line 6				832 Line 7				832 Line 8				832 Line 9				AST-834-LINE-1			
				Sample Date	8/25/2006				8/25/2006				8/25/2006				8/25/2006				11/30/2006			
				Sample Interval (ft bgs)	0 - 0.5				0 - 0.5				0 - 0.5				0 - 0.5				0 - 0.5			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	NA				NA				NA				NA				ND	U	0.001	53.36
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	NA				NA				NA				NA				ND	U	0.001	53.36
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA			
Benzene	71-43-2	290	0.5	mg/kg	ND	U	0.0005	48.12	ND	U	0.0005	47.66	ND	U	0.0005	47.48	ND	U	0.0005	52.41	ND	U	0.0005	53.36
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.001	48.12	ND	U	0.001	47.66	0.49		0.001	47.48	ND	U	0.001	52.41	ND	U	0.001	53.36
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.001	48.12	0.11	J	0.001	47.66	0.44		0.001	47.48	ND	U	0.001	52.41	0.086	J	0.001	53.36
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				ND	U	0.0005	53.36
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.001	48.12	ND	U	0.001	47.66	ND	U	0.001	47.48	ND	U	0.001	52.41	ND	U	0.001	53.36
Toluene	108-88-3	10,000	100	mg/kg	NA				NA				NA				NA				ND	U	0.001	53.36
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.033	1	1.4		0.033	1	0.75		0.033	1	ND	U	0.033	1	NA			
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA			
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA			
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA			
Chrysene	218-01-9	760	230	mg/kg	ND	U	0.033	1	0.044	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA			
Fluorene	86-73-7	130,000	3,800	mg/kg	ND	U	0.033	1	2.7		0.033	1	1.8		0.033	1	ND	U	0.033	1	NA			
Naphthalene	91-20-3	760	25	mg/kg	ND	U	0.001	48.12	ND	U	0.001	47.66	1.5		0.001	47.48	ND	U	0.001	52.41	0.35		0.001	53.36
Phenanthrene	85-01-8	190,000	10,000	mg/kg	ND	U	0.033	1	7		0.033	5	3.5		0.033	1	ND	U	0.033	1	NA			
Pyrene	129-00-0	96,000	2,200	mg/kg	ND	U	0.033	1	0.34		0.033	1	0.18	J	0.033	1	ND	U	0.033	1	NA			
Metals																								
Lead*	7439-92-1	2,240	450	mg/kg	NA				NA				NA				NA				147		0.44	1

Notes:

- CAS - Chemical Abstracts Service Registry Number
- PADEP - Pennsylvania Department of Environmental Protection
- MSC - Medium Specific Concentration
- mg/kg - milligram per kilogram
- mg/l - milligram per liter
- Q - Lab Qualifier
- DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
- DF - Dilution Factor
- ND - Not Detected
- NA - Not Analyzed
- ft bgs - feet below ground surface

*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:

- U - The analyte was analyzed but not detected above the detection limit.
- J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

10	Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 4
Summary of Surface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Surface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AST-834-LINE-2				AST-834-LINE-3				AST-834-LINE-4				AST-834-LINE-5				AST-834-LINE-6			
				Sample ID	AST-834-LINE-2				AST-834-LINE-3				AST-834-LINE-4				AST-834-LINE-5				AST-834-LINE-6			
				Sample Date	11/30/2006				11/30/2006				11/30/2006				11/30/2006				11/30/2006			
				Sample Interval (ft bgs)	0 - 0.5				0 - 0.5				0 - 0.5				0 - 0.5				0 - 0.5			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
Unit	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF	Result	Q	MDL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	560	35	mg/kg	NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	3.7	0.005	mg/kg	ND	U	0.001	51.71	ND	U	0.001	51.39	ND	U	0.001	49.31	ND	U	0.001	51.12	ND	U	0.001	49.36
1,2-Dichloroethane	107-06-2	86	0.5	mg/kg	ND	U	0.001	51.71	ND	U	0.001	51.39	ND	U	0.001	49.31	ND	U	0.001	51.12	ND	U	0.001	49.36
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA			
Benzene	71-43-2	290	0.5	mg/kg	ND	U	0.0005	51.71	ND	U	0.0005	51.39	ND	U	0.0005	49.31	ND	U	0.0005	51.12	ND	U	0.0005	49.36
Dimethyl Benzene/ Xylenes, Total	1330-20-7	8,000	1,000	mg/kg	ND	U	0.001	51.71	ND	U	0.001	51.39	0.59		0.001	49.31	ND	U	0.001	51.12	ND	U	0.001	49.36
Ethylbenzene	100-41-4	890	70	mg/kg	ND	U	0.001	51.71	ND	U	0.001	51.39	0.53		0.001	49.31	ND	U	0.001	51.12	ND	U	0.001	49.36
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.0005	51.71	ND	U	0.0005	51.39	ND	U	0.0005	49.31	ND	U	0.0005	51.12	ND	U	0.0005	49.36
Tert-Butyl Methyl Ether	1634-04-4	8,600	2	mg/kg	ND	U	0.001	51.71	ND	U	0.001	51.39	ND	U	0.001	49.31	ND	U	0.001	51.12	ND	U	0.001	49.36
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.001	51.71	ND	U	0.001	51.39	U		0.001	49.31	ND	U	0.001	51.12	ND	U	0.001	49.36
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	NA				NA				NA				NA				NA			
Benzo(A)Anthracene	56-55-3	130	430	mg/kg	NA				NA				NA				NA				NA			
Benzo(A)Pyrene	50-32-8	12	46	mg/kg	NA				NA				NA				NA				NA			
Benzo(B)Fluoranthene	205-99-2	76	170	mg/kg	NA				NA				NA				NA				NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	NA				NA				NA				NA				NA			
Chrysene	218-01-9	760	230	mg/kg	NA				NA				NA				NA				NA			
Fluorene	86-73-7	130,000	3,800	mg/kg	NA				NA				NA				NA				NA			
Naphthalene	91-20-3	760	25	mg/kg	ND	U	0.001	51.71	ND	U	0.001	51.39	7.4		0.001	49.31	0.2	J	0.001	51.12	0.2	J	0.001	49.36
Phenanthrene	85-01-8	190,000	10,000	mg/kg	NA				NA				NA				NA				NA			
Pyrene	129-00-0	96,000	2,200	mg/kg	NA				NA				NA				NA				NA			
Metals																								
Lead*	7439-92-1	2,240	450	mg/kg	274		0.44	1	60.5		0.44	1	344		0.44	1	158		0.44	1	87.8		0.44	1

Notes:

- CAS - Chemical Abstracts Service Registry Number
- PADEP - Pennsylvania Department of Environmental Protection
- MSC - Medium Specific Concentration
- mg/kg - milligram per kilogram
- mg/l - milligram per liter
- Q - Lab Qualifier
- DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
- DF - Dilution Factor
- ND - Not Detected
- NA - Not Analyzed
- ft bgs - feet below ground surface

*Site Specific Standard for lead is 2,240 mg/kg

¹PADEP Non-Residential Direct Contact MSC for surface soils (0-2 feet below ground surface) (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

Qualifiers:

- U - The analyte was analyzed but not detected above the detection limit.
- J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.

10	Reported result exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC or site specific standard for lead
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Surface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	832 PERIMETER 1				832 PERIMETER 2				832 PERIMETER 3				832 PERIMETER 4				832 PERIMETER 5				832 PERIMETER 6			
				Sample ID	832 Perimeter 1				832 Perimeter 2				832 Perimeter 3				832 Perimeter 4				832 Perimeter 5				832 Perimeter 6			
				Sample Date	8/25/2006				8/25/2006				8/25/2006				8/25/2006				8/25/2006				8/25/2006			
				Sample Interval (ft bgs)	2.5 - 3				2.5 - 3				2.5 - 3				2.5 - 3				2.5 - 3				2.5 - 3			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																												
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	NA				NA				NA				NA				NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.0005	45.9	ND	U	0.0005	45.2	ND	U	0.0005	47.9	ND	U	0.0005	44.8	0.081	J	0.0005	44.8	0.059	J	0.0005	51.8
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.001	45.9	ND	U	0.001	45.2	ND	U	0.001	47.9	ND	U	0.001	44.8	1.9		0.001	44.8	0.063	J	0.001	51.8
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.001	45.9	0.11	J	0.001	45.2	ND	U	0.001	47.9	ND	U	0.001	44.8	0.81		0.001	44.8	0.13	J	0.001	51.8
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.001	45.9	ND	U	0.001	45.2	ND	U	0.001	47.9	ND	U	0.001	44.8	0.39		0.001	44.8	ND	U	0.001	51.8
Toluene	108-88-3	10,000	100	mg/kg	NA				NA				NA				NA				NA				NA			
Semi Volatile Organic Compounds																												
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.033	1	0.11	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Chrysene	218-01-9	190,000	230	mg/kg	0.078	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1
Fluorene	86-73-7	190,000	3,800	mg/kg	0.049	J	0.033	1	0.49		0.033	1	ND	U	0.033	1	0.15	J	0.033	1	2		0.033	1	ND	U	0.033	1
Naphthalene	91-20-3	190,000	25	mg/kg	0.06	J	0.001	45.9	0.42		0.001	45.2	ND	U	0.001	47.9	ND	U	0.001	44.8	7		0.001	44.8	0.96		0.001	51.8
Phenanthrene	85-01-8	190,000	10,000	mg/kg	0.16	J	0.033	1	1.1		0.033	1	ND	U	0.033	1	0.26		0.033	1	J		0.033	1	ND	U	0.033	1
Pyrene	129-00-0	190,000	2,200	mg/kg	ND	U	0.033	1	0.17	J	0.033	1	ND	U	0.033	1	ND	U	0.033	1	0.29		0.033	1	ND	U	0.033	1
Metals																												
Lead	7439-92-1	190,000	450	mg/kg	NA				NA				NA				NA				NA				NA			

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/l - milligram per liter
mg/kg - milligram per kilogram
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface

¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

³Sample is a historic sample. Detection limits and/or dilution factors were not provided in the original report.

⁴Sample is a composite sample. No depth provided.

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.
B- Compound was detected in the method blank.

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	832 SUB 1				832 SUB 2				832 SUB 3				AST-834-PERIMETER-1				AST-834-PERIMETER-2				AST-834-PERIMETER-3			
				Sample ID	832 Sub 1				832 Sub 2				832 Sub 3				AST-834-PERIMETER-1				AST-834-PERIMETER-2				AST-834-PERIMETER-3			
				Sample Date	8/25/2006				8/25/2006				8/25/2006				11/30/2006				11/30/2006				11/30/2006			
				Sample Interval (ft bgs)	4.5 - 5				4.5 - 5				4.5 - 5				2.5 - 3				2.5 - 3				2.5 - 3			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																												
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA				NA				ND	U	0.001	48.3	ND	U	0.001	49.5	ND	U	0.001	47.6
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	NA				NA				NA				ND	U	0.001	48.3	ND	U	0.001	49.5	ND	U	0.001	47.6
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.0005	46	ND	U	0.0005	50.8	ND	U	0.0005	48.9	ND	U	0.0005	48.3	ND	U	0.0005	49.5	0.22	J	0.0005	47.6
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.001	46	0.27		0.001	50.8	ND	U	0.001	48.9	ND	U	0.001	48.3	ND	U	0.001	49.5	7.5		0.001	47.6
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.001	46	0.078	J	0.001	50.8	ND	U	0.001	48.9	ND	U	0.001	48.3	ND	U	0.001	49.5	3.5		0.001	47.6
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				ND	U	0.0005	48.3	ND	U	0.0005	49.5	ND	U	0.0005	47.6
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.001	46	ND	U	0.001	50.8	ND	U	0.001	48.9	ND	U	0.001	48.3	ND	U	0.001	49.5	0.081	J	0.001	47.6
Toluene	108-88-3	10,000	100	mg/kg	NA				NA				NA				ND	U	0.001	48.3	ND	U	0.001	49.5	19		0.001	47.6
Semi Volatile Organic Compounds																												
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Chrysene	218-01-9	190,000	230	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Fluorene	86-73-7	190,000	3,800	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Naphthalene	91-20-3	190,000	25	mg/kg	ND	U	0.001	46	ND	U	0.001	50.8	0.061	J	0.001	48.9	ND	U	0.001	48.3	ND	U	0.001	49.5	12		0.001	47.6
Phenanthrene	85-01-8	190,000	10,000	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Pyrene	129-00-0	190,000	2,200	mg/kg	ND	U	0.033	1	ND	U	0.033	1	ND	U	0.033	1	NA				NA							
Metals																												
Lead	7439-92-1	190,000	450	mg/kg	NA				NA				NA				4.66		0.44	1	7.76		0.44	1	7.89		0.44	1

Notes:

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¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).
² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).
³Sample is a historic sample. Detection limits and/or dilution factors were not provided in the original report.
⁴Sample is a composite sample. No depth provided.

Qualifiers:

- U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.
B- Compound was detected in the method blank.

Exceedance Summary:

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
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Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AST-834-PERIMETER-4				AST-834-PERIMETER-5				AST-834-PERIMETER-6				AST-834-SUB-1				AST-834-SUB-2				AST-834-SUB-3			
				Sample ID	AST-834-PERIMETER-4				AST-834-PERIMETER-5				AST-834-PERIMETER-6				AST-834-SUB-1				AST-834-SUB-2				AST-834-SUB-3			
				Sample Date	11/30/2006				11/30/2006				11/30/2006				11/30/2006				11/30/2006				11/30/2006			
				Sample Interval (ft bgs)	2.5 - 3				2.5 - 3				2.5 - 3				4.5 - 5				4.5 - 5				4.5 - 5			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																												
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.001	51.1	ND	U	0.001	51.5	ND	U	0.001	51.9	ND	U	0.001	51.6	ND	U	0.001	52.5	ND	U	0.001	56
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.001	51.1	ND	U	0.001	51.5	ND	U	0.001	51.9	ND	U	0.001	51.6	ND	U	0.001	52.5	ND	U	0.001	56
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.0005	51.1	ND	U	0.0005	51.5	ND	U	0.0005	51.9	ND	U	0.0005	51.6	ND	U	0.0005	52.5	ND	U	0.0005	56
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.001	51.1	0.62		0.001	51.5	ND	U	0.001	51.9	ND	U	0.001	51.6	ND	U	0.001	52.5	ND	U	0.001	56
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.001	51.1	0.96		0.001	51.5	ND	U	0.001	51.9	ND	U	0.001	51.6	ND	U	0.001	52.5	ND	U	0.001	56
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.0005	51.1	ND	U	0.0005	51.5	ND	U	0.0005	51.9	ND	U	0.0005	51.6	ND	U	0.0005	52.5	ND	U	0.0005	56
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.001	51.1	ND	U	0.001	51.5	ND	U	0.001	51.9	ND	U	0.001	51.6	ND	U	0.001	52.5	ND	U	0.001	56
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.001	51.1	1.2		0.001	51.5	ND	U	0.001	51.9	ND	U	0.001	51.6	ND	U	0.001	52.5	ND	U	0.001	56
Semi Volatile Organic Compounds																												
Anthracene	120-12-7	190,000	350	mg/kg	NA				NA				NA				NA				NA				NA			
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	NA				NA				NA				NA				NA				NA			
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	NA				NA				NA				NA				NA				NA			
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	NA				NA				NA				NA				NA				NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	NA				NA				NA				NA				NA				NA			
Chrysene	218-01-9	190,000	230	mg/kg	NA				NA				NA				NA				NA				NA			
Fluorene	86-73-7	190,000	3,800	mg/kg	NA				NA				NA				NA				NA				NA			
Naphthalene	91-20-3	190,000	25	mg/kg	ND	U	0.001	51.1	12		0.001	51.5	ND	U	0.001	51.9	0.063	J	0.001	51.6	ND	U	0.001	52.5	ND	U	0.001	56
Phenanthrene	85-01-8	190,000	10,000	mg/kg	NA				NA				NA				NA				NA				NA			
Pyrene	129-00-0	190,000	2,200	mg/kg	NA				NA				NA				NA				NA				NA			
Metals																												
Lead	7439-92-1	190,000	450	mg/kg	10.3		0.44	1	10.6		0.44	1	7.88		0.44	1	7.08		0.44	1	5.2		0.44	1	4.57		0.44	1

Notes:

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Exceedance Summary:

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

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Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	S-382				S-383				S-384				S-385				S-386				
				Sample ID	AOI3_S-382_6-7_72613				AOI3_S-383_5-6_72613				AOI3_S-384_9-10_72213				AOI3_S-385_2-3_72613				AOI3_S-386_8-9_72313				
				Sample Date	7/26/2013				7/26/2013				7/22/2013				7/26/2013				7/23/2013				
				Sample Interval (ft bgs)	6-7				5-6				9-10				2-3				8-9				
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	
Volatile Organic Compounds																									
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	ND	U	0.00021	1	ND	U	0.00028	1	ND	U	0.0002	1	0.0015	J	0.00031	1	2.8		0.048	1	
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.001	1	ND	U	0.0011	1	ND	U	0.0012	1	ND	U	0.0012	1	ND	U	0.0015	1	
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.00014	1	ND	U	0.00018	1	ND	U	0.00013	1	ND	U	0.0002	1	ND	U	0.031	1	
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.00016	1	ND	U	0.00021	1	ND	U	0.00015	1	0.00036	J	0.00024	1	0.497	J	0.037	1	
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.00012	1	ND	U	0.00016	1	ND	U	0.00011	1	ND	U	0.00018	1	0.157	J	0.027	1	
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.00014	1	ND	U	0.00019	1	ND	U	0.00013	1	0.0014	J	0.00021	1	1.32		0.032	1	
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.00027	1	ND	U	0.00035	1	ND	U	0.00025	1	ND	U	0.00039	1	0.14	J	0.06	1	
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.000075	1	ND	U	0.000099	1	ND	U	0.000072	1	ND	U	0.00011	1	0.211	J	0.017	1	
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.00024	1	ND	U	0.00031	1	ND	U	0.00023	1	ND	U	0.00035	1	ND	U	0.054	1	
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.00011	1	ND	U	0.00014	1	ND	U	0.0001	1	ND	U	0.00016	1	0.612		0.024	1	
Semi Volatile Organic Compounds																									
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.012	1	0.0269	J	0.012	1	ND	U	0.013	1	0.239		0.014	1	ND	U	0.27	1	
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	0.011	1	0.0428		0.012	1	ND	U	0.012	1	0.751		0.013	1	ND	U	0.25	1	
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.01	1	0.0546		0.011	1	ND	U	0.011	1	0.783		0.012	1	ND	U	0.23	1	
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	0.011	1	0.0867		0.012	1	ND	U	0.012	1	1.01		0.013	1	13.8		0.26	1	
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.013	1	0.0686		0.013	1	ND	U	0.014	1	0.403		0.015	1	4.65		0.29	1	
Chrysene	218-01-9	190,000	230	mg/kg	ND	U	0.012	1	0.0784		0.012	1	ND	U	0.013	1	0.822		0.014	1	54.8		0.26	1	
Fluorene	86-73-7	190,000	3,800	mg/kg	ND	U	0.011	1	ND	U	0.012	1	ND	U	0.012	1	0.102		0.013	1	ND	U	0.25	1	
Naphthalene	91-20-3	190,000	25	mg/kg	ND	U	0.0093	1	ND	U	0.0097	1	ND	U	0.01	1	0.0224	J	0.011	1	11.9		0.21	1	
Phenanthrene	85-01-8	190,000	10,000	mg/kg	ND	U	0.016	1	0.0382		0.016	1	ND	U	0.017	1	0.703		0.018	1	34.1		0.35	1	
Pyrene	129-00-0	190,000	2,200	mg/kg	ND	U	0.013	1	0.0768		0.014	1	ND	U	0.014	1	1.04		0.015	1	7.26		0.3	1	
Metals																									
Lead	7439-92-1	190,000	450	mg/kg	4.3		0.23	1	6.5		0.23	1	8.4		0.26	1	248		0.26	1	162		0.32	1	

Notes:

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mg/kg - milligram per kilogram
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface

¹ PADEP Act 2 Non-Residental Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).
² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).
³Sample is a historic sample. Detection limits and/or dilution factors were not provided in the original report.
⁴Sample is a composite sample. No depth provided.

Qualifiers:

- U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.
B- Compound was detected in the method blank.

Exceedance Summary:

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	S-387				AOI3_BH-13-105				AOI3-BH-13-106				AOI3-BH-13-106				AOI3_BH-13-107				AOI3_BH-13-108			
				Sample ID	AOI3-S-387_3-4_73113				AOI3_BH-13-105_8-9_73013				AOI3-BH-13-106_9-9.5_73113				AOI3_DUP2_73113				AOI3_BH-13-107_10-11_73013				AOI3_BH-13-108_2-3_73013			
				Sample Date	7/31/2013				7/30/2013				7/31/2013				7/31/2013				7/30/2013				7/30/2013			
				Sample Interval (ft bgs)	3-4				8-9				9-9.5				9-9.5				10-11				2-3			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																												
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	ND	U	0.00022	1	ND	U	0.0002	1	15.2		0.032	1	1.62		0.027	1	ND	U	0.021	1	ND	U	0.00027	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.0012	1	ND	U	0.0012	1	ND	U	0.0011	1	ND	U	0.0011	1	ND	U	0.0011	1	ND	U	0.0011	1
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.00014	1	ND	U	0.00013	1	ND	U	0.021	1	ND	U	0.017	1	ND	U	0.014	1	ND	U	0.00017	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.00017	1	ND	U	0.00015	1	5.65		0.024	1	0.564	J	0.021	1	ND	U	0.016	1	ND	U	0.0002	1
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.00012	1	ND	U	0.00012	1	ND	U	0.018	1	ND	U	0.015	1	ND	U	0.012	1	ND	U	0.00015	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.00014	1	ND	U	0.00013	1	ND	U	0.021	1	ND	U	0.018	1	ND	U	0.014	1	ND	U	0.00018	1
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.00027	1	ND	U	0.00025	1	0.14	J	0.04	1	ND	U	0.034	1	ND	U	0.026	1	ND	U	0.00033	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.000077	1	ND	U	0.000072	1	3.88		0.011	1	0.321	J	0.0096	1	1.29		0.0075	1	ND	U	0.000094	1
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.00024	1	ND	U	0.00023	1	ND	U	0.036	1	ND	U	0.03	1	ND	U	0.024	1	ND	U	0.0003	1
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.00011	1	ND	U	0.0001	1	ND	U	0.016	1	ND	U	0.014	1	ND	U	0.011	1	ND	U	0.00013	1
Semi Volatile Organic Compounds																												
Anthracene	120-12-7	190,000	350	mg/kg	0.0421		0.014	1	ND	U	0.013	1	ND	U	0.011	1	ND	U	0.012	1	ND	U	0.014	1	ND	U	0.013	1
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	0.137		0.013	1	ND	U	0.012	1	0.0496		0.011	1	ND	U	0.011	1	ND	U	0.013	1	ND	U	0.012	1
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	0.11		0.013	1	ND	U	0.011	1	0.0331		0.01	1	ND	U	0.01	1	ND	U	0.012	1	ND	U	0.012	1
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	0.126		0.014	1	ND	U	0.012	1	0.0374		0.011	1	ND	U	0.011	1	ND	U	0.013	1	ND	U	0.013	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	0.073		0.015	1	ND	U	0.013	1	0.023	J	0.012	1	ND	U	0.013	1	ND	U	0.015	1	ND	U	0.014	1
Chrysene	218-01-9	190,000	230	mg/kg	0.136		0.014	1	ND	U	0.012	1	0.0517		0.011	1	ND	U	0.012	1	ND	U	0.013	1	ND	U	0.013	1
Fluorene	86-73-7	190,000	3,800	mg/kg	0.031	J	0.013	1	ND	U	0.012	1	0.57		0.011	1	0.228		0.011	1	ND	U	0.013	1	ND	U	0.012	1
Naphthalene	91-20-3	190,000	25	mg/kg	0.0214	J	0.011	1	ND	U	0.0099	1	1.64		0.0089	1	0.394		0.0093	1	ND	U	0.011	1	ND	U	0.01	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	0.171		0.019	1	ND	U	0.016	1	1.31		0.015	1	0.447		0.015	1	ND	U	0.018	1	ND	U	0.017	1
Pyrene	129-00-0	190,000	2,200	mg/kg	0.172		0.016	1	ND	U	0.014	1	0.117		0.013	1	0.0372		0.013	1	0.064		0.015	1	ND	U	0.015	1
Metals																												
Lead	7439-92-1	190,000	450	mg/kg	93.2		0.25	1	17.8		0.26	1	4.4		0.23	1	1.8	B	0.24	1	7.1		0.27	1	4.1		0.24	1

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/l - milligram per liter
mg/kg - milligram per kilogram
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
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ND - Not Detected
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ft bgs - feet below ground surface

¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

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U - The analyte was analyzed but not detected above the detection limit.
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B- Compound was detected in the method blank.

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AOI3_BH-13-109				AOI3_BH-13-110				AOI3_BH-13-111				AOI3_BH-13-112				AOI3_BH-13-113			
				Sample ID	AOI3_BH-13-109_5-6_72413				AOI3_BH-13-110_2-2.5_72413				AOI3_BH-13-111_4-5_72413				AOI3_BH-13-112_2-3_72913				AOI3_BH-13-113_72913			
				Sample Date	7/24/2013				7/24/2013				7/24/2013				7/29/2013				7/29/2013			
				Sample Interval (ft bgs)	5-6				2-2.5				4-5				2-3				3-4			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	ND	U	0.0002	1	ND	U	0.00021	1	0.906	J	0.07	1	ND	U	0.0002	1	17.2		0.023	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.0012	1	ND	U	0.0012	1	ND	U	0.0012	1	ND	U	0.0012	1	ND	U	0.001	1
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.00013	1	ND	U	0.00013	1	ND	U	0.045	1	ND	U	0.00013	1	ND	U	0.015	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.00015	1	ND	U	0.00016	1	0.369	J	0.053	1	ND	U	0.00016	1	7.43		0.018	1
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.00011	1	ND	U	0.00012	1	9.59		0.04	1	ND	U	0.00012	1	0.356		0.013	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.00013	1	ND	U	0.00014	1	4.17		0.046	1	ND	U	0.00013	1	4.13		0.015	1
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.00025	1	ND	U	0.00026	1	2.73		0.087	1	ND	U	0.00026	1	2.76		0.029	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	ND	U	0.000071	1	ND	U	0.000074	1	66		0.025	1	0.00028	J	0.000072	1	1.28		0.0083	1
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.00022	1	ND	U	0.00023	1	ND	U	0.078	1	ND	U	0.00023	1	ND	U	0.026	1
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.0001	1	ND	U	0.0001	1	0.925		0.035	1	ND	U	0.0001	1	0.122		0.012	1
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.014	1	ND	U	0.015	1	13.2		0.066	1	ND	U	0.014	1	0.449		0.012	1
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	0.013	1	0.0195	J	0.014	1	11.4		0.062	1	0.0267	J	0.013	1	0.757		0.011	1
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.012	1	ND	U	0.013	1	8.22		0.058	1	0.0308	J	0.013	1	0.534		0.01	1
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	0.013	1	ND	U	0.014	1	7.86		0.063	1	0.0471		0.014	1	0.581		0.011	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.015	1	ND	U	0.016	1	5.03		0.071	1	0.0393	J	0.015	1	0.252		0.013	1
Chrysene	218-01-9	190,000	230	mg/kg	ND	U	0.013	1	0.0224	J	0.014	1	27.4		1.3	20	0.0398	J	0.014	1	0.813		0.011	1
Fluorene	86-73-7	190,000	3,800	mg/kg	ND	U	0.013	1	ND	U	0.014	1	263		1.2	20	0.0205	J	0.013	1	0.677		0.011	1
Naphthalene	91-20-3	190,000	25	mg/kg	ND	U	0.011	1	ND	U	0.012	1	118		1	20	0.0405	J	0.011	1	1.16		0.0093	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	ND	U	0.018	1	ND	U	0.019	1	159		1.7	20	0.043		0.019	1	2.12		0.015	1
Pyrene	129-00-0	190,000	2,200	mg/kg	ND	U	0.015	1	ND	U	0.016	1	27.6		1.5	20	0.0387	J	0.016	1	1.23		0.013	1
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	9.9		0.26	1	22.1		0.28	1	282		0.28	1	10700		2.6	10	103		0.24	1

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/l - milligram per liter
mg/kg - milligram per kilogram
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
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ft bgs - feet below ground surface

¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).
² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).
³Sample is a historic sample. Detection limits and/or dilution factors were not provided in the original report.
⁴Sample is a composite sample. No depth provided.

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.
B- Compound was detected in the method blank.

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AOI3_BH-13-113				AOI3_BH-13-114				AOI3_BH-13-115				AOI3-BH-15-1				AOI3-BH-15-2			
				Sample ID	AOI3_DUP_SO_001_72913				AOI3_BH-13-114_2-3_72913				AOI3_BH-13-115_2-3_72913				AOI3_BH-15-1_10-11_100615				AOI3_BH-15-2_12-14_100615			
				Sample Date	7/29/2013				7/29/2013				7/29/2013				10/6/2015				10/6/2015			
				Sample Interval (ft bgs)	3-4				2-3				2-3				10-11				12-14			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	29.9		0.041	1	ND	U	0.0002	1	ND	U	0.00018	1	20.5		0.022	1	ND	U	0.00023	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.0011	1	ND	U	0.0012	1	ND	U	0.001	1	ND	U	0.00048	1	ND	U	0.00051	1
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.026	1	ND	U	0.00013	1	ND	U	0.00012	1	ND	U	0.015	1	ND	U	0.00015	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	12.9		0.031	1	ND	U	0.00015	1	ND	U	0.00014	1	7.72		0.021	1	ND	U	0.00022	1
Benzene	71-43-2	330	0.5	mg/kg	1.02		0.023	1	0.001		0.00011	1	ND	U	0.00011	1	0.285		0.015	1	ND	U	0.00015	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	8.03		0.027	1	ND	U	0.00013	1	ND	U	0.00012	1	11.6		0.031	1	ND	U	0.00032	1
Ethylbenzene	100-41-4	1,000	70	mg/kg	5.35		0.051	1	0.00053	J	0.00025	1	ND	U	0.00023	1	3.6		0.018	1	ND	U	0.00019	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	2.41		0.014	1	0.00055	J	0.000072	1	ND	U	0.000066	1	1.57		0.012	1	ND	U	0.00012	1
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.046	1	0.0032		0.00023	1	ND	U	0.00021	1	ND	U	0.017	1	0.0067		0.00018	1
Toluene	108-88-3	10,000	100	mg/kg	0.283		0.02	1	ND	U	0.0001	1	ND	U	0.000093	1	ND	U	0.023	1	ND	U	0.00024	1
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	0.309		0.012	1	ND	U	0.015	1	ND	U	0.012	1	0.401		0.0032	1	ND	U	0.0033	1
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	0.39		0.011	1	ND	U	0.014	1	ND	U	0.011	1	0.243		0.0073	1	ND	U	0.0075	1
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	0.302		0.011	1	ND	U	0.013	1	ND	U	0.011	1	0.174		0.008	1	ND	U	0.0083	1
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	0.344		0.012	1	ND	U	0.014	1	ND	U	0.012	1	0.216		0.0077	1	ND	U	0.008	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	0.201		0.013	1	ND	U	0.015	1	ND	U	0.013	1	0.0962		0.011	1	ND	U	0.012	1
Chrysene	218-01-9	190,000	230	mg/kg	0.46		0.012	1	ND	U	0.014	1	ND	U	0.012	1	0.235		0.0061	1	ND	U	0.0063	1
Fluorene	86-73-7	190,000	3,800	mg/kg	0.744		0.011	1	ND	U	0.014	1	ND	U	0.011	1	3.37		0.0045	1	ND	U	0.0046	1
Naphthalene	91-20-3	190,000	25	mg/kg	1.73		0.0095	1	ND	U	0.011	1	ND	U	0.0095	1	3.23		0.006	1	ND	U	0.0062	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	1.95		0.016	1	ND	U	0.019	1	ND	U	0.016	1	4.1		0.042	10	ND	U	0.0043	1
Pyrene	129-00-0	190,000	2,200	mg/kg	0.725		0.013	1	0.0201	J	0.016	1	ND	U	0.013	1	0.698		0.0047	1	ND	U	0.0049	1
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	119		0.23	1	23.2		0.27	1	8.8		0.23	1	6.6		0.28	1	9.9		0.28	1

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
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10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
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Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	AOI3-BH-15-3				AOI3-BH-15-4				AOI3-BH-15-5				AOI3-BH-15-6				AOI3-BH-15-7			
				Sample ID	AOI3_BH-15-3_12-13_100615				AOI3_BH-15-4_12-13_100515				AOI3_BH-15-5_12-14_102715				AOI3_BH-15-6_14-16_102715				AOI3_BH-15-7_14-16_102715			
				Sample Date	10/6/2015				10/5/2015				10/27/2015				10/27/2015				10/27/2015			
				Sample Interval (ft bgs)	12-13				12-13				12-14				14-16				14-16			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	ND	U	0.022	1	0.0057		0.0002	1	4.49		0.027	1	49.3		0.2	1	0.00054	J	0.00024	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.00043	1	ND	U	0.00048	1	ND	U	0.00056	1	ND	U	0.00046	1	ND	U	0.00063	1
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.015	1	ND	U	0.00013	1	ND	U	0.019	1	ND	U	0.0068	1	ND	U	0.00016	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	ND	U	0.021	1	0.002		0.00019	1	0.935		0.026	1	15.4		0.19	1	ND	U	0.00023	1
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.015	1	ND	U	0.00013	1	ND	U	0.018	1	ND	U	0.0067	1	0.0026		0.00016	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.031	1	ND	U	0.00028	1	0.894		0.038	1	56		0.28	1	0.0019		0.00033	1
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.018	1	ND	U	0.00016	1	0.813		0.023	1	21.5		0.17	1	0.00054	J	0.0002	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	0.183	J	0.012	1	0.00023	J	0.00011	1	1.76		0.015	1	6.02		0.0054	1	0.00041	J	0.00013	1
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.017	1	ND	U	0.00015	1	ND	U	0.021	1	ND	U	0.0078	1	ND	U	0.00018	1
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.023	1	ND	U	0.00021	1	ND	U	0.029	1	ND	U	0.011	1	0.00083	J	0.00025	1
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.003	1	ND	U	0.0033	1	ND	U	0.0037	1	0.0744		0.0031	1	ND	U	0.0041	1
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	0.0067	1	ND	U	0.0074	1	ND	U	0.0084	1	0.02	J	0.0069	1	ND	U	0.0091	1
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.0074	1	ND	U	0.0082	1	ND	U	0.0092	1	ND	U	0.0076	1	ND	U	0.01	1
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	0.0071	1	ND	U	0.0079	1	ND	U	0.0089	1	ND	U	0.0073	1	ND	U	0.0097	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.01	1	ND	U	0.012	1	ND	U	0.013	1	ND	U	0.011	1	ND	U	0.014	1
Chrysene	218-01-9	190,000	230	mg/kg	ND	U	0.0056	1	ND	U	0.0062	1	ND	U	0.007	1	0.0197	J	0.0057	1	ND	U	0.0076	1
Fluorene	86-73-7	190,000	3,800	mg/kg	ND	U	0.0041	1	0.0359	J	0.0046	1	0.0416	J	0.0052	1	0.25		0.0042	1	ND	U	0.0056	1
Naphthalene	91-20-3	190,000	25	mg/kg	ND	U	0.0055	1	ND	U	0.0061	1	0.122		0.0069	1	5.8		0.028	5	ND	U	0.0076	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	0.0303	J	0.0038	1	0.0712		0.0043	1	0.0366	J	0.0048	1	0.228		0.004	1	ND	U	0.0052	1
Pyrene	129-00-0	190,000	2,200	mg/kg	ND	U	0.0043	1	ND	U	0.0048	1	ND	U	0.0054	1	0.0615		0.0045	1	ND	U	0.0059	1
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	8.1		0.25	1	11.3		0.27	1	9.8		0.31	1	4.2		0.26	1	12.6		0.35	1

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/l - milligram per liter
mg/kg - milligram per kilogram
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface

¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

³Sample is a historic sample. Detection limits and/or dilution factors were not provided in the original report.

⁴Sample is a composite sample. No depth provided.

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.
B- Compound was detected in the method blank.

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	S-407				S-408				S-410				S-411				S-412			
				Sample ID	AOI3_S-407_14-16_101415				AOI4_S-408_14-16_102315				AOI3_S-410_8-10_102115				AOI3_S-411_16-18_102015				AOI3_S-412_14-16_101815			
				Sample Date	10/14/2015				10/23/2015				10/21/2015				10/20/2015				10/18/2015			
				Sample Interval (ft bgs)	14-16				14-16				8-10				16-18				14-16			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	ND	U	0.02	1	0.00036	J	0.00018	1	83.3		1.1	1	ND	U	0.00022	1	0.0082		0.00025	1
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.00049	1	ND	U	0.00048	1	ND	U	0.00069	1	ND	U	0.00048	1	ND	U	0.00052	1
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.014	1	ND	U	0.00012	1	ND	U	0.029	1	ND	U	0.00015	1	ND	U	0.00017	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	0.25		0.019	1	ND	U	0.00017	1	102		1	1	ND	U	0.00021	1	ND	U	0.00024	1
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.013	1	0.0016		0.00012	1	20		0.029	1	0.0024		0.00015	1	ND	U	0.00017	1
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	0.0306	J	0.028	1	0.002		0.00025	1	54.5		0.059	1	0.0034		0.0003	1	ND	U	0.00035	1
Ethylbenzene	100-41-4	1,000	70	mg/kg	0.214		0.016	1	0.00032	J	0.00015	1	7.05		0.035	1	0.00055	J	0.00018	1	ND	U	0.00021	1
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	8.26		0.011	1	ND	U	0.000097	1	38.1		0.023	1	ND	U	0.00012	1	0.0764		0.00013	1
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.015	1	ND	U	0.00014	1	ND	U	0.033	1	ND	U	0.00017	1	ND	U	0.00019	1
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.021	1	0.00067	J	0.00019	1	5.54		0.045	1	0.0013		0.00023	1	0.0027		0.00026	1
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	0.311		0.0033	1	ND	U	0.0031	1	16.1		0.12	5	ND	U	0.0031	1	ND	U	0.0036	1
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	0.0856		0.0075	1	ND	U	0.0069	1	2.22		0.27	5	ND	U	0.007	1	ND	U	0.0082	1
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	0.0336	J	0.0082	1	ND	U	0.0076	1	1.28	J	0.29	5	ND	U	0.0077	1	ND	U	0.009	1
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	0.0371	J	0.008	1	ND	U	0.0074	1	1.41		0.28	5	ND	U	0.0074	1	ND	U	0.0087	1
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.012	1	ND	U	0.011	1	0.994	J	0.41	5	ND	U	0.011	1	ND	U	0.013	1
Chrysene	218-01-9	190,000	230	mg/kg	0.0993		0.0062	1	ND	U	0.0058	1	4.44		0.22	5	ND	U	0.0058	1	ND	U	0.0068	1
Fluorene	86-73-7	190,000	3,800	mg/kg	1.18		0.0046	1	ND	U	0.0043	1	27		0.16	5	ND	U	0.0043	1	0.29		0.005	1
Naphthalene	91-20-3	190,000	25	mg/kg	2.6		0.0062	1	ND	U	0.0057	1	ND	U	0.22	5	ND	U	0.0058	1	ND	U	0.0068	1
Phenanthrene	85-01-8	190,000	10,000	mg/kg	1.83		0.0043	1	ND	U	0.004	1	62		0.15	5	ND	U	0.004	1	0.459		0.0047	1
Pyrene	129-00-0	190,000	2,200	mg/kg	0.297		0.0048	1	ND	U	0.0045	1	10		0.17	5	ND	U	0.0045	1	0.0448		0.0053	1
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	7.5		0.28	1	6.8		0.29	1	18000		12	50	6.6		0.28	1	10.8		0.3	1

Notes:
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¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).

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U - The analyte was analyzed but not detected above the detection limit.
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10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	S-413				S-414				A10 ^{3,4}				A10 ^{3,4}				A12 ^{3,4}			
				Sample ID	AOI3_S-413_14-16_101515				AOI3_S-414_20-22_101615				A10_012688				A10_012688				A12_012188			
				Sample Date	10/15/2015				10/16/2015				1/26/1988				1/27/1988				1/21/1988			
				Sample Interval (ft bgs)	14-16				20-22				--				--				--			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	63.6		0.099	1	ND	U	0.043	1	NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	ND	U	0.00043	1	ND	U	0.00046	1	NA				NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.066	1	ND	U	0.029	1	ND	U	0.41		NA				ND	U	0.003	
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	10.5		0.095	1	ND	U	0.041	1	NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	1.05		0.066	1	30.9		0.029	1	ND	U	0.64		NA				ND	U	0.005	
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	0.712		0.14	1	0.127	J	0.059	1	NA				NA				NA			
Ethylbenzene	100-41-4	1,000	70	mg/kg	0.612		0.081	1	0.0434	J	0.035	1	0.94				NA				ND	U	0.009	
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	5.6		0.053	1	ND	U	0.023	1	NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	ND	U	0.076	1	ND	U	0.033	1	NA				NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.1	1	40.8		0.045	1	0.99				NA				0.003	J		
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	0.873		0.0079	1	ND	U	0.0032	1	0.2				NA				NA			
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	0.018	1	ND	U	0.0072	1	0.43				NA				NA			
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.02	1	ND	U	0.008	1	0.85				NA				NA			
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	0.019	1	ND	U	0.0077	1	1.3				NA				NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.028	1	ND	U	0.011	1	2				NA				NA			
Chrysene	218-01-9	190,000	230	mg/kg	0.0503	J	0.015	1	ND	U	0.006	1	0.54				NA				NA			
Fluorene	86-73-7	190,000	3,800	mg/kg	3.37		0.011	1	ND	U	0.0045	1	0.1				NA				NA			
Naphthalene	91-20-3	190,000	25	mg/kg	8.94		0.059	4	ND	U	0.006	1	NA				NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	10		0.041	4	ND	U	0.0042	1	0.7				NA				NA			
Pyrene	129-00-0	190,000	2,200	mg/kg	0.629		0.012	1	ND	U	0.0047	1	1.1				NA				NA			
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	2.6		0.25	1	5.7		0.26	1	NA				ND	U	0.1		NA			

Notes:

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Exceedance Summary:

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
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Philadelphia Energy Solutions Refining Complex
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Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	A13 ^{3,4}				A15 ^{3,4}				A2 ^{3,4}				A4 ^{3,4}				A8 ^{3,4}			
				Sample ID	A13_012288				A15_012588				A2_012288				A4_012688				A8_012688			
				Sample Date	1/22/1988				1/25/1988				1/22/1988				1/26/1988				1/26/1988			
				Sample Interval (ft bgs)	--				--				--				--				--			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	NA				ND	U	0.003		NA				NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	NA				ND	U	0.005		NA				NA				NA			
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	NA				NA				NA				NA				NA			
Ethylbenzene	100-41-4	1,000	70	mg/kg	NA				0.011				NA				NA				NA			
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	NA				NA				NA				NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	NA				0.006	J			NA				NA				NA			
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	0.2				ND	U	0.44		ND	U	0.075		0.45				0.71			
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	0.96				1.3	J			ND	U	0.31		1.2				1.1			
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	1.9				2				0.19				1.4				1.4			
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	2.1				2.6				0.16	J			0.92				1.2			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	3.8				3.8				ND	U	0.16		2.3				2			
Chrysene	218-01-9	190,000	230	mg/kg	1.4				1.7				0.19				1.5				1.4			
Fluorene	86-73-7	190,000	3,800	mg/kg	0.085				ND	U	0.44		ND	U	0.075		0.24				0.45			
Naphthalene	91-20-3	190,000	25	mg/kg	NA				NA				NA				NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	0.9				2.3				ND	U	0.21		2				2.4			
Pyrene	129-00-0	190,000	2,200	mg/kg	2.7				3.2				0.29				3.5				3.1			
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	ND	U	0.1		ND	U	0.1		ND	U	0.1		ND	U	0.1		NA			

Notes:

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- B- Compound was detected in the method blank.

Exceedance Summary:

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	A9 ^{3,4}				B1 ^{3,4}				B10 ^{3,4}				B11 ^{3,4}				B12 ^{3,4}			
				Sample ID	A9_012688				B1_032188				B10_032188				B11_032188				B12_032188			
				Sample Date	1/26/1988				3/21/1988				3/21/1988				3/21/1988				3/21/1988			
				Sample Interval (ft bgs)	--				--				--				--				--			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	1	0.003		ND	U	0.003		ND	U	6.2		ND	U	1.8		ND	U	0.43	
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	0.018				0.14				66				2.1	J			0.69	J		
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	NA				0.088				110				18				7.9			
Ethylbenzene	100-41-4	1,000	70	mg/kg	0.045				0.062				30				5.2				2.5			
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	NA				NA				NA				NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	0.11				0.005				ND	U	13		ND	U	3.9		ND	U	0.92	
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	NA				ND	U	0.44		ND	U	4.9		ND	U	25		ND	U	4.7	
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	NA				0.74	J			ND	U	20		ND	U	100		ND	U	19	
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	NA				0.74				ND	U	6.5		ND	U	32		ND	U	6.1	
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	NA				ND	U	1.1		ND	U	12		ND	U	62		ND	U	12	
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	NA				ND	U	0.95		ND	U	11		ND	U	53		ND	U	10	
Chrysene	218-01-9	190,000	230	mg/kg	NA				1.2				ND	U	6.5		ND	U	32		ND	U	6.1	
Fluorene	86-73-7	190,000	3,800	mg/kg	NA				0.97				14				30				3.2	J		
Naphthalene	91-20-3	190,000	25	mg/kg	NA				NA				NA				NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	NA				2.8				8	J			58				5.1	J		
Pyrene	129-00-0	190,000	2,200	mg/kg	NA				1.6				ND	U	4.9		60				3.7	J		
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	NA				280				264				242				559			

Notes:

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- PADEP - Pennsylvania Department of Environmental Protection
- MSC - Medium Specific Concentration
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- DF - Dilution Factor
- ND - Not Detected
- NA - Not Analyzed
- ft bgs - feet below ground surface

¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).

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Qualifiers:

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Exceedance Summary:

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
Summary of Subsurface Soil Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	B13 ^{3,4}				B14 ^{3,4}				B15 ^{3,4}				B16 ^{3,4}				B18 ^{3,4}			
				Sample ID	B13_032288				B14_032288				B15_032288				B16_032288				B18_032288			
				Sample Date	3/22/1988				3/22/1988				3/22/1988				3/22/1988				3/22/1988			
				Sample Interval (ft bgs)	--				--				--				--				--			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	0.003		ND	U	1.9		NA				ND	U	0.003		NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.005		ND	U	3		NA				ND	U	0.005		NA			
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.006		ND	U	3.4		NA				ND	U	0.006		NA			
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.009		ND	U	4.9		NA				ND	U	0.009		NA			
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	NA				NA				NA				NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	ND	U	0.007		ND	U	4.1		NA				ND	U	0.007		NA			
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.075		ND	U	0.52		ND	1	0.074		ND	U	0.075		ND	U	0.075	
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	0.11	J			ND	U	2.1		ND	1	0.3		ND	U	0.31		ND	U	0.31	
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.099		ND	U	0.68		ND	1	0.098		ND	U	0.099		ND	U	0.099	
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	0.19		ND	U	1.3		ND	1	0.19		ND	U	0.19		ND	U	0.19	
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	0.16		ND	U	1.1		ND	1	0.16		ND	U	0.16		ND	U	0.16	
Chrysene	218-01-9	190,000	230	mg/kg	ND	U	0.099		1.3				ND	1	0.098		ND	U	0.099		ND	U	0.099	
Fluorene	86-73-7	190,000	3,800	mg/kg	ND	U	0.075		16				ND	1	0.074		ND	U	0.075		ND	U	0.075	
Naphthalene	91-20-3	190,000	25	mg/kg	NA				NA				NA				NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	ND	U	0.21		10				ND	1	0.21		ND	U	0.21		ND	U	0.21	
Pyrene	129-00-0	190,000	2,200	mg/kg	0.1				2				ND	1	0.074		0.18				0.13			
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	110				151				46.3				179				30.3			

Notes:

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Exceedance Summary:

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

Table 5
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Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	B2 ^{3,4}				B3 ^{3,4}				B4 ^{3,4}				B5 ^{3,4}				B6 ^{3,4}			
				Sample ID	B2_032188				B3_032188				B4_032188				B5_032188				B6_032188			
				Sample Date	3/21/1988				3/21/1988				3/21/1988				3/21/1988				3/21/1988			
				Sample Interval (ft bgs)	--				--				--				--				--			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																								
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	4.4		ND	U	0.003		ND	U	0.006		ND	U	0.48		ND	U	0.004	
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	60				ND	U	0.005		ND	U	0.005		9				ND	U	0.006	
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	330				0.006				ND	U	0.006		ND	U	0.85		ND	U	0.006	
Ethylbenzene	100-41-4	1,000	70	mg/kg	47				ND	U	0.008		ND	U	0.008		ND	U	1.2		ND	U	0.009	
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	NA				NA				NA				NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	55				0.003	J			0.003	J			ND	U	1		ND	U	0.008	
Semi Volatile Organic Compounds																								
Anthracene	120-12-7	190,000	350	mg/kg	3.6	J			ND	U	0.074		23				ND	U	5.2		ND	U	0.25	
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	20		0.21	J			41				3.6				ND	U	1	
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	6.3		0.32				ND	U	0.88		ND	U	6.8		ND	U	0.33	
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	12		ND	U	0.19		32				ND	U	13		ND	U	0.64	
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	10		ND	U	0.16		8.1				ND	U	11		ND	U	0.55	
Chrysene	218-01-9	190,000	230	mg/kg	16				0.4				38				8.7				ND	U	0.33	
Fluorene	86-73-7	190,000	3,800	mg/kg	58				0.71				26				34				0.17	J		
Naphthalene	91-20-3	190,000	25	mg/kg	NA				NA				NA				NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	62				0.77				62				24				0.31	J		
Pyrene	129-00-0	190,000	2,200	mg/kg	38				1.3				160				10				0.59			
Metals																								
Lead	7439-92-1	190,000	450	mg/kg	263				216				472				183				237			

Notes:

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Exceedance Summary:

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Table 5
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Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	B7 ^{3,4}				B9 ^{3,4}				SSS-4D ³				SSS-4S ³				SSS-5 ³				SSS-6 ³			
				Sample ID	B7_032188				B9_032188				SSS-4D_082890				SSS-4S_082890				SSS-5_082890				SSS-6_082890			
				Sample Date	3/21/1988				3/21/1988				8/28/1990				8/28/1990				8/28/1990				8/28/1990			
				Sample Interval (ft bgs)	--				--				8 - 8.5				5 - 5.5				7 - 7.5				10 - 10.5			
				Sample Matrix	Soil				Soil				Soil				Soil				Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds																												
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA				NA				NA				NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA				NA				NA				NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	ND	U	4.7		ND	U	0.41		NA				NA				NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA				NA				NA				NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	28				ND	U	0.65		0.005		0.005		0.033		0.005		78.2	D	0.005		ND	U	0.005	
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	37				ND	U	0.74		0.031		0.005		0.081	J	0.005		293	D	0.005		ND	U	0.005	
Ethylbenzene	100-41-4	1,000	70	mg/kg	52				ND	U	1.1		0.026		0.005		0.026	J	0.005		75.4	D	0.005		ND	U	0.005	
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA				NA				NA				NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	NA				NA				NA				NA				NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	5.9	J			ND	U	0.88		NA				NA				NA				NA			
Semi Volatile Organic Compounds																												
Anthracene	120-12-7	190,000	350	mg/kg	9.2	J			ND	U	4.5		ND	U	0.23		ND	U	0.23		39.5	D	0.23		1.83	D	0.23	
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	ND	U	42		ND	U	18		NA				NA				NA				NA			
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	13		ND	U	5.9		ND	U	0.3		ND	U	0.3		ND	U	0.3		0.347	D	0.3	
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	ND	U	26		ND	U	11		NA				NA				NA				NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	ND	U	22		ND	U	9.6		NA				NA				NA				NA			
Chrysene	218-01-9	190,000	230	mg/kg	18				3.5	J			ND	U	0.3		0.766	D	0.3		19.1		0.3		1.66	D	0.3	
Fluorene	86-73-7	190,000	3,800	mg/kg	360				ND	U	4.5		ND	U	0.23		ND	U	0.23		1110	D	0.23		10.5	D	0.23	
Naphthalene	91-20-3	190,000	25	mg/kg	NA				NA				NA				NA				NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	160				11	J			ND	U	0.64		2.26	D	0.64		336	D	0.64		23.7	D	0.64	
Pyrene	129-00-0	190,000	2,200	mg/kg	32				12				ND	U	0.3		0.808	D	0.3		20.1		0.3		2.01	D	0.3	
Metals																												
Lead	7439-92-1	190,000	450	mg/kg	479				191				440	D			230	D			200	D			110	D		

Notes:

CAS - Chemical Abstracts Service Registry Number

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MSC - Medium Specific Concentration

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mg/kg - milligram per kilogram

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Exceedance Summary:

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Chemical Name	CAS Number	PADEP Non-Residential Subsurface Soil Direct Contact MSC ¹	PADEP Non-Residential Soil to Groundwater MSC ²	Location	SSS-7D ³				SSS-7S ³			
				Sample ID	SSS-7D_082890				SSS-7S_082890			
				Sample Date	8/28/1990				8/28/1990			
				Sample Interval (ft bgs)	8 - 8.5				2 - 2.5			
				Sample Matrix	Soil				Soil			
				Unit	Result	Q	DL	DF	Result	Q	DL	DF
Volatile Organic Compounds												
1,2,4-Trimethylbenzene	95-63-6	640	35	mg/kg	NA				NA			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	4.3	0.005	mg/kg	NA				NA			
1,2-Dichloroethane	107-06-2	98	0.5	mg/kg	NA				NA			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	10,000	210	mg/kg	NA				NA			
Benzene	71-43-2	330	0.5	mg/kg	ND	U	0.005		ND	U	0.005	
Dimethyl Benzene/ Xylenes, Total	1330-20-7	9,100	1,000	mg/kg	ND	U	0.005		ND	U	0.005	
Ethylbenzene	100-41-4	1,000	70	mg/kg	ND	U	0.005		ND	U	0.005	
Isopropylbenzene (Cumene)	98-82-8	10,000	2,500	mg/kg	NA				NA			
Tert-Butyl Methyl Ether	1634-04-4	9,900	2	mg/kg	NA				NA			
Toluene	108-88-3	10,000	100	mg/kg	NA				NA			
Semi Volatile Organic Compounds												
Anthracene	120-12-7	190,000	350	mg/kg	ND	U	0.23		8.23	D	0.23	
Benzo(A)Anthracene	56-55-3	190,000	430	mg/kg	NA				NA			
Benzo(A)Pyrene	50-32-8	190,000	46	mg/kg	ND	U	0.3		ND	U	0.3	
Benzo(B)Fluoranthene	205-99-2	190,000	170	mg/kg	NA				NA			
Benzo(G,H,I)Perylene	191-24-2	190,000	180	mg/kg	NA				NA			
Chrysene	218-01-9	190,000	230	mg/kg	ND	U	0.3		0.532	D	0.3	
Fluorene	86-73-7	190,000	3,800	mg/kg	ND	U	0.23		0.346	D	0.23	
Naphthalene	91-20-3	190,000	25	mg/kg	NA				NA			
Phenanthrene	85-01-8	190,000	10,000	mg/kg	ND	U	0.64		0.936	D	0.64	
Pyrene	129-00-0	190,000	2,200	mg/kg	ND	U	0.3		0.502	D	0.3	
Metals												
Lead	7439-92-1	190,000	450	mg/kg	23	D			33	D		

Notes:
CAS - Chemical Abstracts Service Registry Number
PADEP - Pennsylvania Department of Environmental Protection
MSC - Medium Specific Concentration
mg/l - milligram per liter
mg/kg - milligram per kilogram
Q - Lab Qualifier
DL - Lab detection limit (actual limit may be either the quantification or method detection limit)
DF - Dilution Factor
ND - Not Detected
NA - Not Analyzed
ft bgs - feet below ground surface

¹ PADEP Act 2 Non-Residential Subsurface Soil Direct Contact MSCs (last updated August 27, 2016).

² PADEP Non-Residential Soil to Groundwater MSC for unsaturated soils in a used aquifer with total dissolved solids less than 2500 mg/l (last updated August 27, 2016).

³Sample is a historic sample. Detection limits and/or dilution factors were not provided in the original report.

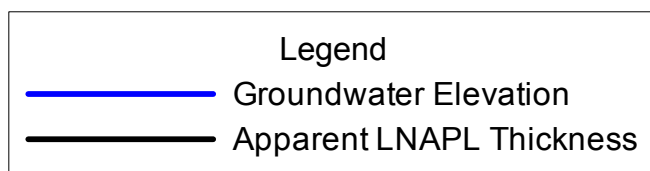
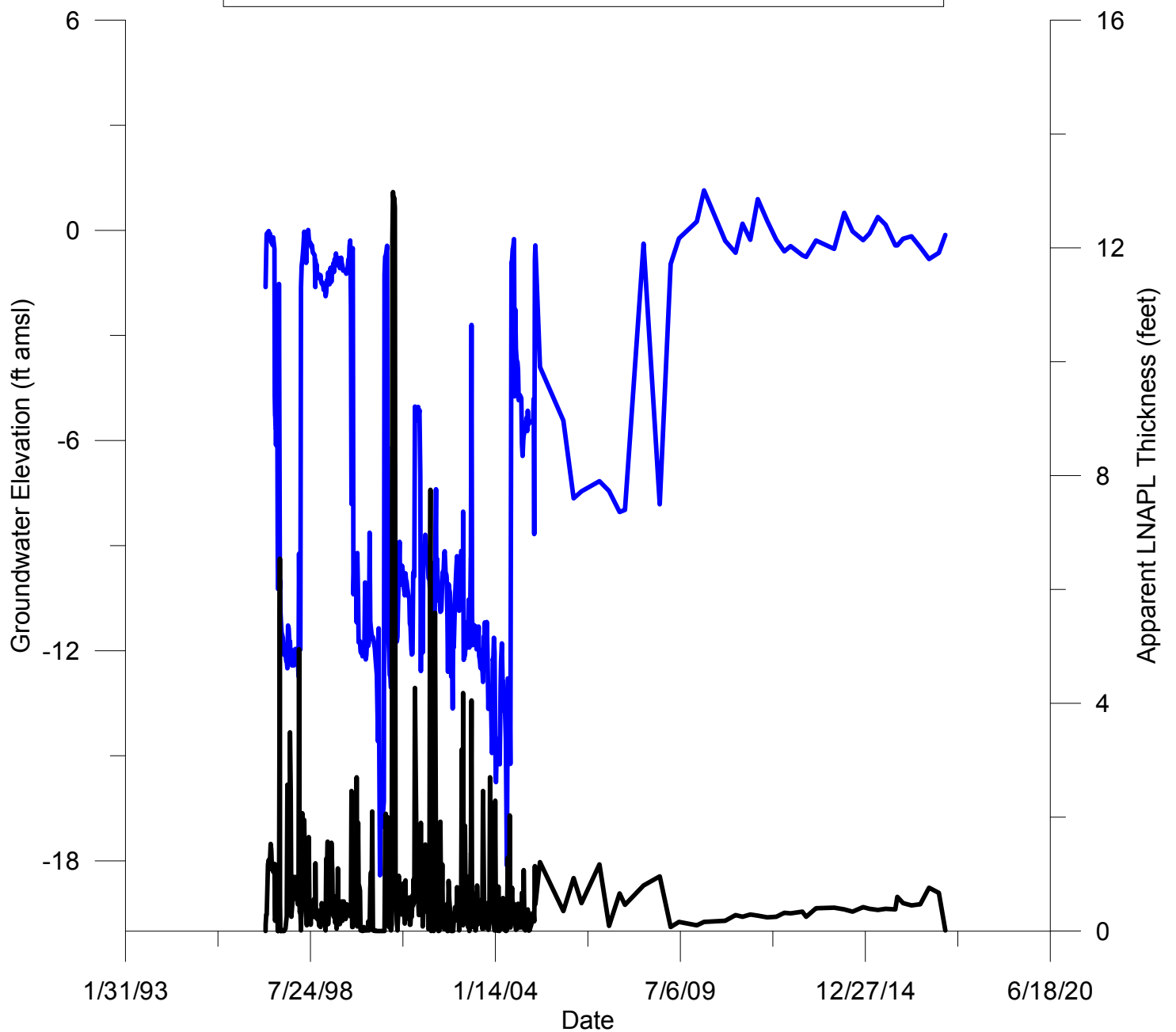
⁴Sample is a composite sample. No depth provided.

Qualifiers:
U - The analyte was analyzed but not detected above the detection limit.
J - Compound was detected below the quantification limit and above the method detection limit. The result should be considered estimated.
B- Compound was detected in the method blank.

10	Reported result exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC
10	Reported result exceeds the PADEP Non-Residential Soil to Groundwater MSC.
10	DL exceeds the PADEP Non-Residential Subsurface Soil Direct Contact MSC

4

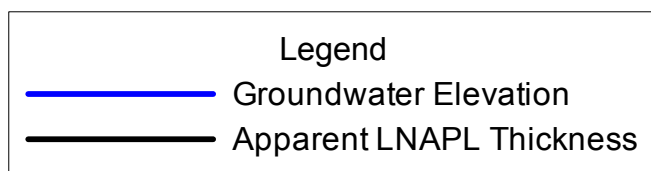
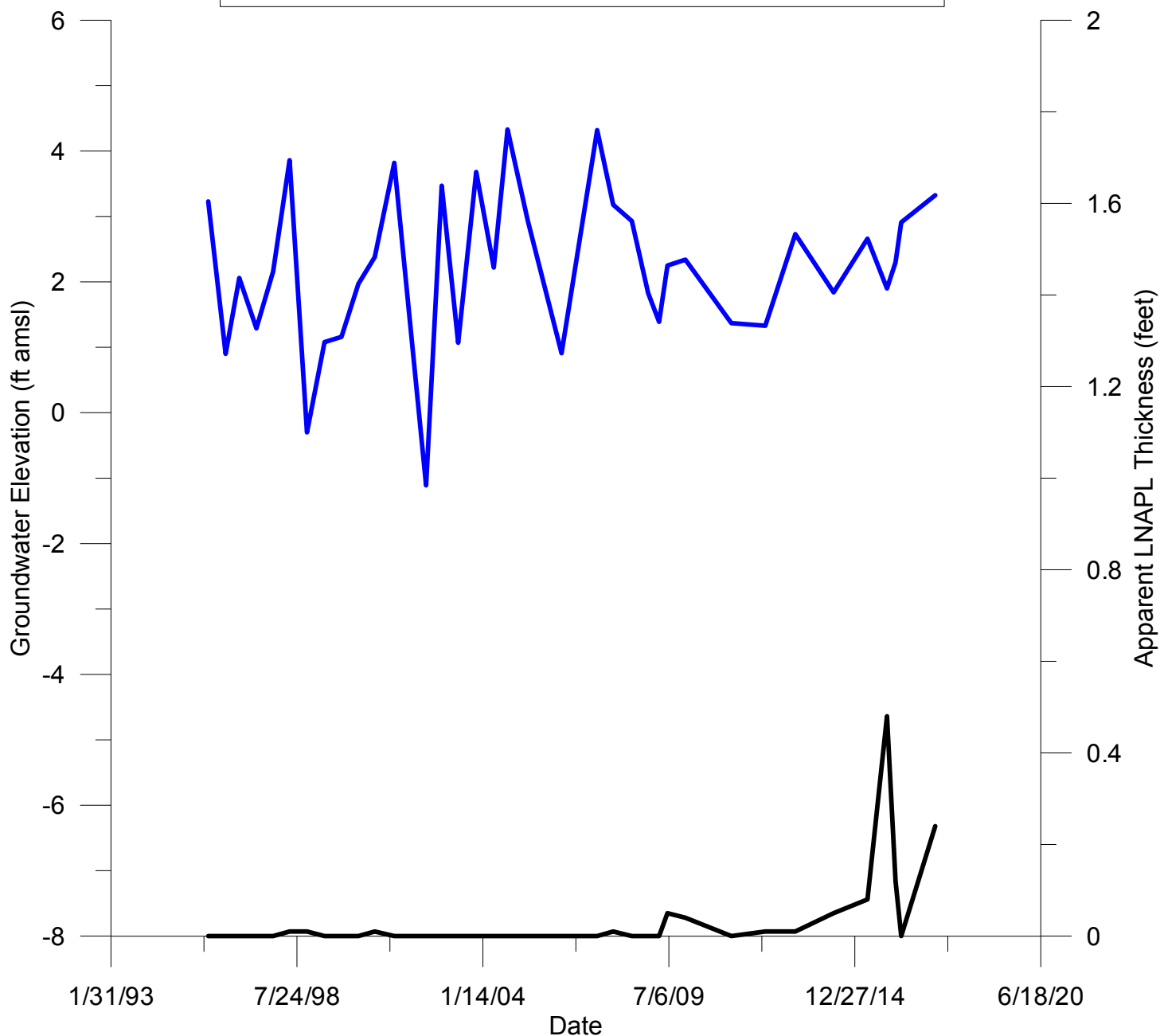
Figure G-1
 Recovery Well RW-2
 Apparent LNAPL Thickness and Groundwater Elevation Trends
 AOI 3 Remedial Investigation Report
 PES Philadelphia Refining Complex
 Philadelphia, PA



Notes:

1. Apparent LNAPL thicknesses and groundwater elevations were obtained from gauging events spanning from March 1997 through May 2017.
2. Observed LNAPL sheen is displayed as 0.01 feet thick.
3. LNAPL = light non-aqueous phase liquid.
4. ft amsl = feet above mean sea level.

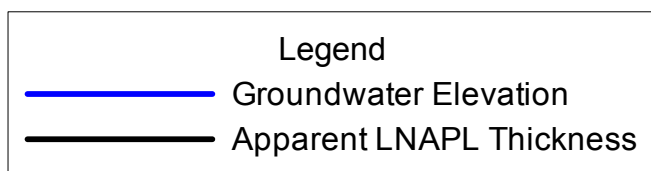
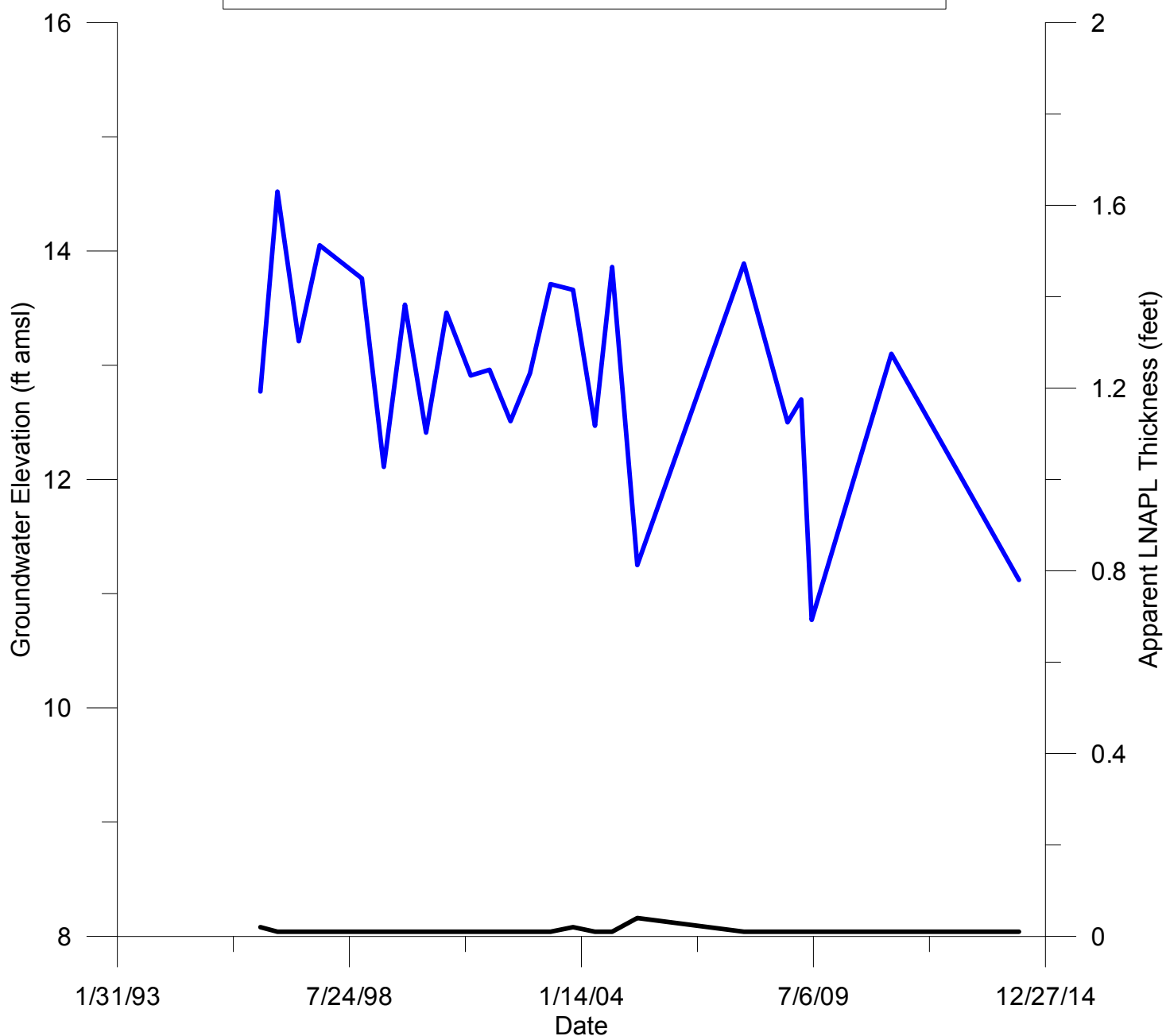
Figure G-2
Monitoring Well S-5
Apparent LNAPL Thickness and Groundwater Elevation Trends
AOI 3 Remedial Investigation Report
PES Philadelphia Refining Complex
Philadelphia, PA



Notes:

1. Apparent LNAPL thicknesses and groundwater elevations were obtained from gauging events spanning from December 1995 through May 2017.
2. Observed LNAPL sheen is displayed as 0.01 feet thick.
3. LNAPL = light non-aqueous phase liquid.
4. ft amsl = feet above mean sea level.

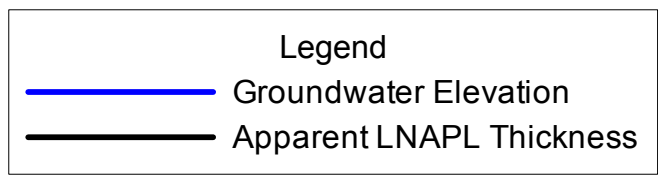
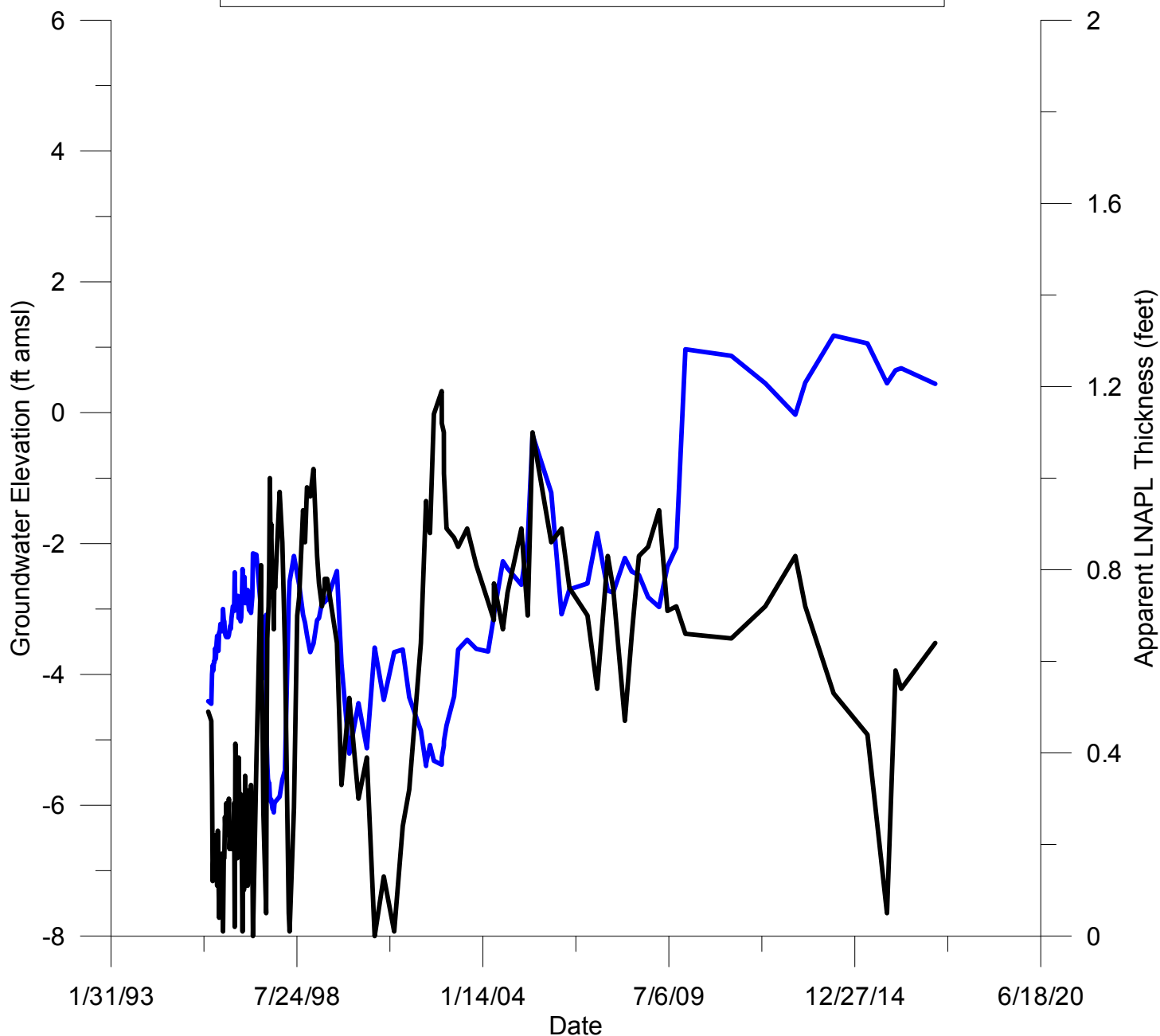
Figure G-3
Monitoring Well S-19
Apparent LNAPL Thickness and Groundwater Elevation Trends
AOI 3 Remedial Investigation Report
PES Philadelphia Refining Complex
Philadelphia, PA



Notes:

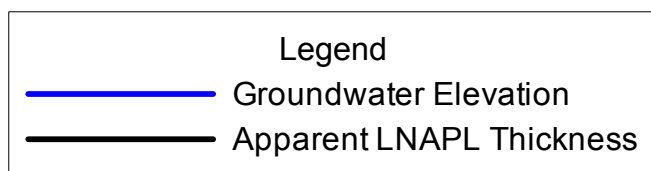
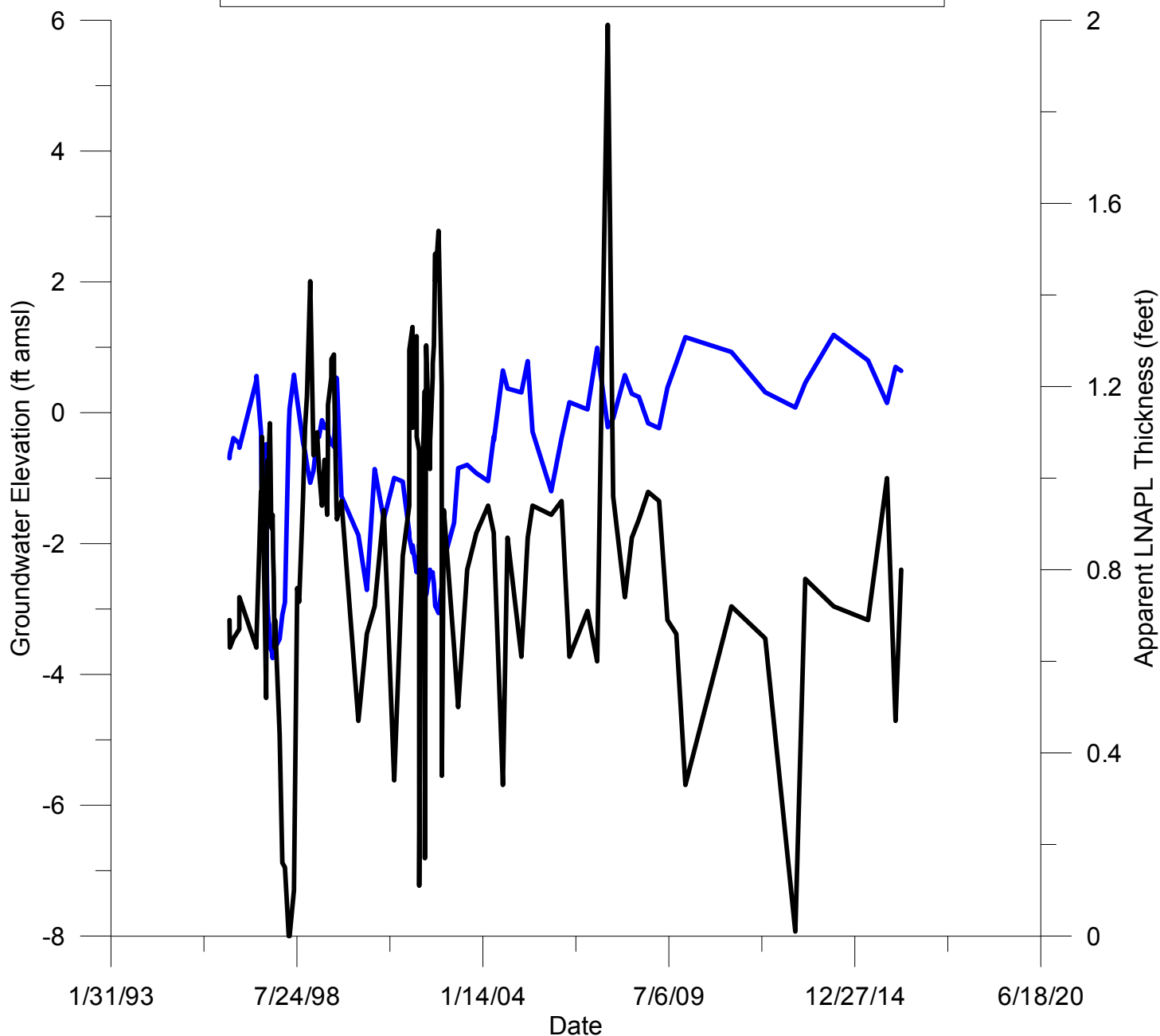
1. Apparent LNAPL thicknesses and groundwater elevations were obtained from gauging events spanning from June 1996 through May 2014.
2. Observed LNAPL sheen is displayed as 0.01 feet thick.
3. LNAPL = light non-aqueous phase liquid.
4. ft amsl = feet above mean sea level.

Figure G-4
Monitoring Well S-60
Apparent LNAPL Thickness and Groundwater Elevation Trends
AOI 3 Remedial Investigation Report
PES Philadelphia Refining Complex
Philadelphia, PA



- Notes:
1. Apparent LNAPL thicknesses and groundwater elevations were obtained from gauging events spanning from December 1995 through May 2017.
 2. Observed LNAPL sheen is displayed as 0.01 feet thick.
 3. LNAPL = light non-aqueous phase liquid.
 4. ft amsl = feet above mean sea level.

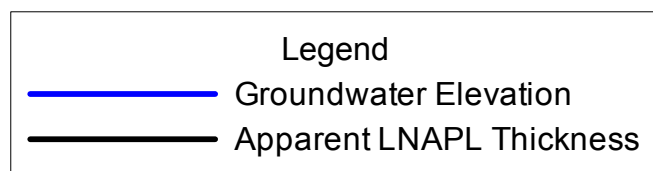
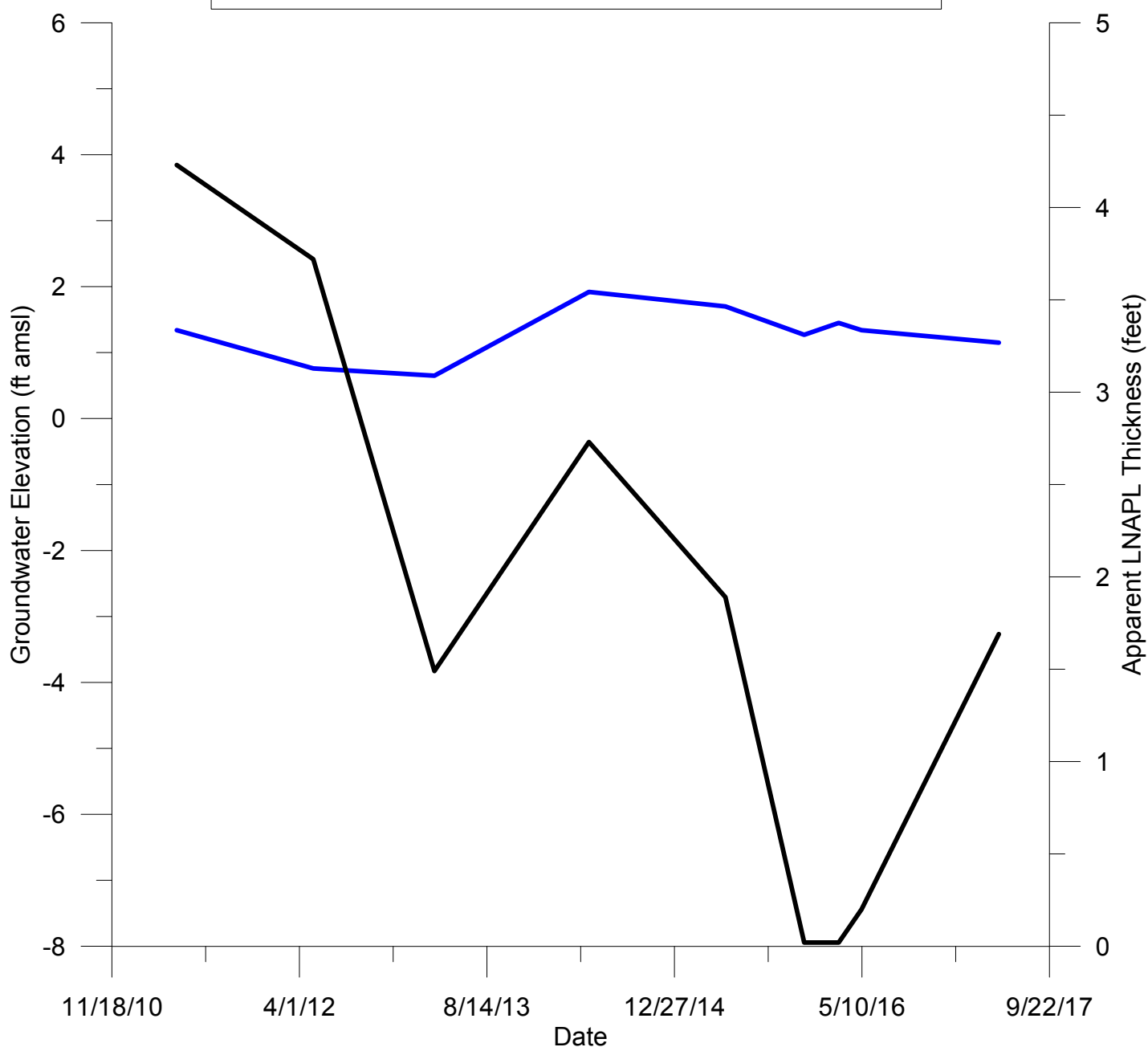
Figure G-5
Monitoring Well S-113
Apparent LNAPL Thickness and Groundwater Elevation Trends
AOI 3 Remedial Investigation Report
PES Philadelphia Refining Complex
Philadelphia, PA



Notes:

1. Apparent LNAPL thicknesses and groundwater elevations were obtained from gauging events spanning from July 1996 through May 2016.
2. Observed LNAPL sheen is displayed as 0.01 feet thick.
3. LNAPL = light non-aqueous phase liquid.
4. ft amsl = feet above mean sea level.

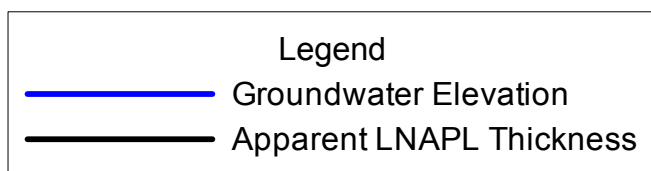
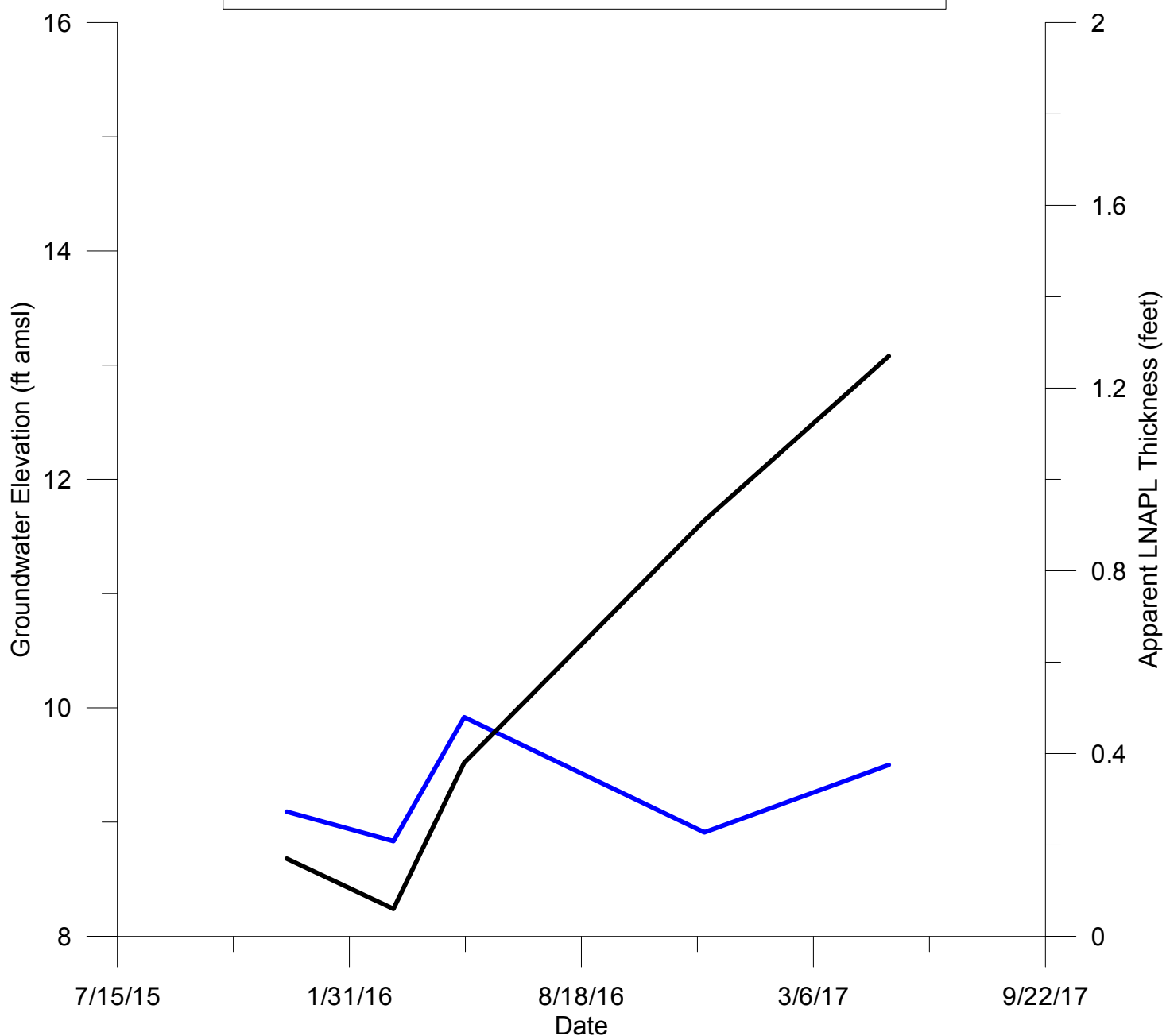
Figure G-6
Monitoring Well S-285
Apparent LNAPL Thickness and Groundwater Elevation Trends
AOI 3 Remedial Investigation Report
PES Philadelphia Refining Complex
Philadelphia, PA



Notes:

1. Apparent LNAPL thicknesses and groundwater elevations were obtained from gauging events spanning from May 2011 through May 2017.
2. Observed LNAPL sheen is displayed as 0.01 feet thick.
3. LNAPL = light non-aqueous phase liquid.
4. ft amsl = feet above mean sea level.

Figure G-7
Monitoring Well S-410
Apparent LNAPL Thickness and Groundwater Elevation Trends
AOI 3 Remedial Investigation Report
PES Philadelphia Refining Complex
Philadelphia, PA



Notes:

1. Apparent LNAPL thicknesses and groundwater elevations were obtained from gauging events spanning from December 2015 through May 2017.
2. Observed LNAPL sheen is displayed as 0.01 feet thick.
3. LNAPL = light non-aqueous phase liquid.
4. ft amsl = feet above mean sea level.

6

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: IA-AOI3-Safway

Site Address: 3144 Passyunk Ave

Sample Canister Location: AOI 3 Safway Trailer

Sample Date: 3.22.16 Sampler: Roh B.

Sample Time: Start: 10:00 Stop: 1843

Shipping Date: 3.21.16

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister/Other (specify):

Canister Serial No.: 1377

Flow Controller Serial No.: 339291

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

BLOG

WP1797

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>61</u>	<u>55</u>	<u>70</u>

Barometric Pressure 30.4 ↓

	Start	Stop
Canister Pressure Gauge Reading:	<u>-29</u>	<u>-12</u>

Time:	<u>1000</u>	<u>1843</u>
-------	-------------	-------------

PID Reading:	<u>0.00</u>	<u>0.06</u>
--------------	-------------	-------------

Basement Depth (ft below grade):

Window Marked: Yes/No

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

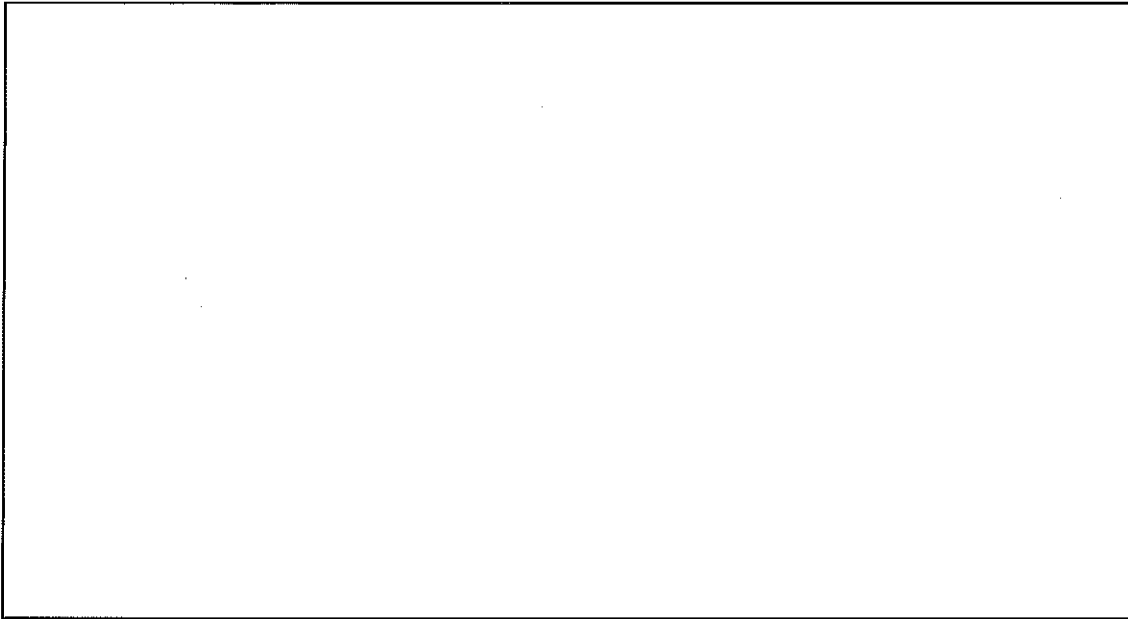
☐ Yes ☒ No

Describe the general weather conditions:

sunny windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: IA-AOI3-3324-1
 Site Address: 3144 Passyunk Ave Phila, PA
 Sample Canister Location: AOI-3 CENTRA Warehouse Office WING
 Sample Date: 3.22.16 Sampler: R.O.B.
 Sample Time: Start: 1019 Stop: 1805
 Shipping Date: 3.21.16
 Canister Type: 400 mL – 1.0 L Summa Canister/ 6 L Summa Canister /Other (specify):
 Canister Serial No.: 1349
 Flow Controller Serial No.: 675002
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

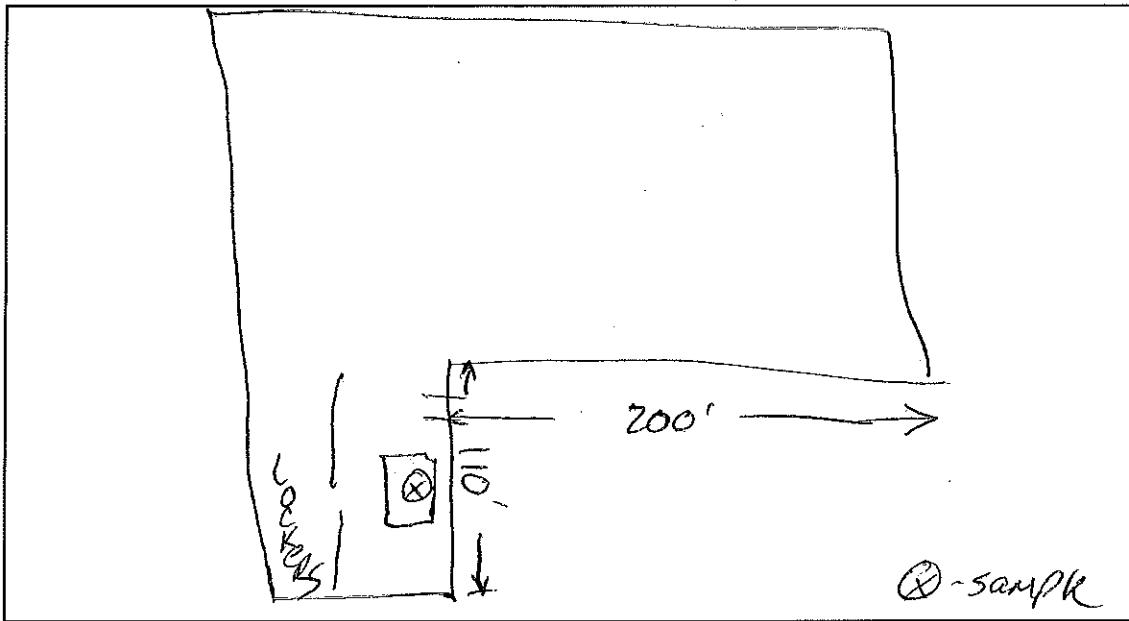
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>60</u>	<u>56</u>	<u>72</u>
Barometric Pressure	<u>30.4</u>		<u>30.2</u>	
Canister Pressure Gauge Reading:	Start <u>-30</u>		Stop <u>-10</u>	
Time:	<u>1019</u>		<u>1805</u>	
PID Reading:	<u>0.00 ppm</u>		<u>0.00</u>	
Basement Depth (ft below grade):	<u> </u>		<u> </u>	
Window Marked:	<u>Yes/No</u>		<u> </u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Sunny, Windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

A01 3

central Warehouse (3324)

Lunch

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: IA-A013-3324-2
Site Address: 3144 Passyunk Ave Phila PA
Sample Canister Location: 901-3 BLDG 3324 Central Warehouse
Sample Date: 3.22.16 Sampler: R. Q. B.
Sample Time: Start: 1039 Stop: 1822
Shipping Date: 3.21.16

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 1350
Flow Controller Serial No.: 303934

Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>64</u>	<u>55</u>	<u>74</u>
Barometric Pressure	<u>30.4</u>		<u>30.2</u>	

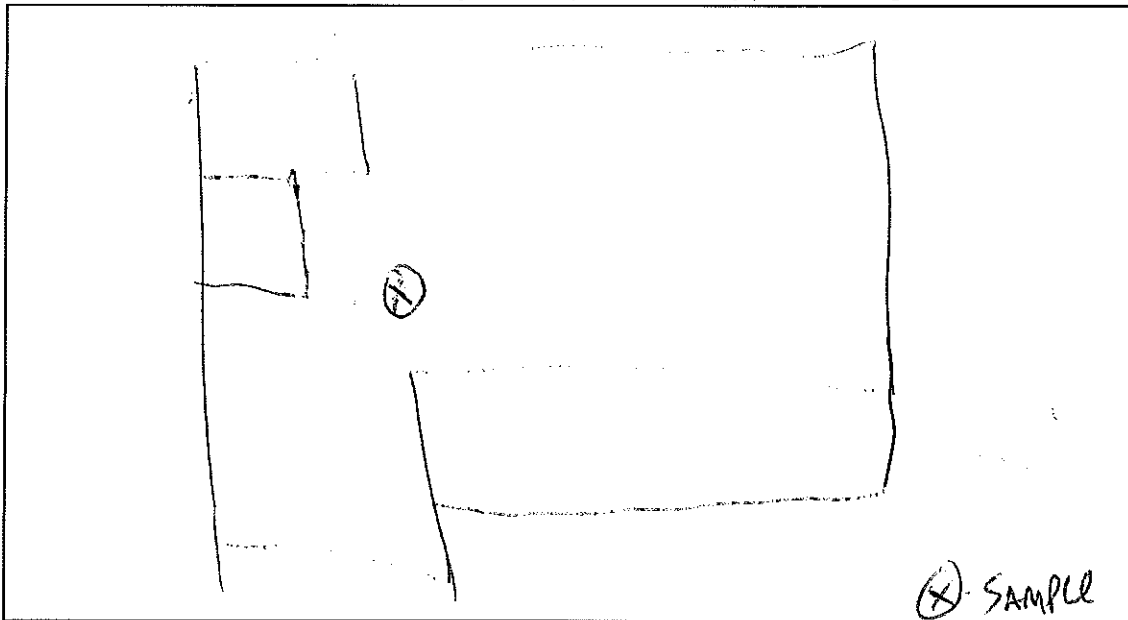
	Start	Stop
Canister Pressure Gauge Reading:	<u>-30</u>	<u>-10</u> ¹⁶
Time:	<u>1039</u>	<u>1822</u>
PID Reading:	<u>0.00 ppm</u>	<u>0.00</u>
Basement Depth (ft below grade):	<u> </u>	<u> </u>
Window Marked:	<u>Yes/No</u>	<u> </u>

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: sunny, windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

A013-2
WATER/NOX
near seal/safety store

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: IA-AOI3-3324-3
 Site Address: 3144 Passyunk Ave Phila PA
 Sample Canister Location: AOI-3 BLOC 3324 Warden office
 Sample Date: 3-22-16 Sampler: Richard B
 Sample Time: Start: 1047 Stop: 1833
 Shipping Date: 3-21-16

Canister Type: 400 mL – 1.0 L Summa Canister/6 Summa Canister/Other (specify):

Canister Serial No.: 1351
 Flow Controller Serial No.: 824852

Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

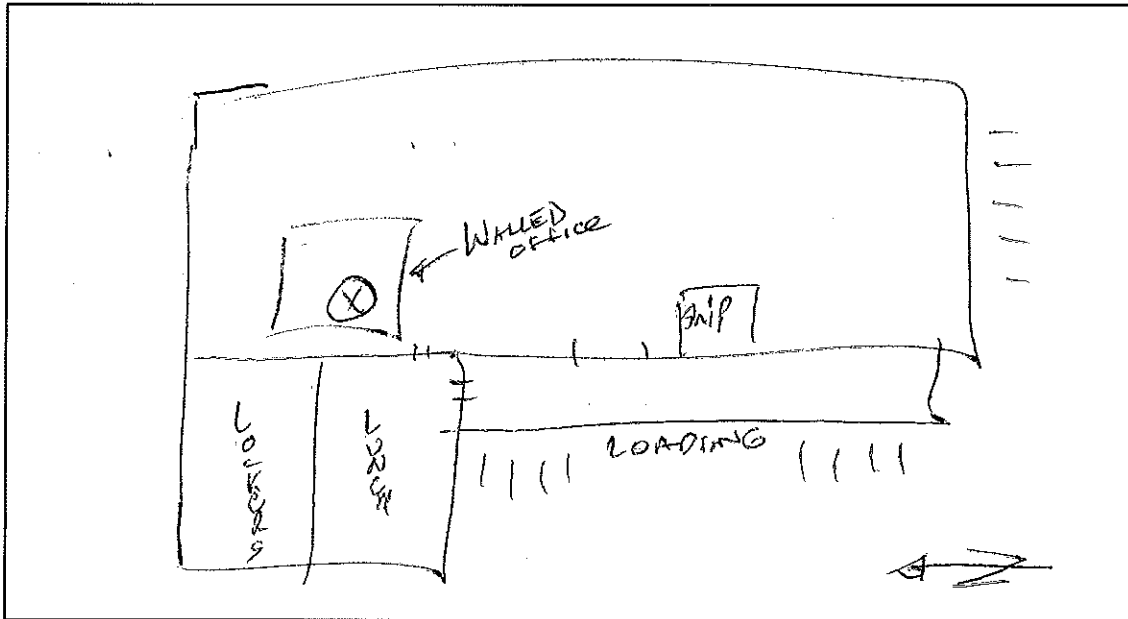
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>66</u>		<u>72</u>
Barometric Pressure	<u>30.4</u>		<u>30.2</u>	
Canister Pressure Gauge Reading:	Start <u>-30</u>		Stop <u>-8</u>	
Time:	<u>1047</u>		<u>1833</u>	
PID Reading:	<u>0.00 ppm</u>		<u>0.00</u>	
Basement Depth (ft below grade):	<u></u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Sunny, Windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

A013

Central Warehouse

Bldg 3324

Walled Office

open till 7:00

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A013-3324-4 (5 = DUP)
Site Address: 3144 Passyunk Ave Phila PA
Sample Canister Location: A01-3 BLDG 3324 CENTRAL Warehouse
Sample Date: 3.22.16 Sampler: R. Q. B.
Sample Time: Start: 1059 Stop: 1828
Shipping Date: 3.21.16
Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):
Canister Serial No.: 1352 / 1353
Flow Controller Serial No.: 337701 / 204636
Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature				<u>73</u>
Barometric Pressure	<u>30.4 ↓</u>		<u>30.2</u>	
Canister Pressure Gauge Reading:	Start <u>-30 / -30</u>		Stop <u>-10 / -9</u>	
Time:	<u>1059</u>		<u>1828</u>	
PID Reading:	<u>0.00</u>		<u>0.00</u>	
Basement Depth (ft below grade):	<u> </u>			
Window Marked:	<u>Yes/No</u>			

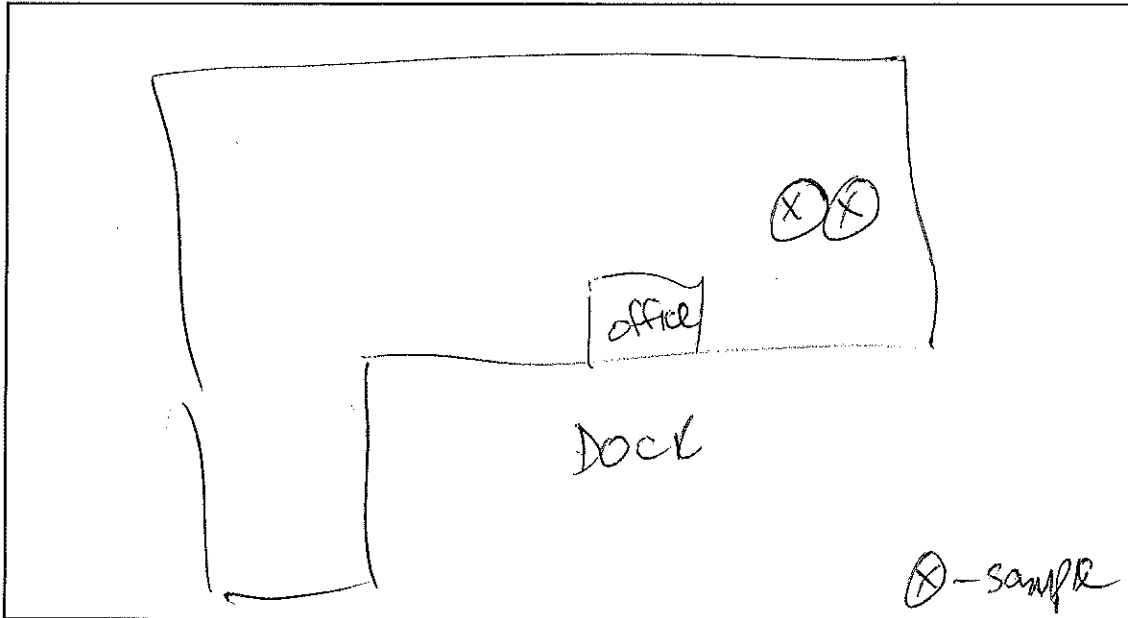
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Sunny, windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

A013

central

BB2Y Bldg

open warehouse

plus Dop

occupied till 7:00

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: IA-AOI3-3324-6
 Site Address: 3144 Passyunk Ave Phila PA
 Sample Canister Location: AOI3 - Bldg 3324 Central Ware - SHIPPING OFFICE

Sample Date: 3-22-16 Sampler: R. O. B.
 Sample Time: Start: 1102 Stop: 1835
 Shipping Date: 3-21-16

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):
6 L Summa Canister

Canister Serial No.: 1354
 Flow Controller Serial No.: 415324

Were "Instructions to Occupants Building" followed?
☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>64</u>	<u>55</u>	<u>73</u>
Barometric Pressure	<u>30.4 ↓</u>		<u>30.2</u>	

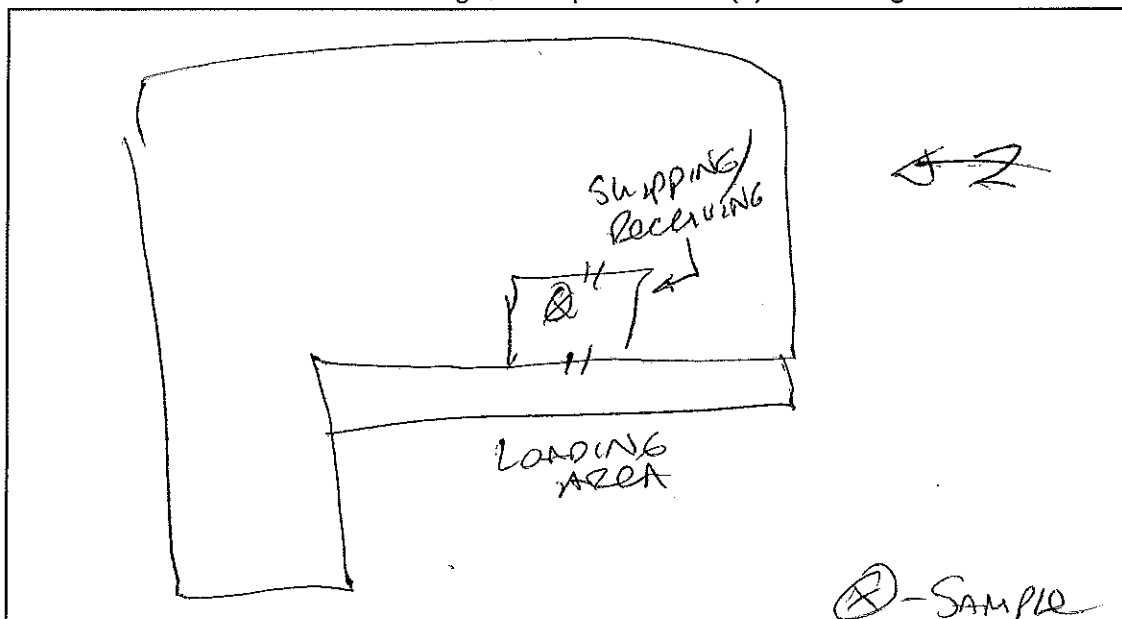
	Start	Stop
Canister Pressure Gauge Reading:	<u>-30</u>	<u>-9</u>
Time:	<u>1102</u>	<u>1835</u>
PID Reading:	<u>0.00 ppm</u>	<u>0.0</u>
Basement Depth (ft below grade):	<u>—</u>	<u>—</u>
Window Marked:	<u>Yes/No</u>	<u>—</u>

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Sunny, windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

A01-3
BLDG 3324
Central Warehouse
Shipping/Receiving Warehouse
Occupied
Open till 7:00

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: IA-A013-TRAILER 13
Site Address: 3144 Passyunk Ave Phila PA
Sample Canister Location: A01-3 13 BOUNDING
Sample Date: 3.28.16 Sampler: RD Bums
Sample Time: Start: 0747 Stop: 1535
Shipping Date: 3.21.16
Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):
Canister Serial No.: 1355
Flow Controller Serial No.: 329159
Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

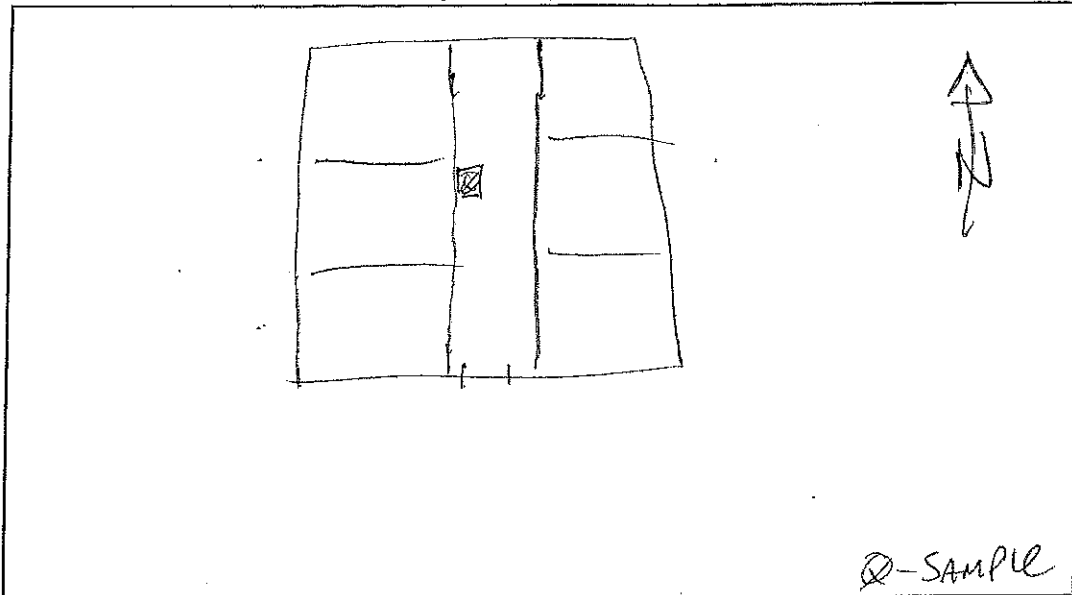
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>24.8</u>	<u>72.5</u>	<u>76.0</u>	<u>74</u>
Barometric Pressure	<u>29.9</u>		<u>29.8</u>	
Canister Pressure Gauge Reading:	Start <u>-29.5</u>		Stop <u>-7</u>	
Time:	<u>0747</u>		<u>1535</u>	
PID Reading:	<u>0.00 ppm</u>		<u>0.00</u>	
Basement Depth (ft below grade):	<u>—</u>		<u>—</u>	
Window Marked:	<u>Yes/No</u>		<u>—</u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☐ No

Describe the general weather conditions:
Light Rain during deployment
Sunny gusty winds during pickup

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

TEK-Solv Trailer

southeast corner trailer lot
offices

Hallway w/ lockers

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

CENTRAL
warehouse
DOCK

Sample Identification Number: IA-A013-OUTDOOR
Site Address: 3144 Passyunk Ave Phila PA
Sample Canister Location: A01-3 OUTDOOR ~~BONDING~~ to Ambient

Sample Date: 3.28.16 Sampler: RED BULLS
Sample Time: Start: 0758 Stop: 1540
Shipping Date: 3.21.16

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 1387
Flow Controller Serial No.: 415304

Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

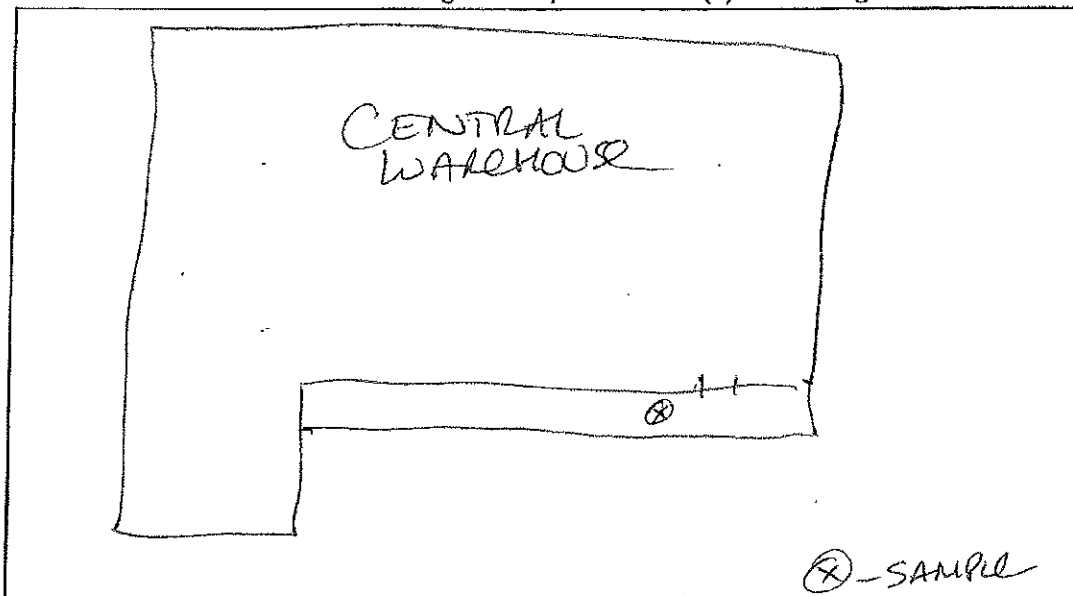
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>48</u>		<u>68</u>	
Barometric Pressure	<u>29.9 ↓</u>		<u>29.8</u>	
Canister Pressure Gauge Reading:	<u>-29.5</u>		<u>-1</u>	
Time:	<u>0758</u>		<u>1540</u>	
PID Reading:	<u>0.00 ppm</u>		<u>0.00</u>	
Basement Depth (ft below grade):	<u>—</u>		<u>—</u>	
Window Marked:	<u>Yes/No</u>		<u>—</u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☐ No

Describe the general weather conditions:
COOL, light RAIN, Breezy
Windy AT Pickup from NORTH

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

Outdoor Ambient

OUTDOOR AIR SURVEY and SAMPLING FORM

Preparer's name: Luke Mokrycki Date: 5/23/16
Preparer's affiliation: Aqua Terra Phone #: _____
Site Name: PH Refinery Case #: _____
Area and Description: AOI-3

Part I - Outside Contaminant Sources

Description of area and worker activities: Recovery well
Stationary sources nearby (gas stations, emission stacks, etc.): N/A
Heavy vehicular traffic nearby (or other mobile sources): Dumpster / roll off trucks
Tanks or storage areas nearby: Solid waste cans / roll offs
Monitoring wells nearby: NA RW-2

Part II - Outdoor Contaminant Sources

Identify all potential outdoor sources found around the working area, the location of the source, and whether the item was removed prior to outdoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		N/A
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Other house cleaning products		
Polishes / waxes		
Insecticides		

Potential Sources	Location(s)	Removed (Yes / No / NA)
Other:		N/A

Part III – Miscellaneous Items

Have any pesticides/herbicides been applied in the area? Yes / No

If so, when and which chemicals? Industrial Round up

Has there ever been a fire in the area? Yes / No If yes, when? _____

Has painting or staining been done in the area in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part IV – Sampling Information

Sample Technician: Luke Mokrycki Phone number: (484) 832 - 7476

Sample Source: Outdoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: _____

Sample locations

Field ID # ADIB-AA-16-002

Description of sample Location roll off staging

Sample height 6'

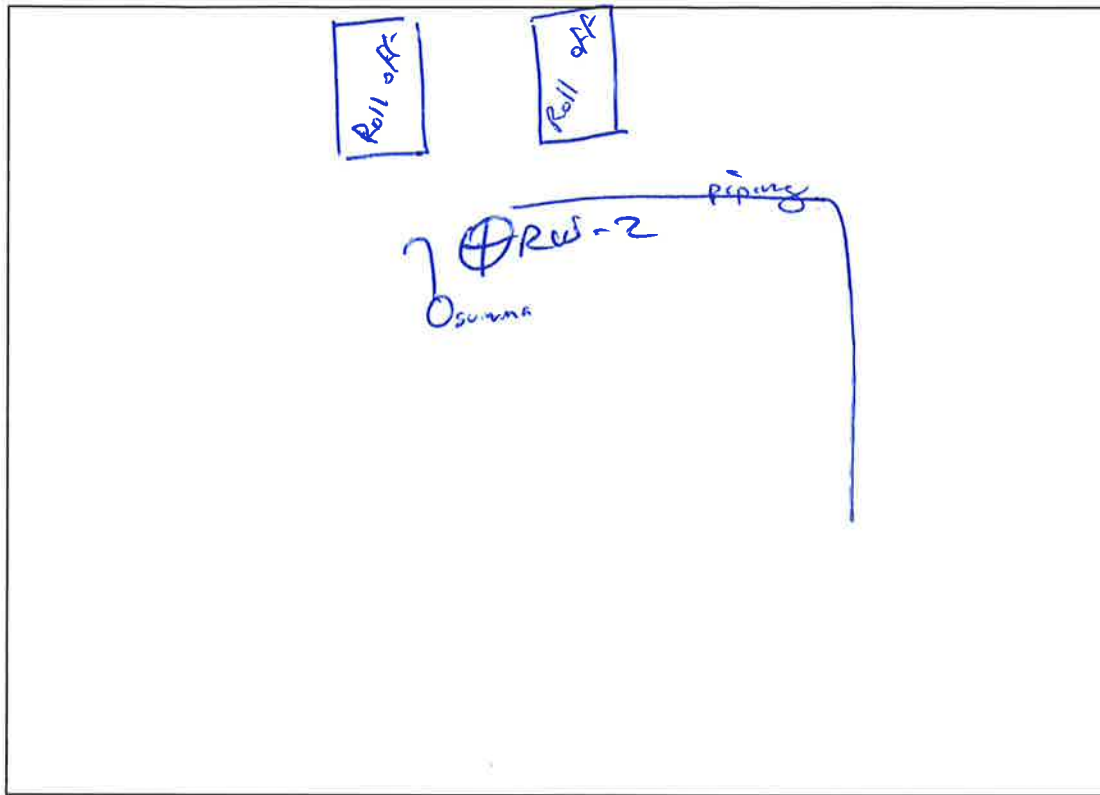
SUMA Canister Number 2699

Flow Control Number FC 1017

Starting Time and Pressure -30 0910 0910

Ending Time and Pressure -6 1710

Provide Drawing of Sample Location(s)



Part V - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?

Yes / No

Describe the general weather conditions:

66°F 54°F Dewpt
wind 5 mph > SE

Part VI – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)

OUTDOOR AIR SURVEY and SAMPLING FORM

Preparer's name: Luke Mokrycki Date: 5/23/16
 Preparer's affiliation: Aquaferra Phone #: _____
 Site Name: PH Refinery Case #: _____
 Area and Description: AOI 3

Part I - Outside Contaminant Sources

Description of area and worker activities: _____
 Stationary sources nearby (gas stations, emission stacks, etc.): SR-5 separator
 Heavy vehicular traffic nearby (or other mobile sources): Roll off trucks
 Tanks or storage areas nearby: Roll off staging area
 Monitoring wells nearby: NA S-285

Part II - Outdoor Contaminant Sources

Identify all potential outdoor sources found around the working area, the location of the source, and whether the item was removed prior to outdoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		N/A
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Other house cleaning products		
Polishes / waxes		
Insecticides		

Potential Sources	Location(s)	Removed (Yes / No / NA)
Other:		N/A

Part III – Miscellaneous Items

Have any pesticides/herbicides been applied in the area? Yes / No

If so, when and which chemicals? Industrial record up

Has there ever been a fire in the area? Yes / No If yes, when? _____

Has painting or staining been done in the area in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part IV – Sampling Information

Sample Technician: Coke Mackay chi Phone number: (404) 832 - 7476

Sample Source: Outdoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: _____

Sample locations

Field ID # ADI 3-AA-16-003

Description of sample Location near S-285

Sample height 6'

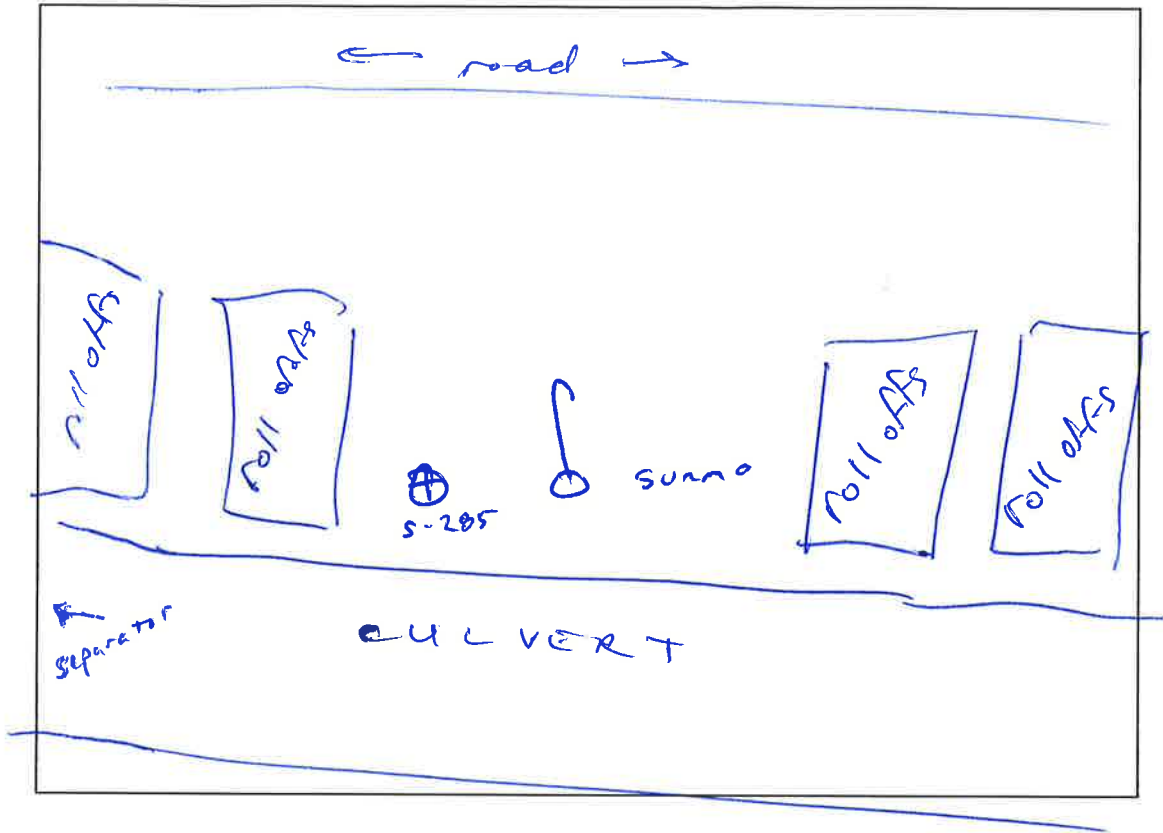
SUMA Canister Number 2686

Flow Control Number FC 0341

Starting Time and Pressure -30 0925

Ending Time and Pressure -8 1725

Provide Drawing of Sample Location(s)



Part V - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: 66°F 54% dwp
Wind S-W 4-8 E

Part VI - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)

OUTDOOR AIR SURVEY and SAMPLING FORM

Preparer's name: Luke MoKrycki Date: 5/23/16
Preparer's affiliation: Agua terra Phone #: _____
Site Name: PH Refining Case #: _____
Area and Description: AOT 3

Part I - Outside Contaminant Sources

Description of area and worker activities: JJ white lay down
Stationary sources nearby (gas stations, emission stacks, etc.): N/A
Heavy vehicular traffic nearby (or other mobile sources): N/A
Tanks or storage areas nearby: pipe & steel storage
Monitoring wells nearby: NA S-19

Part II - Outdoor Contaminant Sources

Identify all potential outdoor sources found around the working area, the location of the source, and whether the item was removed prior to outdoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		N/A
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Other house cleaning products		
Polishes / waxes		
Insecticides		

Potential Sources	Location(s)	Removed (Yes / No / NA)
Other:		N/A

Part III – Miscellaneous Items

Have any pesticides/herbicides been applied in the area? Yes / No

If so, when and which chemicals? Industrial round up

Has there ever been a fire in the area? Yes / No

If yes, when? _____

Has painting or staining been done in the area in the last 6 months? Yes / No

If yes, when _____

and where? _____

Part IV – Sampling Information

Sample Technician: Luke Mokychi

Phone number: (984) 832 - 7476

Sample Source: Outdoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar Bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____

Cert. Laboratory: _____

Sample locations

Field ID # ADIS-AA-16-004

Description of sample Location near S-19 well

Sample height 6'

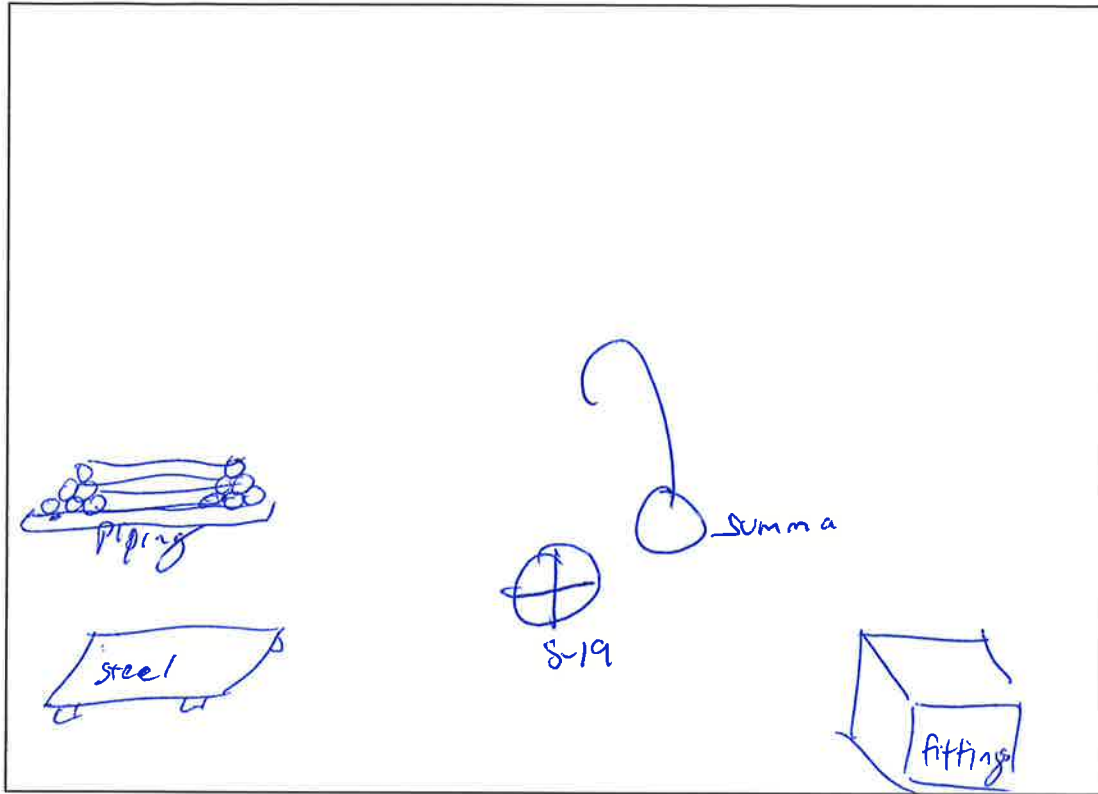
SUMA Canister Number 0977

Flow Control Number FC1011

Starting Time and Pressure -30 0900

Ending Time and Pressure -5 1700

Provide Drawing of Sample Location(s)



Part V - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: 65°F 54" Dept
5 mph SE winds

Part VI – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)

OUTDOOR AIR SURVEY and SAMPLING FORM

Preparer's name: Luke Mokrycki Date: 5/23/16
 Preparer's affiliation: Aquaterra Phone #: _____
 Site Name: PH Refinery Case #: _____
 Area and Description: AOI 3

Part I - Outside Contaminant Sources

Description of area and worker activities: JJ white pipe fitters lay down & fab area
 Stationary sources nearby (gas stations, emission stacks, etc.): N/A
 Heavy vehicular traffic nearby (or other mobile sources): light traffic welders & generators nearby
 Tanks or storage areas nearby: N/A
 Monitoring wells nearby: NA S-18

Part II - Outdoor Contaminant Sources

Identify all potential outdoor sources found around the working area, the location of the source, and whether the item was removed prior to outdoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		N/A
Gas-powered equipment	welding generators near area	YES NO
Kerosene storage cans		N/A
Paints / thinners / strippers		
Cleaning solvents		
Other house cleaning products		
Polishes / waxes		
Insecticides		

Potential Sources	Location(s)	Removed (Yes / No / NA)
Other:		N/A

Part III – Miscellaneous Items

Have any pesticides/herbicides been applied in the area? Yes / ~~No~~

If so, when and which chemicals? Industrial Laundry

Has there ever been a fire in the area? Yes / ~~No~~

If yes, when? _____

Has painting or staining been done in the area in the last 6 months? Yes / ~~No~~

If yes, when _____

and where? _____

Part IV – Sampling Information

Sample Technician: Luke Mohr

Phone number: (884) 832-7476

Sample Source: Outdoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____

Cert. Laboratory: _____

Sample locations

Field ID # AOI 3-AA-10-005

Description of sample Location near S-18 on well pad

Sample height 6'

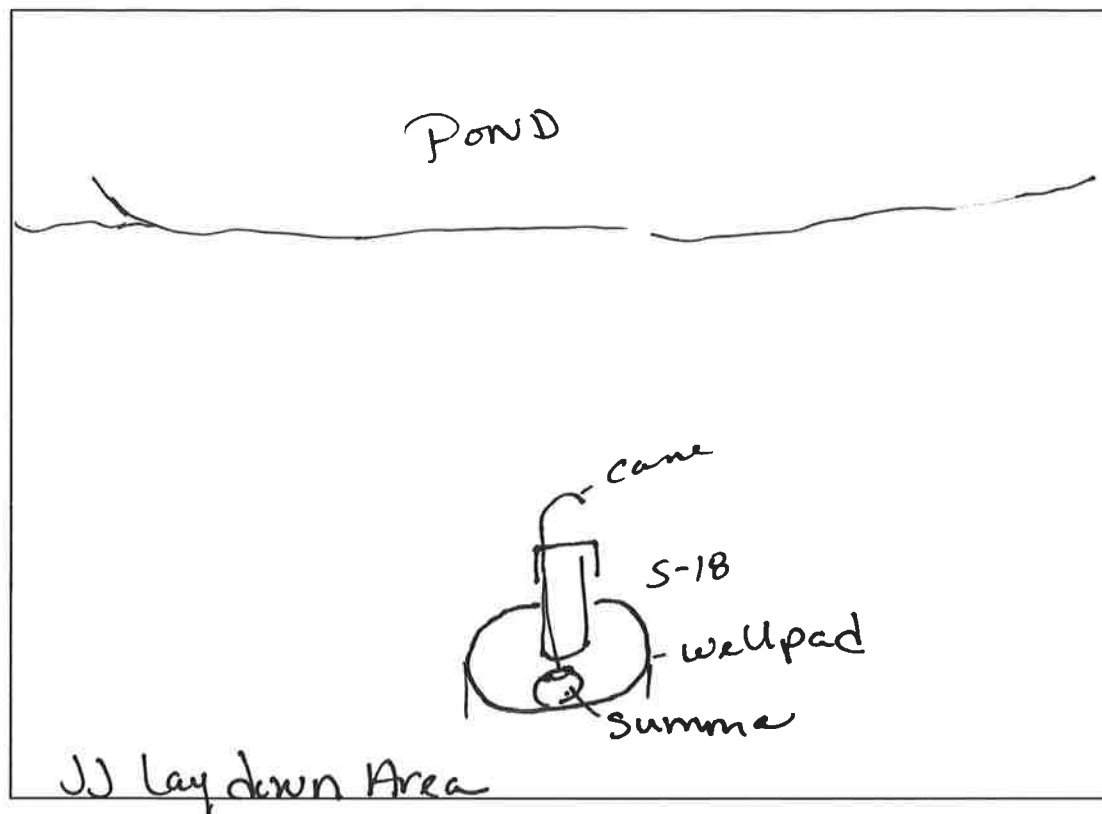
SUMA Canister Number 1243

Flow Control Number FC 1020

Starting Time and Pressure -30 0905

Ending Time and Pressure -6 1705

Provide Drawing of Sample Location(s)



Part V - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: 65°F 54° Dewpt
5 mph SE winds

Part VI – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)

7



August 24, 2017

Reference No. 11109626

Ms. Tiffani L. Doerr, PG
Evergreen Resources Management Operations
2 Righter Parkway, Suite No. 200
Wilmington, DE 19803

Dear Ms. Doerr:

**Re: Air Data Evaluation –
Philadelphia Energy Solutions Complex**

As requested, GHD has prepared this letter summarizing the approach and results of the air data collection activities that were performed in March 2017 at the Philadelphia Energy Solutions (PES) Complex (Site) on behalf of Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC (Evergreen). This letter includes the air data collected in March 2017 at Area of Interest (AOI) 2 through AOI 9 by GHD.

The procedures to obtain access, the sampling methodologies, the results of the indoor air sampling, and evaluation of the data are included herein for the samples collected in 2017.

1. Investigation Activities

A March/April 2016 indoor air sampling event was completed in accordance with the March 2016 Indoor Air Sampling Work Plan. An additional sampling event was initially scheduled for Fall/Winter 2016, however, following receipt of PADEP comments dated April 6, 2016, this work was deferred to incorporate PADEP's comments. GHD submitted a revised air sampling Work Plan on February 2, 2017, which incorporated the PADEP comments, and the sampling event was performed in March 2017.

During the March 2017 sampling event, GHD collected indoor air samples from the occupied buildings in AOI 2 through AOI 9, as summarized in Table 1 of this letter. Each building was selected based on occupancy and specific building characteristics such as building size and location of the occupied space within a building, in accordance with the air sampling Work Plan. The buildings included in the sampling were occupied, defined as being occupied for at least 15 minutes daily, were unvented, and were in contact with the ground or skirted buildings, where possible and available.

The investigation activities and evaluation of the VI pathway followed the PADEP *Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2* (2017). The activities also followed the United States Environmental Protection Agency's (USEPA) *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface*



Vapor Sources to Indoor Air (2015a), the USEPA's *Technical Guide for Assessing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites* (2015b), and Interstate Technology & Regulatory Council (ITRC 2014), as appropriate.

GHD performed the following activities as part of the 2017 air sampling activities at the Site.

1.1 Obtain Work Permits

Prior to commencing work, Work Permits were obtained from PES. All work was conducted in accordance with applicable safety standards and GHD's Health and Safety protocol as presented in a site-specific Health and Safety Plan.

1.2 Building Survey and Inspection

After obtaining work permits, if the sampling location/room changed from the initial March/April 2016 event, then prior to indoor air sample collection, a detailed building survey and inspection was conducted to identify any potential indoor air sources of volatile organic compounds (VOCs) already present within the building (e.g., smoking, cleaning products, building products, manufacturing chemicals, etc.) not related to contaminants that could enter the building via the VI pathway. The number and frequency of occupants within the various buildings was recorded, and potential preferential migration pathways through the building slab (e.g., utility conduits, slab cracking, etc.) were observed. At each changed sampling location GHD completed a Building Survey and Indoor Air Sampling Field Sheet, which are included at Attachment A.

1.3 Indoor and Outdoor Air Sampling

The sampling took place from March 6 through March 11, 2017. The location of indoor and outdoor air samples is shown on Figure 1.

The samples were collected using 6-liter capacity Summa™ canisters in a suitable location(s) in each building at a representative breathing zone height (i.e., 3 to 5 feet above grade). Canisters were laboratory-certified clean in accordance with section 8 of the PADEP VI guidance. The canisters were fitted with a laboratory-calibrated critical orifice flow-regulation device sized to limit the indoor air sample collection flow rate to allow for 8-hour sample collection. Canisters maintained a minimum residual negative pressure of approximately 1 to 5 inches of mercury following sample collection.

Outdoor air sampling locations were selected for collection of an air sample in each AOI. The outdoor locations were set at the same general elevation of the samples in the buildings and were in a position that is generally upwind of the buildings being assessed.

After 8 hours had passed, and the pressure reading on the canisters' gauges read between -5 and -1 inches of mercury, the regulator was shut off, and the canister removed.



Written documentation of all field activities, conditions, and sampling processes was recorded in field notes, including names of field personnel, dates and times, serial numbers of the canister and flow controller, and the PID reading of the room in parts per billion. Documentation included building designation, building use, occupant information, and weather conditions at the time of sampling (temperature, barometric pressure, wind direction and speed, and humidity). Field documentation is included in Attachment A. The weather conditions for each day are included as Attachment B.

The following problems occurred and were resolved during sampling activities:

- Remodeling of the maintenance shop offices was ongoing in Building 2448 in AOI 2. The GHD Project Managers and Evergreen discussed this sample location and agreed to move it across the hall to a different office that was not being remodeled.
- Samples AOI3-AI-17-05 (duplicate), AOI3-AI-17-09, AOI3-AA-17-01, AOI6-AI-17-22, AOI6-AI-17-10, AOI6-AI-17-12, AOI6-AI-17-15, AOI6-AA-17-01, AOI7-AI-17-13 and AOI8-AI-17-12 were collected for slightly less than the planned 8-hours. These samples were all discussed between the field staff and GHD Project Managers. Because the sample durations were at least 6-hours, and most were closer to 8-hours, the samples were determined to be representative of a typical exposure.

These issues were immediately identified by the field staff and discussed with the GHD Project Managers and Evergreen, as appropriate, and do not compromise the integrity of the data or the ability to use the data for the intended purpose.

2. Data Evaluation Approach

The indoor air samples were analyzed for the following short list of petroleum compounds using USEPA Method TO-15:

- Benzene
- Toluene
- Ethylbenzene
- Xylenes (o-, m-, p- isomers)
- Cumene
- Naphthalene
- Methyl tert-butyl ether (MTBE)
- 1,2,4-Trimethylbenzene
- 1,3,5-Trimethylbenzene
- 1,2-Dibromoethane
- 1,2-Dichloroethane



The results of the indoor air sampling activities were compared to the following risk-based screening levels and occupational criteria, per the work plan, as shown in Table 2:

- PADEP's generic indoor air screening values (SV_{IA}) for indoor air in a non-residential setting
- One-tenth of PADEP's generic indoor air screening values (SV_{IA}) for indoor air in a non-residential setting
- Occupational Safety and Health Administration's (OSHA) permissible exposure limits (PEL), as appropriate
- USEPA's Regional Screening Levels (RSL) for Composite Worker Ambient Air; (both at Hazard Index (HI) of 0.1 and HI 1 [10^{-6} risk levels])
- American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV)
- National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL)
- California Division of Occupational Safety and Health [Cal/OSHA] Permissible Exposure Limits [PELs]

Table 3 summarizes the outdoor air. Table 3 also includes outdoor air results from a nearby PADEP monitoring station (Marcus Hook Air Toxics Monitor 2015) and background residential indoor air levels (USEPA Background Residential Indoor Air 2011). GHD compared the analytical results of outdoor air samples to the indoor air results to evaluate potential impact from background sources including Site operations.

3. Results

The results of the screening level data evaluation of the indoor air results are summarized below and shown in Table 2.

- The results from the screening indicate that detected concentrations in indoor air did not exceed the occupational exposure levels (OELs), i.e., PEL, TLV, REL, at any AOI or building.
- Detected concentrations of benzene, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene exceeded the PADEP SHS in certain buildings at certain AOIs. The following describe the locations where these chemicals exceeded these criteria.
 - The highest concentrations of benzene were detected at in the first floor office of the Wharf Dock in Building 526 (AOI 5) and in the control room of Building 6627 (AOI 6). No other detected concentration of benzene exceeded the PADEP SHS.
 - Detected concentrations of naphthalene exceeded the PADEP SHS in Building 2520, 3316, 5917, 5920, and 6628 (AOI 2); Building 163/475 and 650 (AOI 6); Building 6622, 6625, 6626, 711, 440, 450, 595, and 442 (AOI 7); Building 3326 (AOI 8); and Building SR1, SR14 and SR2 (AOI 9). Many of these concentrations were similar to or lower than the maximum detected outdoor air



concentration of $4.9 \mu\text{g}/\text{m}^3$ and within the upper end of the range of USEPA's background residential indoor air of $4.8 \mu\text{g}/\text{m}^3$.

- The highest concentrations of 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected in the second floor office of the Wharf Dock in Building 526 (AOI 5). 1,2,4-trimethylbenzene also exceeded the PADEP SHS at Building 5917 (AOI 2).
- The next highest detected concentrations of 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene do not exceed the RSLs at a target HI of 1, which were calculated using USEPA's most recent toxicity values from IRIS (2016).
- Detected concentrations of ethylbenzene, cumene, and xylene also exceeded $1/10^{\text{th}}$ of the PADEP SHS. Additional detected concentrations of benzene, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene also exceeded $1/10^{\text{th}}$ of the PADEP SHS.
 - Ethylbenzene exceeded $1/10^{\text{th}}$ of the PADEP SHS in certain buildings at AOIs 2, 5, and 7.
 - Cumene exceeded $1/10^{\text{th}}$ of the PADEP SHS in Building 475 (AOI 6).
 - Xylenes exceeded $1/10^{\text{th}}$ of the PADEP SHS in certain buildings at AOIs 2 and 5.
- Detected concentrations of benzene, ethylbenzene, cumene, naphthalene, and xylene exceeded the EPA RSLs at the same locations where either the PADEP SHS or $1/10^{\text{th}}$ of the PADEP SHS were exceeded.
- Of the trimethylbenzene results, only the maximum detected concentration of 1,2,4-trimethylbenzene (discussed above) exceeded the EPA RSL at an HI of 1. The EPA RSLs for the trimethylbenzene isomers were calculated using EPA's 2016 toxicity values from the IRIS database and are nearly an order of magnitude higher than the PADEP SHS, which use older toxicity values.

As shown in Table 3, the detected concentrations in outdoor air are similar to or less than the concentrations from a nearby PADEP monitoring station or background residential indoor air levels.

4. Conclusions

The comparison of these detected concentrations in indoor air to generic non-residential criteria for indoor air and OSHA PELs did not identify any unacceptable risk to workers via indoor air inhalation at the Site.

Certain concentrations of detected constituents in indoor air exceed generic risk-based criteria.

The ambient/outdoor air results are within the range of background concentrations.



Should you require any additional information, please do not hesitate to contact me.

Sincerely,

GHD

A handwritten signature in blue ink, reading "Francis C. Ramacciotti". The signature is written in a cursive style with a large, stylized "F" and "R".

Francis C. Ramacciotti

FCR/mm/2

- Encl. Figure 1 – Indoor Air and Ambient Air Sampling Locations
 Table 1 – Air Sampling Locations
 Table 2 – 2017 Indoor Air Sampling Data
 Table 3 – 2017 Outdoor Air Sampling Data
 Attachment A – Field Data Sheets
 Attachment B – Weather Data

cc: David Steele, GHD
 Colleen Costello, GHD

Table 1

Air Sampling Locations
Philadelphia Energy Solutions Facility
Philadelphia, PA

AOI	Building	Location	Locations Notes	Sample ID	Actual Collection Date	Start Time	End Time	Start Canister Pressure ("Hg)	End Canister Pressure ("Hg)	PID Reading Start (ppb)	PID Reading Stop (ppb)
2	11	Short Pier	Short Pier	AOI2-AI-17-01	3/10/2017	7:30	15:30	30	16	0	0
2	2435	Control House	Control House	AOI2-AI-17-02	3/11/2017	8:33	16:33	30	5	260	311
2	2448	Maintenance Shop	Break Room	AOI2-AI-17-03	3/10/2017	7:58	15:58	28.5	4	0.528	160
2	2448	Maintenance Shop	Office	AOI2-AI-17-04	3/10/2017	7:55	15:55	30	5	1459	--
2	2520	Control House	859/861 & 860/862	AOI2-AI-17-05	3/11/2017	9:15	17:16	30	5	775	745
2	3316	QA Lab	Lab Room - West	AOI2-AI-17-06	3/10/2017	8:02	16:02	30	5	64	0
2	3316	QA Lab	2nd Floor Office	AOI2-AI-17-07	3/10/2017	8:07	16:07	28	6	121	207
2	4210	MOB	Medical Office-Lower Floor	AOI2-AI-17-08	3/10/2017	7:48	16:11	29	3	0	0
2	4210	MOB	Safety Office-Lower Floor	AOI2-AI-17-09	3/6/2017	9:59	18:08	28.5	2	117	322
2	4210	MOB	1st Floor Lobby	AOI2-AI-17-10	3/10/2017	7:42	15:42	29	4	0	0
2	4210	MOB	1st Floor East Wing	AOI2-AI-17-11	3/6/2017	9:43	17:43	30	2	119	305
2	4210	MOB	1st Floor West Wing	AOI2-AI-17-12	3/6/2017	9:43	17:53	30	4	110	333
2	4210	MOB	2nd Floor East Conf Room	AOI2-AI-17-13	3/6/2017	9:23	17:23	29	2	197	371
2	4210	MOB	2nd Floor West Wing	AOI2-AI-17-14	3/6/2017	9:35	17:35	30	5	115	292
2	4210	MOB	2nd Floor Center File Room	AOI2-AI-17-15	3/6/2017	9:14	17:15	31	3	115	289
2	5917	Refinery Hall	2nd Floor Conf Room	AOI2-AI-17-16	3/10/2017	8:21	16:21	24	3	0	0
2	5917	Refinery Hall	2nd Floor East Wing	AOI2-AI-17-17	3/10/2017	8:27	8:27	29	7	0	0
2	5920	Bio Area	Control Room	AOI2-AI-17-18	3/11/2017	8:03	16:12	28	6	113	230
2	5920	Bio Area	Control Room (Duplicate)	AOI2-AI-17-18 Dup	3/11/2017	8:05	16:12	29	4	113	230
2	6624	Control Room	869/870	AOI2-AI-17-19	3/11/2017	8:45	16:45	30	4	454	565
2	6628	Bio/BFW	Control Room	AOI2-AI-17-20	3/11/2017	7:56	16:10	29	8	568	411
2	AMBIENT	Gate Area	Outdoor	AOI2-AA-17-01	3/11/2017	7:38	16:05	28	4	74	0
3	3324	Central Warehouse	Lunch Area opposite lockers in alcove	AOI3-AI-17-01	3/9/2017	6:56	14:56	30	6	34	0
3	3324	Central Warehouse	Near Seal/Safety Store	AOI3-AI-17-02	3/9/2017	7:05	15:05	30	2	0	0
3	3324	Central Warehouse	Walled office next to lunch and lockers	AOI3-AI-17-03	3/9/2017	6:58	14:58	30	7	0	0
3	3324	Central Warehouse	Open Warehouse area on east side	AOI3-AI-17-04	3/9/2017	7:07	15:07	30	4	0	0
3	3324	Central Warehouse	Open Warehouse area on east side (Duplicate)	AOI3-AI-17-05	3/9/2017	7:07	14:46	29	0	0	0
3	3324	Central Warehouse	Shipping/Receiving Warehouse	AOI3-AI-17-06	3/9/2017	7:03	15:03	30	2	0	0
3	Various	Contractor Trailers	Near Central Warehouse - Trailer 13/TechSolv (near southeast corner)	AOI3-AI-17-07	3/9/2017	6:48	14:48	30	4	0	0
3	Various	Contractor Trailers	North of Central Warehouse	AOI3-AI-17-08	3/9/2017	7:57	16:08	30	4	0	0
3	Main Contractor Building	Main Contractor Building	Main Contractor Trailer	AOI3-AI-17-09	3/10/2017	6:04	13:35	27	0	0	0
3	AMBIENT	SW Corner Warehouse	Outdoor	AOI3-AA-17-01	3/9/2017	7:26	14:55	30	0	0	0
4	15	15 Pump House	Control Room	AOI4-AI-17-01	3/9/2017	8:40	16:40	29	0	0	0
4	AMBIENT	15	Outdoor	AOI4-AA-17-01	3/9/2017	8:42	16:42	30	5	0	0
5	526	Wharf Dock Office	1st Floor	AOI5-AI-17-01	3/10/2017	6:50	14:50	30	5	0	0
5	517	Blending & Shipping	Bulk Oil Dept Office	AOI5-AI-17-02	3/10/2017	7:07	15:07	30	4	0	0
5	501	Wharf Dock Office	1st Floor	AOI5-AI-17-03	3/10/2017	6:41	14:42	30	4	0	0
5	526	Wharf Dock Office	2nd Floor	AOI5-AI-17-04	3/10/2017	6:45	14:46	29	5	0	1528
5	625	Near Railroad	Control Room	AOI5-AI-17-05	3/10/2017	6:32	14:35	30	4	0	0
5	SUNPH034A/B	Blending & Shipping	Double Trailer with Skirt	AOI5-AI-17-06	3/10/2017	7:04	15:04	30	5	0	0
5	GP Dock 2	GP Dock 2	Office found to be occupied and sampled	AOI5-AI-17-07	3/10/2017	6:44	14:44	27	4	0	0
5	AMBIENT	Outside Bldg 517	Outdoor	AOI5-AA-17-01	3/11/2017	7:16	15:25	30	5.5	43	6
6	163/475	GP Training Bldg	Fitness Center-3rd Floor	AOI6-AI-17-01	3/8/2017	9:11	17:13	29.5	4.5	258	173
6	163/475	GP Training Bldg	Offices - 1st Floor East	AOI6-AI-17-02	3/8/2017	9:29	17:33	30	5.5	399	249
6	163/475	GP Training Bldg	Offices - 1st Floor West	AOI6-AI-17-03	3/8/2017	9:19	17:23	29.5	4	324	252
6	163/475	GP Training Bldg	Offices - Basement	AOI6-AI-17-04	3/8/2017	9:40	17:40	29.5	5	251	186
6	178	Trade Shops	Offices - Basement	AOI6-AI-17-05	3/9/2017	7:27	15:29	29	1	39	45
6	295	GP Office	Lockers, Plumbers/Carpenter Shops - on large table in Carpenters area	AOI6-AI-17-06	3/8/2017	9:55	17:55	29	0	243	209
6	295	GP Office	1st floor offices in central area	AOI6-AI-17-07	3/8/2017	9:50	17:50	30	5	250	204
6	295	GP Office	1st floor offices in central area (Duplicate)	AOI6-AI-17-07R	3/9/2017	8:57	16:57	26.5	4	161	0
6	475	North Tank Field	2nd floor offices - above first floor position	AOI6-AI-17-08	3/8/2017	8:12	16:12	29	5	35	72
6	650	GP MOB	Basement Center	AOI6-AI-17-09	3/8/2017	8:03	16:03	30	5	197	0
6	650	GP MOB	Basement Center (Duplicate)	AOI6-AI-17-22	3/8/2017	9:19	17:12	30	0	999	0
6	650	GP MOB	Basement East	AOI6-AI-17-10	3/8/2017	8:18	15:37	27	0	156	0
6	650	GP MOB	Basement West	AOI6-AI-17-11	3/8/2017	8:27	16:27	30	3.5	182	0
6	650	GP MOB	1st Floor Entrance	AOI6-AI-17-12	3/8/2017	8:42	16:38	29.5	0	285	0
6	650	GP MOB	1st Floor West	AOI6-AI-17-13	3/8/2017	8:34	16:34	30	1	241	0
6	650	GP MOB	2nd Floor East	AOI6-AI-17-14	3/8/2017	9:08	17:08	30	2	325	0
6	650	GP MOB	2nd Floor West. Lunch/Breakroom.	AOI6-AI-17-15	3/9/2017	7:41	15:40	30	0	31	0
6	AMBIENT	GP MOB	Outdoor West	AOI6-AA-17-02	3/8/2017	10:30	18:30	30	6	26	23
6	726	Carpenter Shop	Conference Room Table - center of large open area	AOI6-AI-17-17	3/8/2017	7:53	15:57	30	9	32	0
6	739	Control House	Table beside radios	AOI6-AI-17-18	3/8/2017	8:18	16:20	30	4	135	1
6	745	WTP	Prefab, 5' by 10'	AOI6-AI-17-19	3/8/2017	8:24	16:24	29	1	15	15
6	6627	Control Room	Control Room	AOI6-AI-17-20	3/8/2017	8:34	16:34	30	1	250	236
6	6636		Desk near window, on contractors/truckers side	AOI6-AI-17-21	3/8/2017	10:06	16:06	29	4	49	34
6	AMBIENT	Outside Bldg 739	50' northwest corner of building 739	AOI6-AA-17-01	3/8/2017	9:30	15:30	30	4	0	19
6	AMBIENT	Outside MOB	Outside MOB	AOI6-AA-17-02	3/8/2017	10:30	18:30	30	6	26	23
7	6622	Control Room	Rear table center of room	AOI7-AI-17-01	3/7/2017	8:48	16:48	30	8	734	578
7	6625	Control Room	HF unit	AOI7-AI-17-02	3/7/2017	8:23	16:23	30	3	820	316
7	6626	Control Room	Table by desk	AOI7-AI-17-03	3/7/2017	8:31	16:31	30	6	323	320
7	711	WTP Control House	On top of printer paper (no odors)	AOI7-AI-17-04	3/7/2017	9:05	17:14	30	3	288	232
7	440	Shops/Offices	2nd Floor 221	AOI7-AI-17-05	3/7/2017	9:07	17:19	30	4	299	122

Table 1

Air Sampling Locations
Philadelphia Energy Solutions Facility
Philadelphia, PA

AOI	Building	Location	Locations Notes	Sample ID	Actual Collection Date	Start Time	End Time	Start Canister Pressure ("Hg)	End Canister Pressure ("Hg)	PID Reading Start (ppb)	PID Reading Stop (ppb)
7	440	Shops/Offices	2nd Floor Meeting Room	AOI7-AI-17-06	3/7/2017	9:24	17:29	30	4	257	161
7	440	Shops/Offices	1st Floor Lunch	AOI7-AI-17-07	3/7/2017	9:01	17:15	29.5	13	445	121
7	440	Shops/Offices	1st Floor Lunch	AOI7-AI-17-08	3/7/2017	9:18	17:25	30	4	262	105
7	450	Electrical Bldg	Computer room	AOI7-AI-17-09	3/7/2017	8:22	16:28	30.5	5	180	187
7	450	Electrical Bldg	Back addition on shelf	AOI7-AI-17-10	3/7/2017	8:30	16:32	30	5	172	106
7	450	Electrical Bldg	On shelf near middle walled area	AOI7-AI-17-11	3/7/2017	8:35	16:37	30	4	1443	59
7	450	Electrical Bldg	Hot Spare Room - walled area middle building electrical testing area	AOI7-AI-17-12	3/7/2017	8:41	16:42	30	5	568	421
7	450	Electrical Bldg	Table east side near open offices	AOI7-AI-17-13	3/7/2017	8:48	16:42	30	5.5	1438	70
7	595	Canteen Bldg	Canteen	AOI7-AI-17-14	3/7/2017	7:59	15:59	29	8	92	76
7	442	Fire House	Office Area	AOI7-AI-17-15	3/7/2017	9:34	17:43	30	4	258	220
7	AMBIENT	WWTP	Outdoor Ambient	AOI7-AA-17-01	3/7/2017	9:17	17:17	30	5	200	141
8	6642	North Yard	Trailer Offices	AOI8-AI-17-09	3/9/2017	7:59	16:10	30	5.5	353	605
8	6641	North Yard	Trailer Offices	AOI8-AI-17-10	3/9/2017	8:11	16:17	30	4	369	192
8	27	North Yard	Scale House	AOI8-AI-17-11	3/9/2017	8:38	16:42	30	4	198	41
8	3326	North Yard	New Scale House	AOI8-AI-17-12	3/9/2017	8:30	14:33	27	5	109	22
8	27	North Yard	Outdoor Ambient	AOI8-AA-17-03	3/9/2017	8:46	16:50	30	14	108	0
9	SR1	SR Terminal	Control Room	AOI9-AI-17-01	3/11/2017	7:00	15:00	30	6	0	0
9	SR14	SR Terminal	Office	AOI9-AI-17-02	3/11/2017	7:08	15:08	30	6	0	0
9	SR19	SR Terminal	Gasoline Blending Bldg Control Room	AOI9-AI-17-03	3/11/2017	7:17	15:17	30	8	0	0
9	SR2	SR Terminal	Corner Office	AOI9-AI-17-04	3/11/2017	6:53	14:53	30	5	50	0
9	SR9	SR Terminal	Loading Office	AOI9-AI-17-05	3/11/2017	6:34	14:34	30	19	0	0
9	SR9	SR Terminal	Loading Office Duplicate of above	AOI9-AI-17-06	3/11/2017	6:34	14:34	28	4	0	0
9	AMBIENT	SR Terminal	Outdoor Ambient	AOI9-AA-17-01	3/11/2017	7:00	15:02	30	3	0	0

Table 2
2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type									AOI2-AI-17-01 10-Mar-17 AOI2-AI-17-01 GHD PACE 10382287 10382287009	AOI2-AI-17-02 11-Mar-17 AOI2-AI-17-02 GHD PACE 10382175 10382175006	AOI2-AI-17-03 10-Mar-17 AOI2-AI-17-03 GHD PACE 10382287 10382287012	AOI2-AI-17-04 10-Mar-17 AOI2-AI-17-04 GHD PACE 10382287 10382287014	AOI2-AI-17-05 11-Mar-17 AOI2-AI-17-05 GHD PACE 10382175 10382175008	AOI2-AI-17-06 10-Mar-17 AOI2-AI-17-06 GHD PACE 10382287 10382287017	AOI2-AI-17-07 10-Mar-17 AOI2-AI-17-07 GHD PACE 10382287 10382287013	AOI2-AI-17-08 10-Mar-17 AOI2-AI-17-08 GHD PACE 10382287 10382287010	AOI2-AI-17-09 6-Mar-17 AOI2-AI-17-09 GHD PACE 10381628 10381628021	AOI2-AI-17-10 10-Mar-17 AOI2-AI-17-10 GHD PACE 10382287 10382287011	AOI2-AI-17-11 6-Mar-17 AOI2-AI-17-11 GHD PACE 10381628 10381628014
	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h											
Volatile Organic Compounds																			
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	0.90 J (0.35)	5.4 (0.19) ^{bde}	0.92 (0.19)	1.2 (0.19)	1.3 (0.19)	3.9 (0.20) ^{bde}	8.4 (0.20) ^{bde}	0.48 J (0.18)	2.4 (0.19) ^{bde}	0.54 (0.19)	2.5 (0.16) ^{bde}
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (4.5) (2.2)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.5) (1.2)	ND (2.5) (1.2)	ND (2.3) (1.2)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.1) (1.0)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (1.2) (0.59)	ND (0.64) (0.32)	ND (0.64) (0.32)	ND (0.64) (0.32)	ND (0.64) (0.32)	ND (0.66) (0.33)	ND (0.66) (0.33)	ND (0.61) (0.31)	ND (0.64) (0.32)	ND (0.64) (0.32)	ND (1.1) (0.27)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	2.6 (1.2)	2.4 (0.66)	9.7 (0.66) ^{bde}	11.0 (0.66) ^{bde}	3.8 (0.66)	15.1 (0.68) ^{bde}	5.6 (0.68) ^{bde}	ND (1.3) (0.63)	ND (1.4) (0.66)	0.71 J (0.66)	ND (3.0) (0.57)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	ND (7.2) (0.40)	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (4.0) (0.22)	ND (4.0) (0.22)	ND (3.7) (0.21)	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (3.4) (0.18)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	ND (10.6) (0.87)	ND (5.7) (0.47)	0.52 J (0.47)	0.51 J (0.47)	ND (5.7) (0.47)	0.59 J (0.49)	0.55 J (0.49)	0.46 J (0.45)	ND (5.7) (0.47)	0.75 J (0.47)	ND (4.9) (0.41)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	1.5 J (0.88) ^{bde}	ND (4.1) (0.47)	0.64 J (0.47) ^{bde}	0.60 J (0.47) ^{bde}	8.2 (0.47) ^{abde}	15.0 (0.49) ^{abde}	0.86 J (0.49) ^{bde}	1.4 J (0.45) ^{bde}	ND (4.1) (0.47)	0.68 J (0.47) ^{bde}	ND (3.6) (0.41)
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	10.4 (0.44)	14.6 (0.24)	3.1 (0.24)	3.4 (0.24)	7.6 (0.24)	81.9 (0.25)	124 (0.25)	3.6 (0.23)	6.2 (0.24)	3.9 (0.24)	5.4 (0.21)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	2.2 J (0.36)	4.4 (0.19) ^b	0.82 J (0.19)	0.77 J (0.19)	18.2 (0.19) ^b	13.9 (0.20) ^b	3.0 J (0.20)	6.9 (0.19) ^b	1.7 (0.19)	0.53 J (0.19)	ND (3.3) (0.17)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	0.76 J (0.53)	ND (3.9) (0.28)	0.32 J (0.28)	ND (1.5) (0.28)	5.9 (0.28) ^b	4.3 (0.29) ^b	1.1 J (0.29)	1.7 (0.27)	ND (1.5) (0.28)	ND (1.5) (0.28)	ND (3.3) (0.25)
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	14.1 (3.3)	82.8 (1.8) ^{be}	44.0 (1.8)	49.9 (1.8) ^{be}	29.8 (1.8)	72.4 (1.8) ^{be}	24.7 (1.8)	ND (3.9) (1.7)	ND (4.1) (1.8)	ND (4.1) (1.8)	6.5 (1.5)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 2
2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location									AOI2-AI-17-12 6-Mar-17	AOI2-AI-17-13 6-Mar-17	AOI2-AI-17-14 6-Mar-17	AOI2-AI-17-15 6-Mar-17	AOI2-AI-17-16 10-Mar-17	AOI2-AI-17-17 10-Mar-17	AOI2-AI-17-18 11-Mar-1711-Mar-17		AOI2-AI-17-19 11-Mar-17	AOI2-AI-17-20 11-Mar-17	AOI3-AI-17-01 9-Mar-17
Sample Date									AOI2-AI-17-12	AOI2-AI-17-13	AOI2-AI-17-14	AOI2-AI-17-15	AOI2-AI-17-16	AOI2-AI-17-17	AOI2-AI-17-18	AOI2-AI-17-18	AOI2-AI-17-19	AOI2-AI-17-20	AOI3-AI-17-01
Sample ID									AOI2-AI-17-12	AOI2-AI-17-13	AOI2-AI-17-14	AOI2-AI-17-15	AOI2-AI-17-16	AOI2-AI-17-17	AOI2-AI-17-18	AOI2-AI-17-18	AOI2-AI-17-19	AOI2-AI-17-20	AOI3-AI-17-01
Sampling Company									GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Laboratory									PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE
Laboratory Work Order									10381628	10381628	10381628	10381628	10382287	10382287	10382175	10382175	10382175	10382175	10381907
Laboratory Sample ID									10381628019	10381628013	10381628015	10381628012	10382287015	10382287016	10382175004	10382175005 FIELD DUPLICATE SAMPLE	10382175007	10382175003	10381907009
Sample Type	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h											
Volatile Organic Compounds																			
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	2.3 (0.16) ^{bde}	2.4 (0.18) ^{bde}	2.3 (0.18) ^{bde}	2.3 (0.18) ^{bde}	2.0 (0.18) ^{bde}	1.3 (0.19)	0.67 (0.19)	0.73 (0.19)	1.3 (0.18)	1.2 (0.18)	3.7 (0.17) ^{bde}
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (2.1) (1.0)	ND (2.3) (1.2)	ND (2.2) (1.1)	ND (2.2) (1.1)	ND (2.3) (1.2)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.2) (1.1)	ND (2.3) (1.2)	ND (5.4) (1.1)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (1.1) (0.27)	ND (1.2) (0.31)	ND (1.2) (0.30)	ND (1.2) (0.30)	ND (0.61) (0.31)	ND (0.64) (0.32)	ND (0.64) (0.32)	ND (0.64) (0.32)	ND (0.59) (0.30)	ND (0.61) (0.31)	ND (0.57) (0.28)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	ND (3.0) (0.57)	ND (3.3) (0.63)	ND (3.2) (0.61)	ND (3.2) (0.61)	1.1 J (0.63)	4.5 (0.66)	ND (1.4) (0.66)	ND (1.4) (0.66)	1.4 (0.61)	1.3 (0.63)	2.3 J (0.59)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	ND (3.4) (0.18)	ND (3.7) (0.21)	ND (3.6) (0.20)	ND (3.6) (0.20)	ND (3.7) (0.21)	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (3.6) (0.20)	ND (3.7) (0.21)	ND (3.5) (0.19)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	ND (4.9) (0.41)	ND (5.5) (0.45)	ND (5.3) (0.44)	ND (5.3) (0.44)	0.97 J (0.45)	0.84 J (0.47)	ND (5.7) (0.47)	ND (5.7) (0.47)	ND (5.3) (0.44)	ND (5.5) (0.45)	0.48 J (0.42)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	ND (3.6) (0.41)	ND (4.0) (0.45)	ND (3.8) (0.44)	ND (3.8) (0.44)	5.9 (0.45) ^{abde}	43.7 (0.47) ^{abde}	8.0 (0.47) ^{abde}	3.6 J (0.47) ^{bde}	ND (3.8) (0.44)	4.5 (0.45) ^{abde}	1.9 J (0.42) ^{bde}
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	5.8 (0.21)	4.6 (0.23)	5.3 (0.22)	4.1 (0.22)	14.4 (0.23)	4.6 (0.24)	1.4 (0.24)	1.6 (0.24)	3.5 (0.22)	4.2 (0.23)	5.2 (0.21)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (3.3) (0.17)	ND (3.7) (0.19)	ND (3.6) (0.18)	ND (3.6) (0.18)	1.9 J (0.19)	42.5 (0.19) ^{abe}	6.9 (0.19) ^b	ND (3.9) (0.19)	3.3 J (0.18) ^b	4.2 (0.19) ^b	2.6 J (0.17)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (3.3) (0.25)	ND (3.7) (0.27)	ND (3.6) (0.26)	ND (3.6) (0.26)	0.46 J (0.27)	11.3 (0.28) ^b	ND (3.9) (0.28)	ND (3.9) (0.28)	ND (3.6) (0.26)	ND (3.7) (0.27)	ND (3.5) (0.25)
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	6.1 (1.5)	6.5 (1.7)	6.5 (1.6)	6.0 (1.6)	5.0 (1.7)	29.0 (1.8)	ND (4.1) (1.8)	ND (4.1) (1.8)	34.0 (1.6)	32.5 (1.7)	8.7 (1.6)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 2

2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type									AOI3-AI-17-02 9-Mar-17 AOI3-AI-17-02 GHD PACE 10381907 10381907010	AOI3-AI-17-03 9-Mar-17 AOI3-AI-17-03 GHD PACE 10381907 10381907011	AOI3-AI-17-04 9-Mar-17 AOI3-AI-17-04 GHD PACE 10381907 10381907012	AOI3-AI-17-05 9-Mar-17 AOI3-AI-17-05 GHD PACE 10381907 10381907013	AOI3-AI-17-06 9-Mar-17 AOI3-AI-17-06 GHD PACE 10381907 10381907014	AOI3-AI-17-07 9-Mar-17 AOI3-AI-17-07 GHD PACE 10381907 10381907015	AOI3-AI-17-08 9-Mar-17 AOI3-AI-17-08 GHD PACE 10381907 10381907016	AOI3-AI-17-09 10-Mar-17 AOI3-AI-17-09 GHD PACE 10382287 10382287018	AOI4-AI-17-01 9-Mar-17 AOI4-AI-17-01 GHD PACE 10381907 10381907017	AOI5-AI-17-01 10-Mar-17 AOI5-AI-17-01 GHD PACE 10382287 10382287001	AOI5-AI-17-02 10-Mar-17 AOI5-AI-17-02 GHD PACE 10382287 10382287002
	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h											
Volatile Organic Compounds																			
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	7.5 (0.16) ^{bde}	7.1 (0.18) ^{bde}	6.1 (0.16) ^{bde}	6.3 (0.17) ^{bde}	5.7 (0.16) ^{bde}	2.2 (0.19) ^{bde}	1.6 (0.25)	1.0 (0.16)	3.0 (0.19) ^{bde}	19.4 (0.23) ^{abde}	7.0 (0.18) ^{bde}
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (5.2) (1.0)	ND (5.8) (1.2)	ND (5.2) (1.0)	ND (5.4) (1.1)	ND (5.2) (1.0)	ND (2.4) (1.2)	ND (8.1) (1.6)	ND (2.1) (1.0)	ND (6.1) (1.2)	ND (7.3) (1.5)	ND (5.8) (1.2)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (0.55) (0.27)	ND (0.61) (0.31)	ND (0.55) (0.27)	ND (0.57) (0.28)	ND (0.55) (0.27)	ND (0.64) (0.32)	ND (0.85) (0.43)	ND (0.55) (0.27)	ND (0.64) (0.32)	ND (0.77) (0.39)	ND (0.61) (0.31)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	3.2 (0.57)	3.3 J (0.63)	3.1 (0.57)	3.0 J (0.59)	2.8 J (0.57)	ND (1.4) (0.66)	ND (4.6) (0.88)	ND (1.2) (0.57)	2.4 J (0.66)	5.2 (0.80) ^{bde}	2.4 J (0.63)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	ND (3.4) (0.18)	ND (3.7) (0.21)	ND (3.4) (0.18)	ND (3.5) (0.19)	ND (3.4) (0.18)	ND (3.9) (0.21)	ND (5.2) (0.29)	ND (3.4) (0.18)	ND (3.9) (0.21)	ND (4.7) (0.26)	ND (3.7) (0.21)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	0.57 J (0.41)	0.47 J (0.45)	0.56 J (0.41)	0.65 J (0.42)	0.68 J (0.41)	ND (5.7) (0.47)	ND (7.6) (0.63)	0.48 J (0.41)	ND (5.7) (0.47)	ND (6.9) (0.57)	ND (5.5) (0.45)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	1.4 J (0.41) ^{bde}	1.4 J (0.45) ^{bde}	1.3 J (0.41) ^{bde}	1.4 J (0.42) ^{bde}	0.92 J (0.41) ^{bde}	ND (4.1) (0.47)	1.2 J (0.63) ^{bde}	1.6 J (0.41) ^{bde}	0.97 J (0.47) ^{bde}	1.4 J (0.57) ^{bde}	0.78 J (0.45) ^{bde}
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	21.9 (0.21)	15.2 (0.23)	18.3 (0.21)	18.9 (0.21)	17.9 (0.21)	5.9 (0.24)	5.1 (0.32)	2.9 (0.21)	3.6 (0.24)	3.1 (0.29)	4.1 (0.23)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	3.8 (0.17) ^b	4.0 (0.19) ^b	3.5 (0.17) ^b	3.7 (0.17) ^b	2.8 J (0.17)	1.9 (0.19)	3.6 J (0.26) ^b	1.1 J (0.17)	3.5 J (0.19) ^b	3.1 J (0.24)	2.6 J (0.19)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	3.0 J (0.25)	3.3 J (0.27) ^b	2.9 J (0.25)	3.0 J (0.25)	2.7 J (0.25)	ND (1.5) (0.28)	ND (5.2) (0.38)	0.46 J (0.25)	ND (3.9) (0.28)	ND (4.7) (0.34)	ND (3.7) (0.27)
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	14.5 (1.5)	14.5 (1.7)	12.9 (1.5)	13.1 (1.6)	11.8 (1.5)	5.5 (1.8)	7.2 (2.4)	ND (3.6) (1.5)	9.2 (1.8)	30.4 (2.1)	9.0 (1.7)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 2

2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type									AOI5-AI-17-03 10-Mar-17 AOI5-AI-17-03 GHD PACE 10382287 10382287003	AOI5-AI-17-04 10-Mar-17 AOI5-AI-17-04 GHD PACE 10382287 10382287004	AOI5-AI-17-05 10-Mar-17 AOI5-AI-17-05 GHD PACE 10382287 10382287006	AOI5-AI-17-06 10-Mar-17 AOI5-AI-17-06 GHD PACE 10382287 10382287005	AOI5-AI-17-07 10-Mar-17 AOI5-AI-17-07 GHD PACE 10382287 10382287007	AOI6-AI-17-01 8-Mar-17 AOI6-AI-17-01 GHD LL 1775150 8876948	AOI6-AI-17-02 8-Mar-17 AOI6-AI-17-02 GHD LL 1775150 8876950	AOI6-AI-17-03 8-Mar-17 AOI6-AI-17-03 GHD LL 1775150 8876949	AOI6-AI-17-04 8-Mar-17 AOI6-AI-17-04 GHD LL 1775150 8876953	AOI6-AI-17-05 9-Mar-17 AOI6-AI-17-05 GHD PACE 10381753 10381753003	AOI6-AI-17-06 8-Mar-17 AOI6-AI-17-06 GHD PACE 10381907 10381907007
	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h											
Volatile Organic Compounds																			
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	7.3 (0.19) ^{bde}	6.2 (0.18) ^{bde}	1.2 (0.18)	6.2 (0.19) ^{bde}	6.2 (0.19) ^{bde}	6.9 (0.64) ^{bde}	6.8 (0.64) ^{bde}	7.1 (0.64) ^{bde}	6.4 (0.64) ^{bde}	0.76 J (0.16)	2.2 (0.16) ^{bde}
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (6.1) (1.2)	ND (2.3) (1.2)	ND (2.3) (1.2)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (7.7) (1.5)	ND (7.7) (1.5)	ND (7.7) (1.5)	ND (7.7) (1.5)	ND (2.1) (1.0)	ND (5.2) (1.0)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (0.64) (0.32)	ND (0.61) (0.31)	ND (0.61) (0.31)	ND (0.64) (0.32)	ND (0.64) (0.32)	ND (4.0) (0.81)	ND (4.0) (0.81)	ND (4.0) (0.81)	ND (4.0) (0.81)	ND (1.1) (0.27)	ND (0.55) (0.27)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	2.9 J (0.66)	8.0 (0.63) ^{bde}	0.85 J (0.63)	0.75 J (0.66)	ND (1.4) (0.66)	ND (4.3) (0.87)	0.93 J (0.87)	1.0 J (0.87)	ND (4.3) (0.87)	1.5 J (0.57)	2.2 J (0.57)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	ND (3.9) (0.21)	36.6 (0.21)	7.9 (0.21)	3.3 J (0.21)	ND (3.9) (0.21)	3.3 J (0.98)	2.1 J (0.98)	2.3 J (0.98)	1.5 J (0.98)	ND (3.4) (0.18)	ND (3.4) (0.18)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	ND (5.7) (0.47)	0.52 J (0.45)	0.48 J (0.45)	0.57 J (0.47)	0.55 J (0.47)	ND (3.6) (0.72)	ND (3.6) (0.72)	ND (3.6) (0.72)	ND (3.6) (0.72)	ND (4.9) (0.41)	ND (4.9) (0.41)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	0.79 J (0.47) ^{bde}	2.1 J (0.45) ^{bde}	1.6 J (0.45) ^{bde}	1.8 J (0.47) ^{bde}	1.0 J (0.47) ^{bde}	9.6 (2.6) ^{abde}	ND (5.2) (2.6)	ND (5.2) (2.6)	ND (5.2) (2.6)	3.3 J (0.41) ^{bde}	0.52 J (0.41) ^{bde}
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	11.7 (0.24)	87.7 (0.23)	6.7 (0.23)	2.7 (0.24)	3.3 (0.24)	3.7 J (0.75)	5.2 (0.75)	3.9 (0.75)	3.0 J (0.75)	1.7 (0.21)	10.4 (0.21)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	3.6 J (0.19) ^b	425 (3.7) ^{abde}	0.93 J (0.19)	0.94 J (0.19)	0.72 J (0.19)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (4.9) (0.98)	2.0 J (0.17)	2.8 J (0.17)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	3.1 J (0.28)	186 (0.27) ^{abe}	0.30 J (0.27)	0.36 J (0.28)	ND (1.5) (0.28)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (3.3) (0.25)	ND (3.3) (0.25)
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	11.7 (1.8)	95.9 (1.7) ^{be}	ND (3.9) (1.7)	ND (4.1) (1.8)	ND (4.1) (1.8)	-	-	-	-	4.5 (1.5)	8.4 (1.5)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 2

2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location									AOI6-AI-17-07 8-Mar-17	AOI6-AI-17-07 9-Mar-17	AOI6-AI-17-08 8-Mar-17	AOI6-AI-17-09 8-Mar-17	AOI6-AI-17-09 8-Mar-17	AOI6-AI-17-11 8-Mar-17	AOI6-AI-17-12 8-Mar-17	AOI6-AI-17-13 8-Mar-17	AOI6-AI-17-14 8-Mar-17	AOI6-AI-17-15 9-Mar-17	AOI6-AI-17-17 8-Mar-17
Sample Date									AOI6-AI-17-07	AOI6-AI-17-07R	AOI6-AI-17-08	AOI6-AI-17-09	AOI6-AI-17-22	AOI6-AI-17-11	AOI6-AI-17-12	AOI6-AI-17-13	AOI6-AI-17-14	AOI6-AI-17-15	AOI6-AI-17-17
Sample ID									AOI6-AI-17-07	AOI6-AI-17-07R	AOI6-AI-17-08	AOI6-AI-17-09	AOI6-AI-17-22	AOI6-AI-17-11	AOI6-AI-17-12	AOI6-AI-17-13	AOI6-AI-17-14	AOI6-AI-17-15	AOI6-AI-17-17
Sampling Company									GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Laboratory									LL	PACE	LL	PACE	PACE	PACE	PACE	PACE	PACE	LL	LL
Laboratory Work Order									1775150	10381907	1775150	10381907	10382287	10381907	10381907	10381907	10381907	1777963	1775150
Laboratory Sample ID									8876951	10381907008	8876947	10381907001	10382287008	10381907003	10381907004	10381907005	10381907006	8889684	8876957
Sample Type	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h											
Volatile Organic Compounds																			
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	6.2 (0.64) ^{bde}	8.2 (0.19) ^{bde}	4.3 (0.64) ^{bde}	6.4 (0.16) ^{bde}	10.3 (0.16) ^{bde}	8.6 (0.18) ^{bde}	14.1 (0.22) ^{bde}	15.8 (0.16) ^{bde}	5.9 (0.16) ^{bde}	3.6 (0.64) ^{bde}	1.2 J (0.64)
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (7.7) (1.5)	ND (2.4) (1.2)	ND (7.7) (1.5)	ND (2.1) (1.0)	ND (2.1) (1.0)	ND (5.6) (1.1)	ND (7.0) (1.4)	ND (5.2) (1.0)	ND (5.2) (1.0)	ND (7.7) (1.5)	ND (7.7) (1.5)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (4.0) (0.81)	ND (0.64) (0.32)	ND (4.0) (0.81)	ND (1.1) (0.27)	ND (0.55) (0.27)	ND (0.59) (0.30)	ND (0.74) (0.37)	ND (0.55) (0.27)	ND (0.55) (0.27)	ND (4.0) (0.81)	ND (4.0) (0.81)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	ND (4.3) (0.87)	1.7 (0.66)	ND (4.3) (0.87)	1.5 J (0.57)	ND (1.2) (0.57)	ND (3.2) (0.61)	ND (4.0) (0.76)	ND (3.0) (0.57)	ND (3.0) (0.57)	ND (4.3) (0.87)	ND (4.3) (0.87)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	2.6 J (0.98)	ND (3.9) (0.21)	310 (0.98) ^{be}	ND (3.4) (0.18)	ND (3.4) (0.18)	ND (3.6) (0.20)	ND (4.5) (0.25)	ND (3.4) (0.18)	ND (3.4) (0.18)	ND (4.9) (0.98)	ND (4.9) (0.98)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	ND (3.6) (0.72)	ND (5.7) (0.47)	ND (3.6) (0.72)	ND (4.9) (0.41)	0.47 J (0.41)	ND (5.3) (0.44)	ND (6.6) (0.55)	ND (4.9) (0.41)	ND (4.9) (0.41)	ND (3.6) (0.72)	ND (3.6) (0.72)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	ND (5.2) (2.6)	ND (4.1) (0.47)	ND (5.2) (2.6)	3.5 J (0.41) ^{bde}	1.6 J (0.41) ^{bde}	1.9 J (0.44) ^{bde}	1.0 J (0.55) ^{bde}	5.9 (0.41) ^{abde}	0.74 J (0.41) ^{bde}	ND (5.2) (2.6)	ND (5.2) (2.6)
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	3.6 J (0.75)	7.3 (0.24)	2.4 J (0.75)	2.1 (0.21)	2.8 (0.21)	3.5 (0.22)	4.1 (0.28)	5.3 (0.21)	3.6 (0.21)	2.0 J (0.75)	1.4 J (0.75)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (4.9) (0.98)	4.4 (0.19) ^b	1.2 J (0.98)	2.1 J (0.17)	0.58 J (0.17)	2.5 J (0.18)	3.0 J (0.22)	2.4 J (0.17)	2.6 J (0.17)	ND (4.9) (0.98)	ND (4.9) (0.98)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (4.9) (0.98)	ND (1.5) (0.28)	ND (4.9) (0.98)	ND (3.3) (0.25)	ND (1.3) (0.25)	ND (3.6) (0.26)	ND (4.5) (0.33)	ND (3.3) (0.25)	ND (3.3) (0.25)	ND (4.9) (0.98)	ND (4.9) (0.98)
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	-	8.8 (1.8)	-	4.8 (1.5)	ND (3.6) (1.5)	7.7 (1.6)	6.3 (2.0)	7.9 (1.5)	7.8 (1.5)	-	-

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 2

2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type									AOI6-AI-17-18 8-Mar-17 AOI6-AI-17-18 GHD LL 1775150 8876952	AOI6-AI-17-19 8-Mar-17 AOI6-AI-17-19 GHD LL 1775150 8876958	AOI6-AI-17-20 8-Mar-17 AOI6-AI-17-20 GHD LL 1775150 8876946	AOI6-AI-17-21 8-Mar-17 AOI6-AI-17-21 GHD LL 1775150 8876956	AOI7-AI-17-01 7-Mar-17 AOI7-AI-17-01 GHD PACE 10381628 10381628018	AOI7-AI-17-02 7-Mar-17 AOI7-AI-17-02 GHD PACE 10381628 10381628017	AOI7-AI-17-03 7-Mar-17 AOI7-AI-17-03 GHD PACE 10381628 10381628016	AOI7-AI-17-04 7-Mar-17 AOI7-AI-17-04 GHD PACE 10381628 10381628010	AOI7-AI-17-05 7-Mar-17 AOI7-AI-17-05 GHD PACE 10381628 10381628001	AOI7-AI-17-06 7-Mar-17 AOI7-AI-17-06 GHD PACE 10381628 10381628002	AOI7-AI-17-07 7-Mar-17 AOI7-AI-17-07 GHD PACE 10381628 10381628003
	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h											
Volatile Organic Compounds																			
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	10 (0.64) ^{bde}	0.86 J (0.64)	21 (0.64) ^{abde}	5.0 (0.64) ^{bde}	4.9 (0.19) ^{bde}	8.7 (0.16) ^{bde}	3.5 (0.16) ^{bde}	4.8 (0.19) ^{bde}	6.2 (0.19) ^{bde}	6.6 (0.16) ^{bde}	7.4 (0.29) ^{bde}
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (7.7) (1.5)	ND (7.7) (1.5)	ND (7.7) (1.5)	ND (7.7) (1.5)	ND (2.4) (1.2)	ND (2.1) (1.0)	ND (2.1) (1.0)	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.1) (1.0)	ND (3.7) (1.8)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (4.0) (0.81)	ND (4.0) (0.81)	ND (4.0) (0.81)	ND (4.0) (0.81)	ND (1.3) (0.32)	ND (1.1) (0.27)	ND (1.1) (0.27)	ND (1.3) (0.32)	ND (1.3) (0.32)	ND (1.1) (0.27)	ND (2.0) (0.49)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	ND (4.3) (0.87)	ND (4.3) (0.87)	1.1 J (0.87)	ND (4.3) (0.87)	3.8 (0.66)	ND (3.0) (0.57)	ND (3.0) (0.57)	ND (3.4) (0.66)	ND (3.4) (0.66)	ND (3.0) (0.57)	ND (5.2) (1.0)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	15 (0.98)	ND (4.9) (0.98)	34 (0.98)	2.4 J (0.98)	ND (3.9) (0.21)	ND (3.4) (0.18)	ND (3.4) (0.18)	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (3.4) (0.18)	8.0 (0.33)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	ND (3.6) (0.72)	ND (3.6) (0.72)	ND (3.6) (0.72)	ND (3.6) (0.72)	ND (5.7) (0.47)	ND (4.9) (0.41)	ND (4.9) (0.41)	ND (5.7) (0.47)	ND (5.7) (0.47)	ND (4.9) (0.41)	ND (8.7) (0.72)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	ND (5.2) (2.6)	ND (5.2) (2.6)	ND (5.2) (2.6)	ND (5.2) (2.6)	5.7 (0.47) ^{abde}	4.1 (0.41) ^{abde}	7.5 (0.41) ^{abde}	4.6 (0.47) ^{abde}	5.0 (0.47) ^{abde}	3.9 (0.41) ^{abde}	7.0 (0.72) ^{abde}
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	2.5 J (0.75)	1.1 J (0.75)	2.7 J (0.75)	2.7 J (0.75)	4.8 (0.24)	3.4 (0.21)	3.5 (0.21)	5.7 (0.24)	5.6 (0.24)	4.3 (0.21)	9.6 (0.36)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (4.9) (0.98)	ND (4.9) (0.98)	1.9 J (0.98)	ND (4.9) (0.98)	5.3 (0.19) ^b	ND (3.3) (0.17)	5.7 (0.17) ^b	ND (3.9) (0.19)	ND (3.9) (0.19)	ND (3.3) (0.17)	ND (5.9) (0.30)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (3.9) (0.28)	ND (3.3) (0.25)	ND (3.3) (0.25)	ND (3.9) (0.28)	ND (3.9) (0.28)	ND (3.3) (0.25)	6.8 (0.43) ^b
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	-	-	-	-	14.3 (1.8)	8.8 (1.5)	8.4 (1.5)	7.1 (1.8)	7.8 (1.8)	6.5 (1.5)	17.0 (2.7)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 2
2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type									AOI7-AI-17-08 7-Mar-17 AOI7-AI-17-08 GHD PACE 10381628 10381628004	AOI7-AI-17-09 7-Mar-17 AOI7-AI-17-09 GHD PACE 10381628 10381628005	AOI7-AI-17-10 7-Mar-17 AOI7-AI-17-10 GHD PACE 10381628 10381628006	AOI7-AI-17-11 7-Mar-17 AOI7-AI-17-11 GHD PACE 10381628 10381628007	AOI7-AI-17-12 7-Mar-17 AOI7-AI-17-12 GHD PACE 10381628 10381628008	AOI7-AI-17-13 7-Mar-17 AOI7-AI-17-13 GHD PACE 10381628 10381628009	AOI7-AI-17-14 7-Mar-17 AOI7-AI-17-14 GHD PACE 10381628 10381628020	AOI7-AI-17-15 7-Mar-17 AOI7-AI-17-15 GHD PACE 10381628 10381628022	AOI8-AI-17-09 9-Mar-17 AOI8-AI-17-09 GHD PACE 10381907 10381907019	AOI8-AI-17-10 9-Mar-17 AOI8-AI-17-10 GHD PACE 10381907 10381907020	AOI8-AI-17-11 9-Mar-17 AOI8-AI-17-11 GHD PACE 10381907 10381907021
	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h											
Volatile Organic Compounds																			
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	5.7 (0.16) ^{bde}	7.0 (0.19) ^{bde}	3.6 (0.20) ^{bde}	5.6 (0.19) ^{bde}	2.6 (0.18) ^{bde}	6.2 (0.20) ^{bde}	2.2 (0.23) ^{bde}	4.8 (0.19) ^{bde}	4.7 (0.17) ^{bde}	0.60 (0.18)	0.60 (0.18)
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (2.1) (1.0)	ND (2.4) (1.2)	ND (2.5) (1.2)	ND (2.4) (1.2)	ND (2.3) (1.2)	ND (2.5) (1.2)	ND (3.0) (1.5)	ND (2.4) (1.2)	ND (5.4) (1.1)	ND (5.8) (1.2)	ND (5.8) (1.2)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (1.1) (0.27)	ND (1.3) (0.32)	ND (1.3) (0.33)	ND (1.3) (0.32)	ND (1.2) (0.31)	ND (1.3) (0.33)	ND (1.6) (0.39)	ND (0.64) (0.32)	ND (0.57) (0.28)	ND (0.61) (0.31)	ND (0.61) (0.31)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	ND (3.0) (0.57)	ND (3.4) (0.66)	ND (3.6) (0.68)	ND (3.4) (0.66)	ND (3.3) (0.63)	ND (3.6) (0.68)	ND (4.2) (0.82)	10.4 (0.66) ^{bde}	2.7 J (0.59)	ND (3.3) (0.63)	ND (3.3) (0.63)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	ND (3.4) (0.18)	ND (3.9) (0.21)	ND (4.0) (0.22)	ND (3.9) (0.21)	ND (3.7) (0.21)	ND (4.0) (0.22)	ND (4.8) (0.26)	ND (3.9) (0.21)	ND (3.5) (0.19)	ND (3.7) (0.21)	ND (3.7) (0.21)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	ND (4.9) (0.41)	ND (5.7) (0.47)	ND (5.9) (0.49)	ND (5.7) (0.47)	ND (5.5) (0.45)	ND (5.9) (0.49)	ND (7.0) (0.58)	ND (5.7) (0.47)	0.46 J (0.42)	ND (5.5) (0.45)	ND (5.5) (0.45)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	3.6 (0.41) ^{bde}	6.5 (0.47) ^{abde}	ND (4.3) (0.49)	8.3 (0.47) ^{abde}	7.8 (0.45) ^{abde}	6.7 (0.49) ^{abde}	9.8 (0.59) ^{abde}	4.6 (0.47) ^{abde}	1.7 J (0.42) ^{bde}	0.79 J (0.45) ^{bde}	ND (4.0) (0.45)
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	3.9 (0.21)	5.1 (0.24)	4.0 (0.25)	5.6 (0.24)	11.4 (0.23)	7.7 (0.25)	2.8 (0.30)	50.4 (0.24)	9.9 (0.21)	2.0 (0.23)	2.2 (0.23)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (3.3) (0.17)	4.3 (0.19) ^b	4.3 (0.20) ^b	9.6 (0.19) ^b	4.3 (0.19) ^b	11.9 (0.20) ^b	ND (4.8) (0.24)	6.7 (0.19) ^b	3.2 J (0.17) ^b	2.8 J (0.19)	2.4 J (0.19)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	ND (3.3) (0.25)	ND (3.9) (0.28)	ND (4.0) (0.29)	4.0 (0.28) ^b	ND (3.7) (0.27)	4.7 (0.29) ^b	ND (4.8) (0.35)	2.6 (0.28)	2.8 J (0.25)	ND (3.7) (0.27)	ND (3.7) (0.27)
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	7.8 (1.5)	11.6 (1.8)	12.2 (1.8)	11.0 (1.8)	7.4 (1.7)	11.7 (1.8)	7.6 (2.2)	42.7 (1.8)	11.2 (1.6)	5.0 (1.7)	ND (3.9) (1.7)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 2
2017 Indoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location									AOI8-AI-17-12 9-Mar-17	AOI9-AI-17-01 11-Mar-17	AOI9-AI-17-02 11-Mar-17	AOI9-AI-17-03 11-Mar-17	AOI9-AI-17-04 11-Mar-17	AOI9-AI-17-05 11-Mar-1711-Mar-17	
Sample Date									AOI8-AI-17-12	AOI9-AI-17-01	AOI9-AI-17-02	AOI9-AI-17-03	AOI9-AI-17-04	AOI9-AI-17-05	AOI9-AI-17-06
Sample ID									AOI8-AI-17-12	AOI9-AI-17-01	AOI9-AI-17-02	AOI9-AI-17-03	AOI9-AI-17-04	AOI9-AI-17-05	AOI9-AI-17-06
Sampling Company									GHD	GHD	GHD	GHD	GHD	GHD	GHD
Laboratory									PACE	PACE	PACE	PACE	PACE	PACE	PACE
Laboratory Work Order									10381753	10382180	10382180	10382180	10382180	10382180	10382180
Laboratory Sample ID									10381753001	10382180001	10382180002	10382180003	10382180004	10382180005	10382180006
Sample Type	PADEP SHS VI Screening Value a	1/10th PADEP SHS VI Screening Value b	OSHA PEL note 1 c	USEPA RSL note 2 d	USEPA RSL note 3 e	ACGIH TLV f	NIOSH REL g	Cal/ OSHA PEL h							
Volatile Organic Compounds															
BENZENE	16	1.6	3190	1.6	1.6	1600	319.47	319.47	1.4 (0.19)	0.63 (0.19)	0.67 (0.18)	0.95 (0.18)	1.2 (0.18)	0.82 J (0.41)	1.2 (0.19)
1,2-DIBROMOETHANE (EDB)	0.2	0.02	2E+05	0.02	0.02	-	345.79	-	ND (2.4) (1.2)	ND (2.4) (1.2)	ND (2.3) (1.2)	ND (2.3) (1.2)	ND (2.3) (1.2)	ND (5.2) (2.6)	ND (2.4) (1.2)
1,2-DICHLOROETHANE (EDC)	4.7	0.47	2E+05	0.47	0.47	40500	4000	4000	ND (1.3) (0.32)	ND (0.64) (0.32)	ND (0.61) (0.31)	ND (0.61) (0.31)	ND (0.61) (0.31)	ND (1.4) (0.69)	ND (0.64) (0.32)
ETHYLBENZENE	49	4.9	4E+05	4.9	4.9	86800	435000	435000	1.8 J (0.66)	0.80 J (0.66)	1.1 J (0.63)	1.4 (0.63)	1.7 (0.63)	ND (3.0) (1.4)	ND (1.4) (0.66)
ISOPROPYLBENZENE (CUMENE)	1800	180	2E+05	1800	180	246000	245000	245000	ND (3.9) (0.21)	ND (3.9) (0.21)	ND (3.7) (0.21)	ND (3.7) (0.21)	ND (3.7) (0.21)	ND (8.4) (0.46)	ND (3.9) (0.21)
METHYL TERTIARY BUTYL ETHER	470	47	-	47	47	180000	-	144000	ND (5.7) (0.47)	ND (5.7) (0.47)	ND (5.5) (0.45)	ND (5.5) (0.45)	ND (5.5) (0.45)	ND (12.3) (1.0)	ND (5.7) (0.47)
NAPHTHALENE	3.6	0.36	50000	0.36	0.36	52000	50000	50000	3.7 J (0.47) ^{abde}	6.5 (0.47) ^{abde}	4.1 (0.45) ^{abde}	3.6 J (0.45) ^{bde}	4.5 (0.45) ^{abde}	ND (8.9) (1.0)	ND (4.1) (0.47)
TOLUENE	22000	2200	8E+05	22000	2200	75400	375000	37500	3.6 (0.24)	2.9 (0.24)	2.4 (0.23)	7.0 (0.23)	5.1 (0.23)	4.1 (0.52)	6.0 (0.24)
1,2,4-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	2.6 J (0.19)	7.1 (0.19) ^b	7.9 (0.19) ^b	5.2 (0.19) ^b	4.1 (0.19) ^b	ND (8.4) (0.42)	ND (3.9) (0.19)
1,3,5-TRIMETHYLBENZENE	31	3.1	-	260	26	123000	125000	125000	2.2 J (0.28)	ND (3.9) (0.28)	3.2 J (0.27) ^b	ND (3.7) (0.27)	ND (3.7) (0.27)	ND (8.4) (0.61)	ND (3.9) (0.28)
XYLENES, TOTAL	440	44	4E+05	440	44	434000	435000	435000	6.0 (1.8)	5.7 (1.8)	9.4 (1.7)	10 (1.7)	8.1 (1.7)	ND (8.9) (3.8)	ND (4.1) (1.8)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

1 OSHA PEL - Occupational Safety Health Administration Permissible Exposure Limit (8-hour value).

2 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 1.

3 USEPA RSL - United States Environmental Protection Agency Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

Table 3
2017 Outdoor Air Sampling Data
Philadelphia Energy Solutions Complex
Philadelphia, PA

Sample Location			AOI2-AA-17-01 11-Mar-17	AOI3-AA-17-01 9-Mar-17	AOI4-AA-17-01 9-Mar-17	AOI5-AA-17-01 11-Mar-17	AOI6-AA-17-01 8-Mar-17	AOI6-AA-17-02 8-Mar-17	AOI7-AA-17-01 7-Mar-17	AOI8-AA-17-03 9-Mar-17	AOI9-AA-17-01 11-Mar-17
Sample Date			AOI2-AA-17-01	AOI3-AA-17-01	AOI4-AA-17-01	AOI5-AA-17-01	AOI6-AA-17-01	AOI6-AA-17-02	AOI7-AA-17-01	AOI8-AA-17-03	AOI9-AA-17-01
Sample ID			GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Sampling Company			PACE	LL	PACE	PACE	LL	LL	PACE	PACE	PACE
Laboratory			10382175	1777963	10381907	10382175	1775150	1775150	10381628	10381753	10382180
Laboratory Work Order			10382175002	8889685	10381907018	10382175001	8876955	8876954	10381628011	10381753002	10382180007
Laboratory Sample ID											
Sample Type	MH Air Tox i	EPA Res IA j									
Volatile Organic Compounds											
BENZENE	2.59	29	0.61 (0.16)	2.0 J (0.64)	2.4 (0.19)	1.0 (0.16)	3.0 J (0.64) ⁱ	8.4 (0.64) ⁱ	4.0 (0.19) ⁱ	1.2 J (0.33)	0.84 (0.16)
1,2-DIBROMOETHANE (EDB)	n/v	n/v	ND (2.1) (1.0)	ND (7.7) (1.5)	ND (6.1) (1.2)	ND (2.1) (1.0)	ND (7.7) (1.5)	ND (7.7) (1.5)	ND (2.4) (1.2)	ND (4.2) (2.1)	ND (2.1) (1.0)
1,2-DICHLOROETHANE (EDC)	0.16	0.2	ND (0.55) (0.27)	ND (4.0) (0.81)	ND (0.64) (0.32)	ND (0.55) (0.27)	ND (4.0) (0.81)	ND (4.0) (0.81)	ND (1.3) (0.32)	ND (2.2) (0.55)	ND (0.55) (0.27)
ETHYLBENZENE	0.68	17	ND (1.2) (0.57)	0.89 J (0.87) ⁱ	ND (3.4) (0.66)	ND (1.2) (0.57)	ND (4.3) (0.87)	ND (4.3) (0.87)	ND (3.4) (0.66)	2.6 J (1.1) ⁱ	ND (1.2) (0.57)
ISOPROPYLBENZENE (CUMENE)	11.2	n/v	ND (3.4) (0.18)	ND (4.9) (0.98)	ND (3.9) (0.21)	1.6 J (0.18)	ND (4.9) (0.98)	1.7 J (0.98)	ND (3.9) (0.21)	ND (6.7) (0.37)	ND (3.4) (0.18)
METHYL TERTIARY BUTYL ETHER	n/v	72	ND (4.9) (0.41)	ND (3.6) (0.72)	ND (5.7) (0.47)	ND (4.9) (0.41)	ND (3.6) (0.72)	ND (3.6) (0.72)	ND (5.7) (0.47)	ND (9.9) (0.82)	ND (4.9) (0.41)
NAPHTHALENE	n/v	4.8*	ND (3.6) (0.41)	ND (5.2) (2.6)	0.63 J (0.47)	4.9 (0.41) ^j	ND (5.2) (2.6)	ND (5.2) (2.6)	ND (4.1) (0.47)	ND (7.2) (0.82)	ND (3.6) (0.41)
TOLUENE	4.52	144	3.3 (0.21)	5.5 (0.75) ⁱ	3.1 (0.24)	0.91 J (0.21)	1.3 J (0.75)	2.5 J (0.75)	5.5 (0.24) ⁱ	1.3 J (0.41)	2.0 (0.21)
1,2,4-TRIMETHYLBENZENE	0.38	6.5	ND (3.3) (0.17)	ND (4.9) (0.98)	2.7 J (0.19) ⁱ	ND (3.3) (0.17)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (3.9) (0.19)	3.6 J (0.34) ⁱ	ND (3.3) (0.17)
1,3,5-TRIMETHYLBENZENE	1.12	19	ND (3.3) (0.25)	ND (4.9) (0.98)	ND (3.9) (0.28)	ND (3.3) (0.25)	ND (4.9) (0.98)	ND (4.9) (0.98)	ND (3.9) (0.28)	ND (6.7) (0.49)	ND (3.3) (0.25)
XYLENES, TOTAL	3.14	63.5	ND (3.6) (1.5)	-	5.4 (1.8) ⁱ	ND (3.6) (1.5)	-	-	6.5 (1.8) ⁱ	ND (7.1) (3.1)	ND (3.6) (1.5)

Notes:

All concentrations and criteria are in units of micrograms per cubic meter / µg/m³

15.2 Concentration was detected.

ND (0.03) Analyte was not detected at a concentration greater than the laboratory reporting limit.

- Parameter not analyzed / not available.

J Indicates an estimated value

Method detection limit is shown in second set of parentheses.

MH Air Tox Marcus Hook Air Toxics Monitor 2015, maximum value of PADEP data accessed February 5, 2016.

EPA Res IA USEPA Background Residential Indoor Air 2011, 95th percentile.

Attachment A Field Data Sheets

Indoor Air Sampling Field Data Sheet (Form SP-28)

A) General Information

Sample Identification Number: AD11-01

Site Address: _____

Sample Canister Location: Control Building 2429

Sample Date: _____ Sampler: _____

Sample Time: Start: 0745 Stop: _____

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

02
Canister Serial No.: 0069

Flow Controller Serial No.: _____

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	_____	_____	_____

Barometric Pressure _____

	Start	Stop
Canister Pressure Gauge Reading:	<u>-24+</u>	_____

Time: 0745 _____

PID Reading: _____

Basement Depth (ft below grade): _____

Window Marked: Yes/No

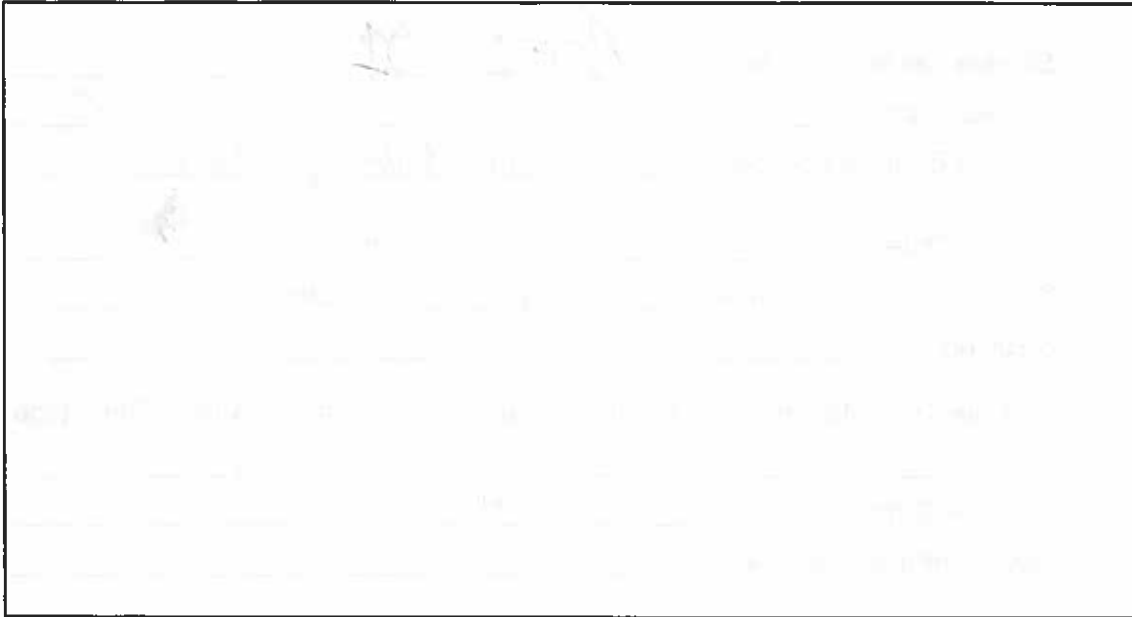
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI2-AI-17-01

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: AOI2 - 11 Bldg - Short Pier

Sample Date: 3-10-17 Sampler: Donovan Young

Sample Time: Start: 0730 Stop: 1530

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister (Other (specify): _____)

Canister Serial No.: (143)

Flow Controller Serial No.: 0407

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44.6</u>	<u>67.7</u>	<u>38</u>	<u>72.3</u>
Barometric Pressure	<u>30.02</u>		<u>30.02</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30</u>	<u>14⁺</u>
Time:	<u>730</u>	<u>1530</u>
PID Reading:	<u>0.0</u>	<u>0.0 ppm</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

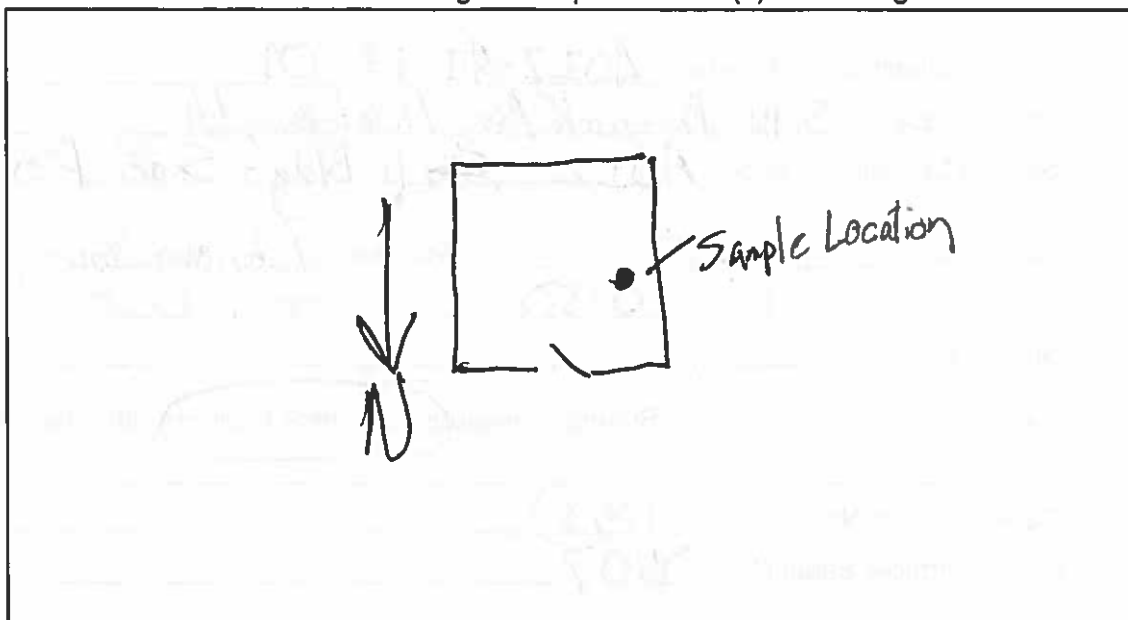
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Rain/Snow/Overcast/Cold

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

AOI2- 11 Bldg - Short Pier

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A012-AI-17-02

Site Address: Bldg 2435

Sample Canister Location: Control Room

Sample Date: 3/11/17 Sampler: KC

Sample Time: Start: 833 Stop: 1433

Shipping Date: 3/11/17

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

TD-Can

Canister Serial No.: 2347

Flow Controller Serial No.: FL0079

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23</u>	<u>63.7°F</u>	<u>28</u>	<u>63.5</u>

Barometric Pressure	<u>30.43 in Hg</u>	<u>30.39</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>30.0+ in Hg</u>	<u>5</u>

Time:	<u>833</u>	<u>1633</u>
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PID Reading:	<u>260</u>	<u>311</u>
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Basement Depth (ft below grade):	<u>-</u>
----------------------------------	----------

Window Marked:	<u>Yes/No</u>
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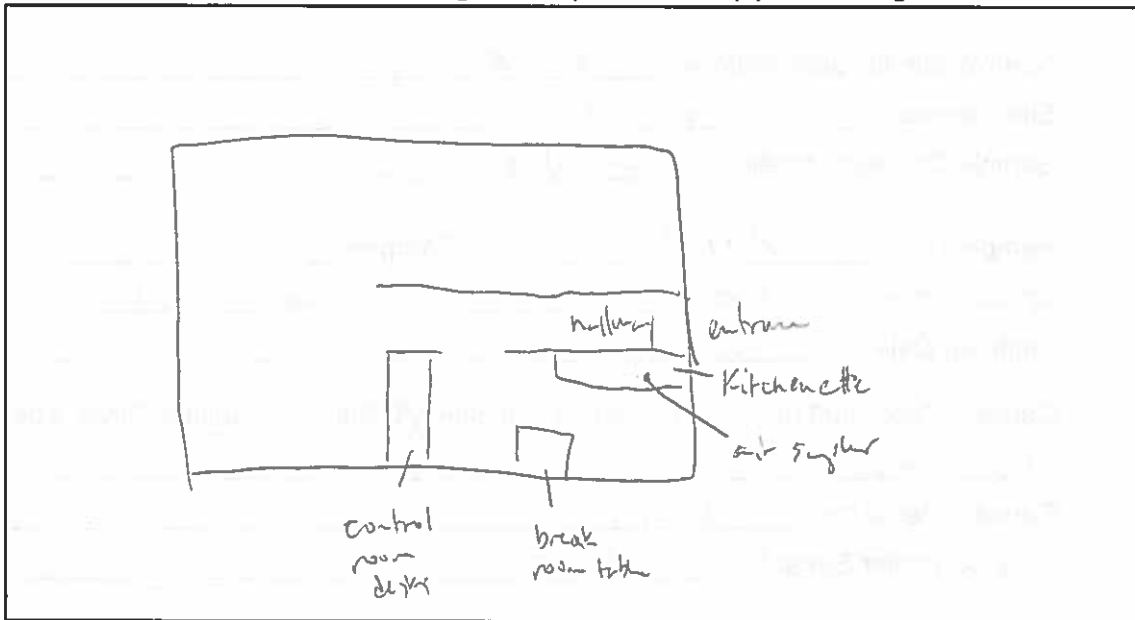
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Paul Buzhant said I did not need a permit. Air sampler placed

Indoor Air Sampling Field Data Sheet (Form SP-28)

A) General Information

Sample Identification Number: A012-AI-17-03

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: Matamoras 2248 Break Room

Sample Date: 3-10-17 Sampler: DY/AM

Sample Time: Start: 0758 Stop: 1558

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: N1331 (86)

Flow Controller Serial No.: FC0435

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>38.6</u>	<u>69.4</u>	<u>38</u>	<u>64.4</u>

	Start	Stop
Barometric Pressure	<u>30.00</u>	<u>30.02</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-28.5</u>	<u>-4+</u>

	Start	Stop
Time:	<u>0758</u>	<u>1558</u>

	Start	Stop
PID Reading:	<u>0.528</u>	<u>160</u>

Basement Depth (ft below grade): _____

Window Marked: Yes/No

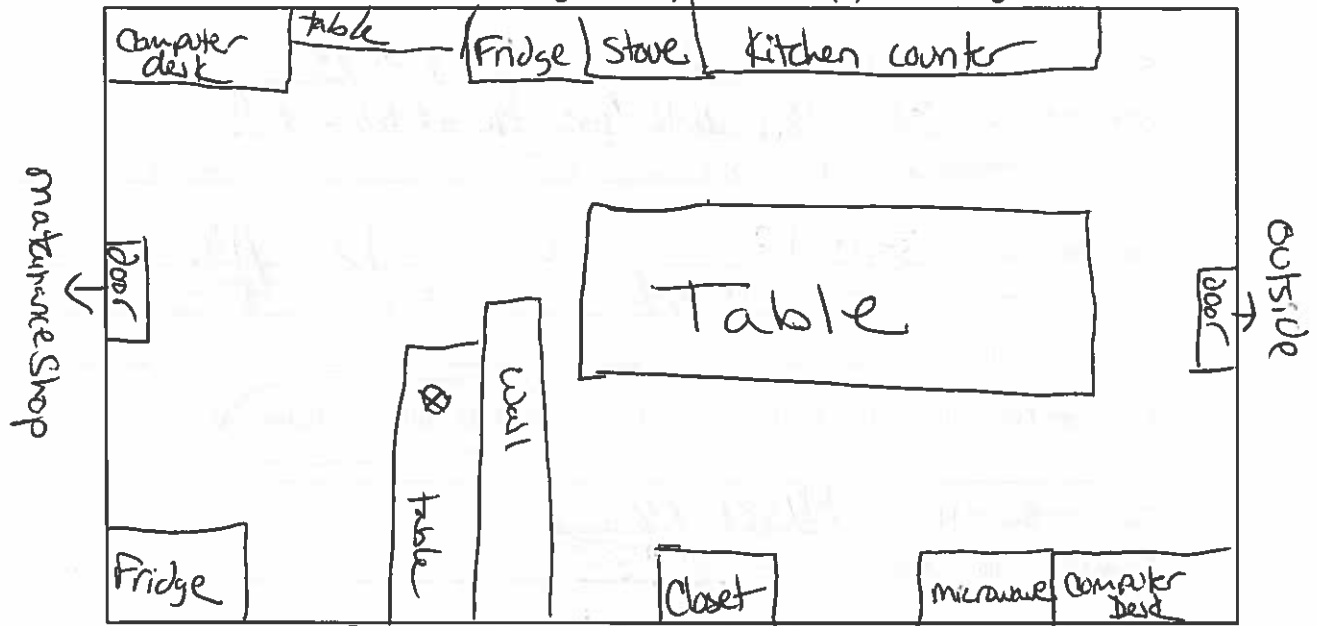
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: Rain/Snow, Cold, Overcast

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



c) Comments ⊗ Sample location

Sample collected on table near door to maintenance shop

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: ~~#0 A002~~ AI-17-04

Site Address: 3144 Passyunk Ave, W

Sample Canister Location: Maintenance 2248 office

Sample Date: 3-10-17 Sampler: AM

Sample Time: Start: 0755 Stop: 1555

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: N1362 (117)

Flow Controller Serial No.: FC0060

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44.6</u>	<u>67.7</u>		

Barometric Pressure	<u>29.99</u>	<u>.38</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30</u>	<u>-5</u>

Time:	<u>0755</u>	<u>1555</u>
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PID Reading:	<u>1.459 ppm</u>	
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Basement Depth (ft below grade):	<u>-</u>	
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Window Marked:	<u>Yes/No</u>	
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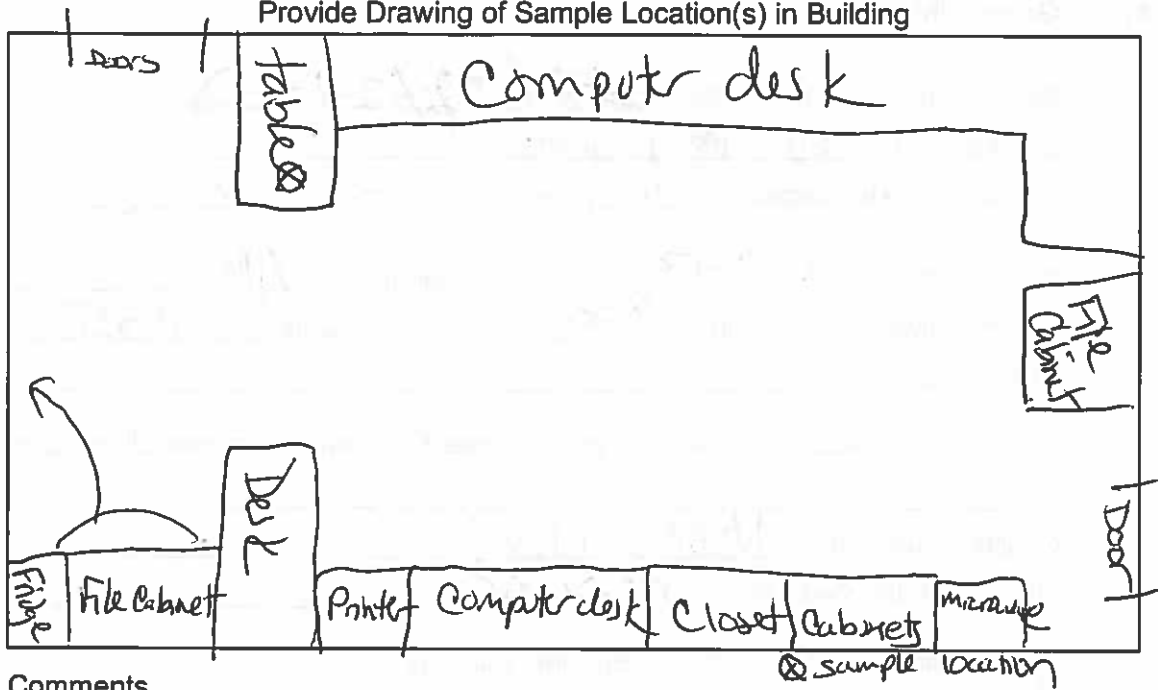
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample collected on table in office.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: 4012-AI-17-05

Site Address: Bldg 859/861 (Bldg 2520 Control House)

Sample Canister Location: Break room

Sample Date: 3/11/17 Sampler: KL

Sample Time: Start: 9:15 Stop: ~~11:16~~ 1716

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____

Canister Serial No.: 2748

Flow Controller Serial No.: FL1275

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23</u>	<u>68.6°</u>	<u>24</u>	<u>70.6</u>

Barometric Pressure 30.43 in Hg 30.38

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0" in Hg</u>	<u>-5</u>

	Start	Stop
Time:	<u>9:15</u>	<u>11:16 1716</u>

	Start	Stop
PID Reading:	<u>775 ppb</u>	<u>745</u>

Basement Depth (ft below grade): _____

Window Marked: _____ Yes/No

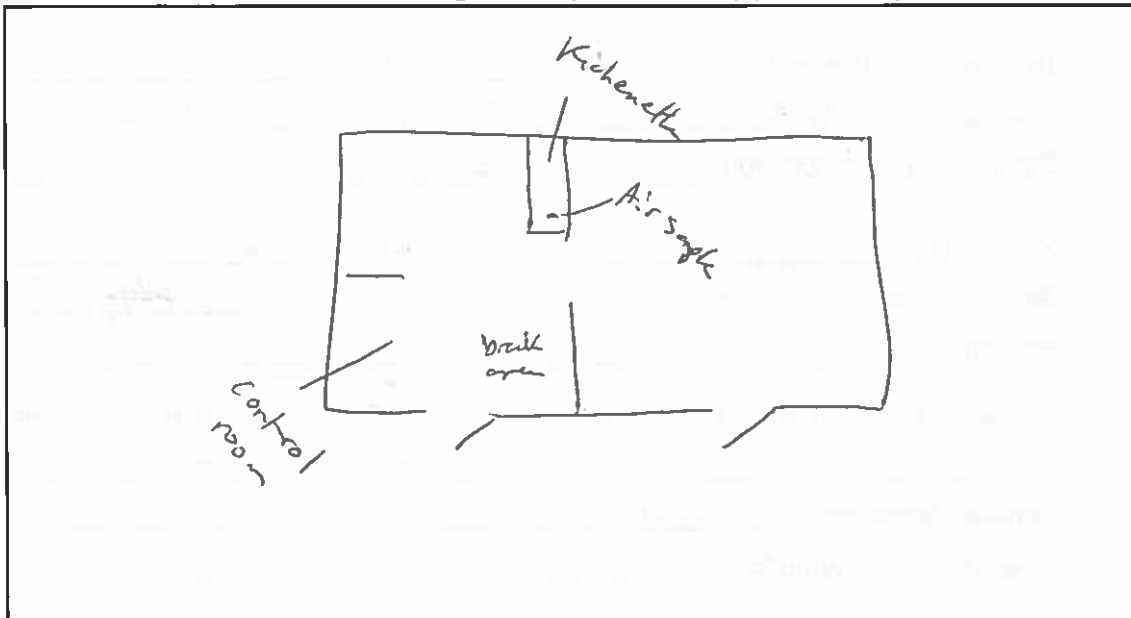
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Altria Johnson said we do not need a permit to place the air monitor. Air sample placed on Kitchen counter, common to control / break room.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI2-AI-17-06
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: AOI2-3316 Bldg (QA Lab) - Lab Room 50 West
 Sample Date: 3-10-17 Sampler: Donovan Young
 Sample Time: Start: 0802 Stop: 1602
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister / 6 L Summa Canister / Other (specify): _____
 Canister Serial No.: 5861 (1061)
 Flow Controller Serial No.: FL1276
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

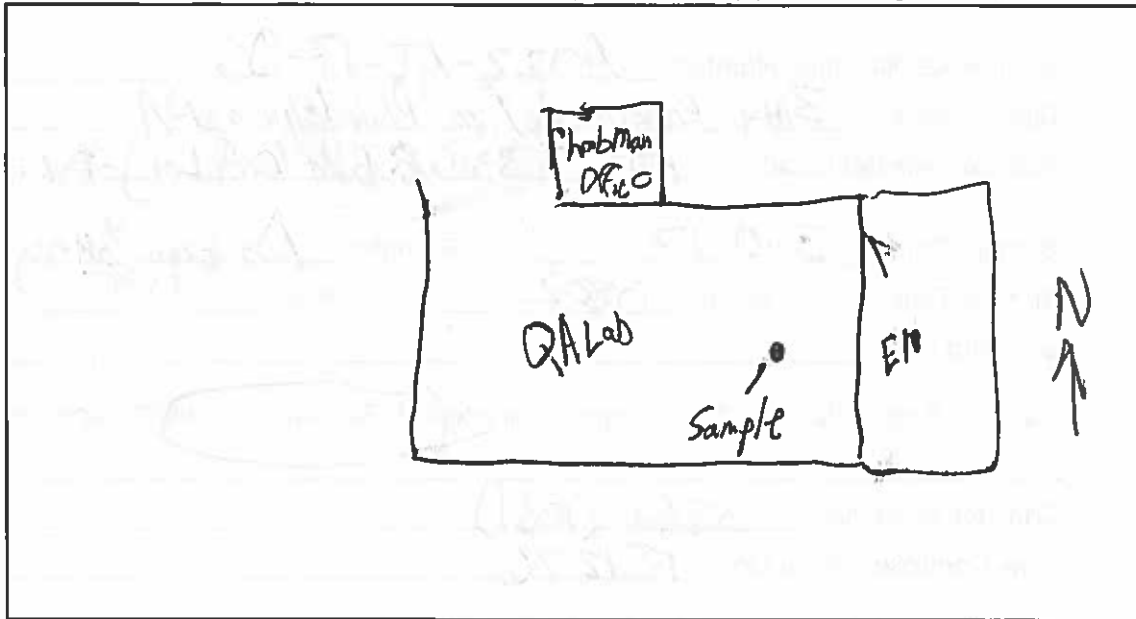
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46</u>	<u>65.4</u>	<u>38</u>	<u>65.1</u>
Barometric Pressure	<u>29.99</u>		<u>30.00</u>	
Canister Pressure Gauge Reading:	Start <u>-30⁺</u>		Stop <u>-5</u>	
Time:	<u>0802</u>		<u>1602</u>	
PID Reading:	<u>0.064 ppm</u>		<u>0.00 ppm</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Rain, Sleet, Cold, Overcast

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

QA Lab - West Bench near Environmental Lab

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI2-AI-170-07
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: AOI2-3316 Bldg (QA Lab)-2nd Floor Office
 Sample Date: 3-16-17 Sampler: Danovan Young
 Sample Time: Start: 0702 Stop: 1607
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: A9963 (2673)
 Flow Controller Serial No.: FC 0096

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>74.6</u>	<u>70.5</u>	<u>38</u>	<u>70.4</u>
Barometric Pressure	<u>29.97</u>		<u>29.99</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>-28</u>	<u>-6</u>
Time:	<u>0807</u>	<u>1607</u>
PID Reading:	<u>0.121 ppm</u>	<u>0.207 ppm</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

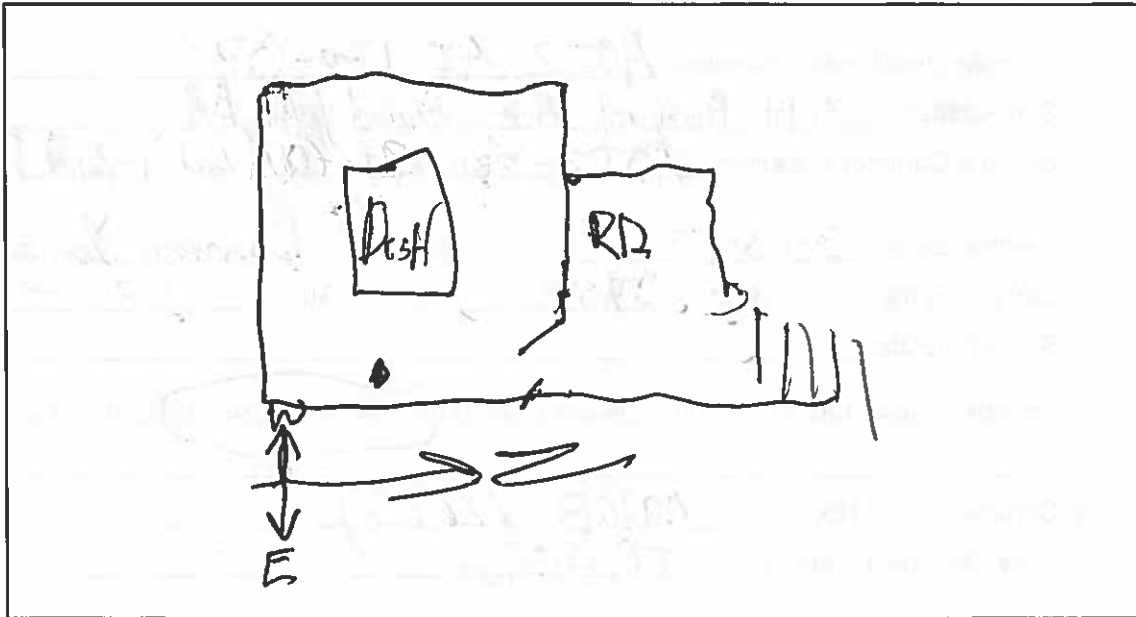
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Rain, Sleet, Snow, Cold, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

AOI2-3316 Bldg-QA Lab-2nd Floor
Office, E Wall

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI2-AI-17-08
 Site Address: 3144 Passyunk Ave, Philadelphia PA
 Sample Canister Location: AOI2-4210 Building (MOB) - Medical Office ¹¹⁰⁸ Lower Floor ¹¹⁰⁸ Room
 Sample Date: 3-10-17 Sampler: Denver Young
 Sample Time: Start: 0746 Stop: _____
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify): _____
 Canister Serial No.: 6764 (1207)
 Flow Controller Serial No.: FC1079

Were "Instructions to Occupants Building" followed?

☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46</u>	<u>67.2</u>	<u>38</u>	<u>69.1</u>
Barometric Pressure	<u>29.99</u>		<u>29.99</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>+29</u>	<u>-3</u>
Time:	<u>0748</u>	<u>1611</u>
PID Reading:	<u>0.0 ppm</u>	<u>0.0 ppm</u>
Basement Depth (ft below grade):	_____	
Window Marked:	<u>Yes/No</u>	

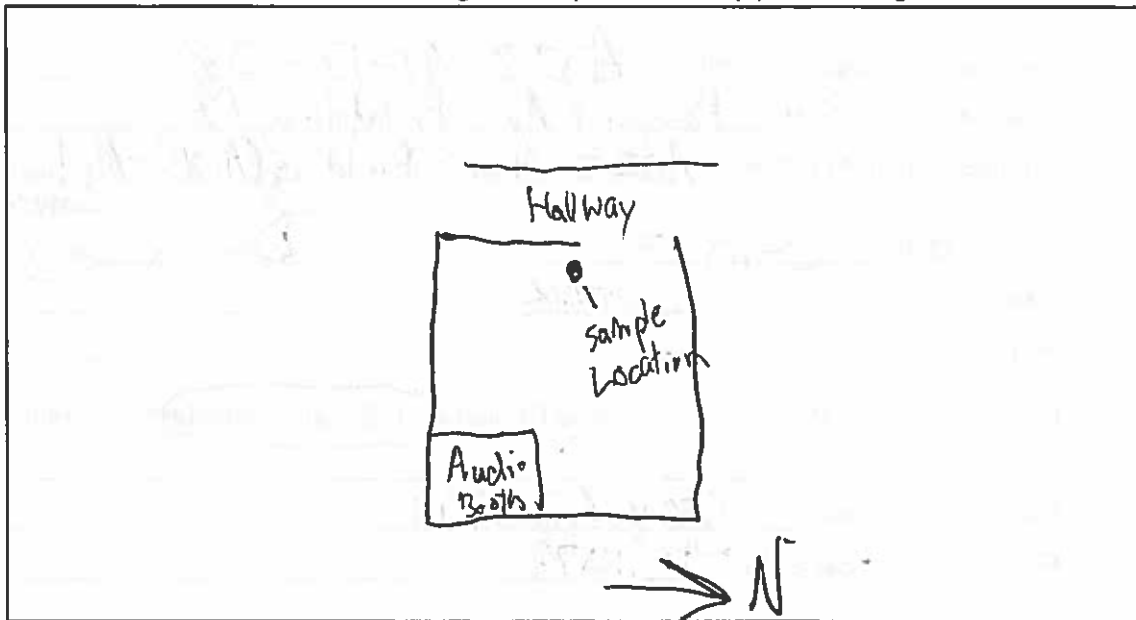
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Rain, Cold, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

ADIZ - GP MOB - 4210 Bldg - Medical Office -
Lower Floor - Audio Room - NW Corner

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI2-AI-17-09

Site Address: AOI2 MOB Lower Floor Safety

Sample Canister Location: _____

Sample Date: 03/06/17 Sampler: Alissa Cannon

Sample Time: Start: 0959 Stop: 1808

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 0068

Flow Controller Serial No.: 02134

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>39.0</u>	<u>75.9</u>	<u>58.9</u>	<u>75.6</u>

Barometric Pressure	<u>30.67</u>	<u>28.7</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>28.5</u>	<u>25</u>

Time:	<u>0959</u>	<u>1808</u>
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PID Reading:	<u>117</u>	<u>322</u>
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Basement Depth (ft below grade): _____

Window Marked: Yes/No

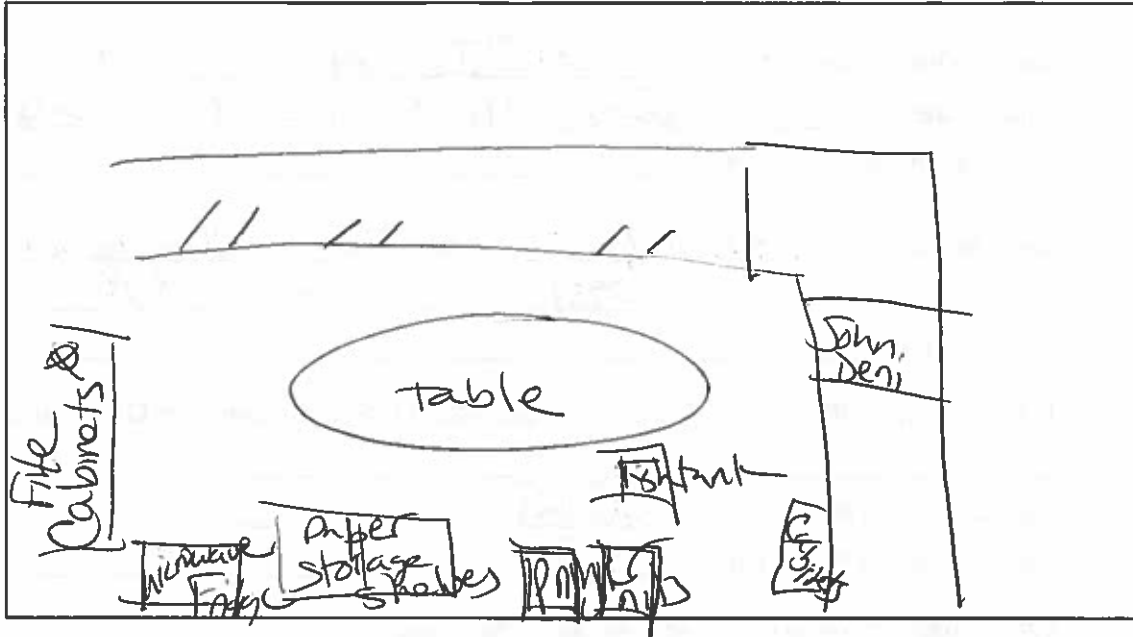
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

sample on cabinet, no open containers, paper products, fish tank, no others

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI 2-AI-17-10
Site Address: 3144 Passyunk Ave, Philadelphia PA
Sample Canister Location: AOI 2 - 4210 Bldg (MOB) - 1st Floor Lobby MOB Lobby
Sample Date: 3-10-17 Sampler: Dominic Young
Sample Time: Start: 0742 Stop: 1512
Shipping Date: _____
Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
Canister Serial No.: 5885 (1044)
Flow Controller Serial No.: FC1063

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>64.46</u>	<u>64.8</u>	<u>38</u>	<u>70.2</u>
Barometric Pressure	<u>29.98</u>		<u>29.98</u>	
Canister Pressure Gauge Reading:	<u>-29</u>		<u>-4</u>	
Time:	<u>742</u>		<u>1542</u>	
PID Reading:	<u>0.0 ppm</u>		<u>0.0 ppm</u>	
Basement Depth (ft below grade):	<u>—</u>			
Window Marked:	<u>Yes/No</u>			

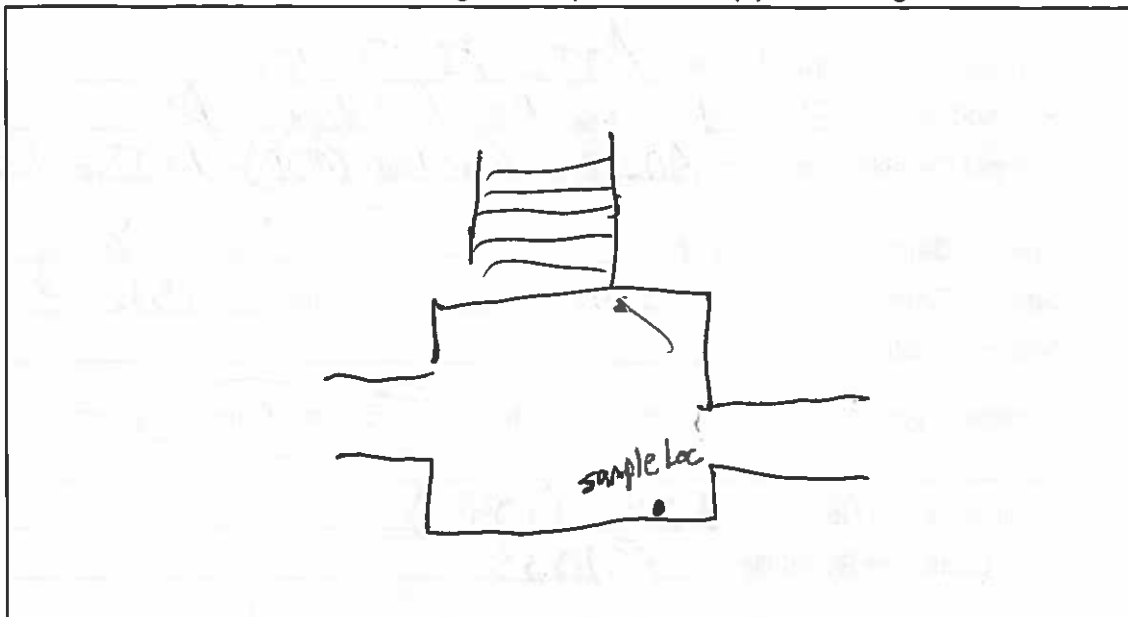
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Rainy, Cold, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

AOI 2 - 4210 Bldg - MOB - 1st Floor ~~Building~~ Lobby

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI2- AI-17-11

Site Address: 3144 Passyunk Ave. Philadelphia PA

Sample Canister Location: AOI2 MOB First Floor East Wing

Sample Date: 03/06/17 Sampler: Alissa Cannon

Sample Time: Start: 0943 Stop: 1743

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 0112

Flow Controller Serial No.: 02125

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>39.0</u>	<u>77.6</u>	<u>48.9</u>	<u>74.0</u>
Barometric Pressure	<u>30.67</u>		<u>30.55</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30+</u>	<u>2</u>
Time:	<u>0943</u>	<u>1743</u>
PID Reading: Parts per billion	<u>119</u>	<u>305</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

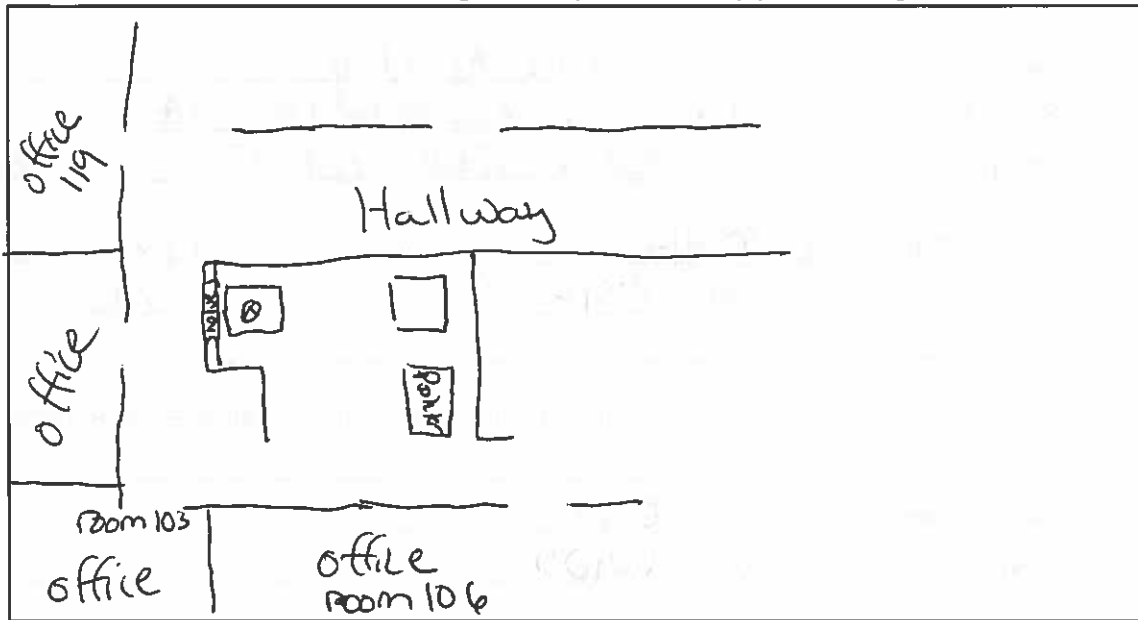
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Sunny 30° Am

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

canister on desk in printing area across from office
Room 103, shelves contained sealed performance oil for
printers, papers and boxes in area

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI2-AE-17-12

Site Address: _____

Sample Canister Location: AOI2-MDB 1st Floor West Wing

Sample Date: 03/06/17 Sampler: Alissa Cannon

Sample Time: Start: 0953 Stop: 1753

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____

Canister Serial No.: 0157

Flow Controller Serial No.: 01418

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>39.2</u>	<u>72.6</u>	<u>48.9</u>	<u>73.1</u>
Barometric Pressure	<u>30.67</u>		<u>30.55</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30"</u>	<u>4"</u>
Time:	<u>0953</u>	<u>1753</u>
PID Reading:	<u>110</u>	<u>333</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

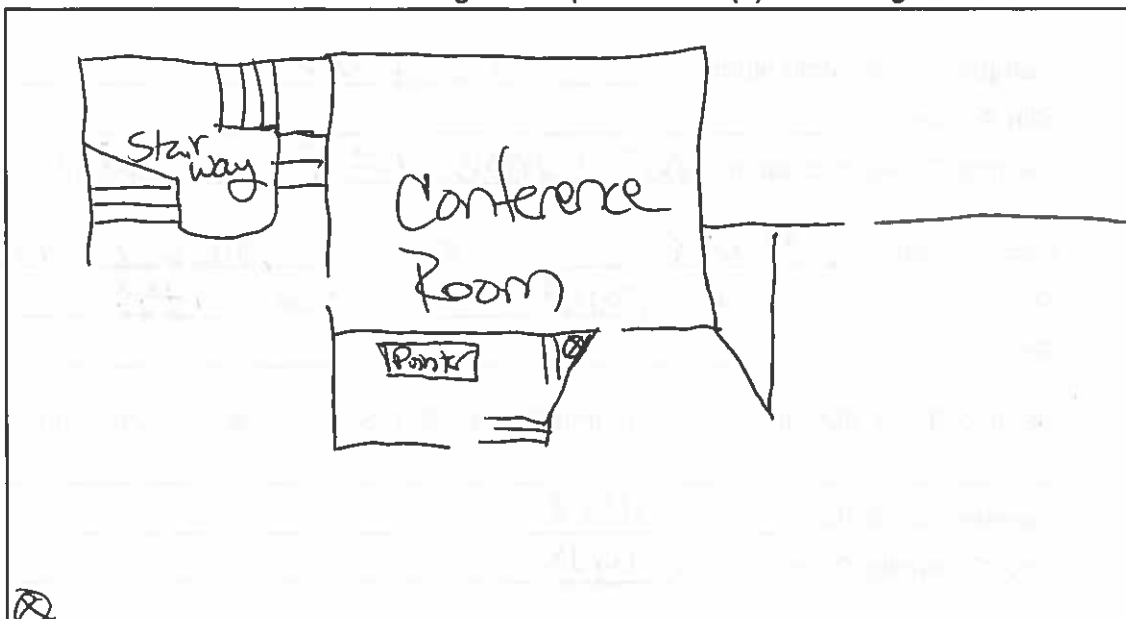
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Sunny 30° Am

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

no open canisters or containers, unit placed on shelves
across from printer near papers, no open containers
within area

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI2-AI-17-13

Site Address: _____

Sample Canister Location: N03 Second Floor East

Sample Date: 03/06/17 Sampler: Alissa Cannon

Sample Time: Start: 0923 Stop: 1723

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____

Canister Serial No.: 0066

Flow Controller Serial No.: 01075

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>39.0</u>	<u>73.5</u>	<u>50.0</u>	<u>78.0</u>

Barometric Pressure	<u>30.66</u>	<u>30.53</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>29+</u>	<u>2+</u>

Time:	<u>0923</u>	<u>1723</u>
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PID Reading: Parts Per Billion	<u>197</u>	<u>371</u>
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Basement Depth (ft below grade):	<u>-</u>	
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Window Marked:	<u>Yes/No</u>
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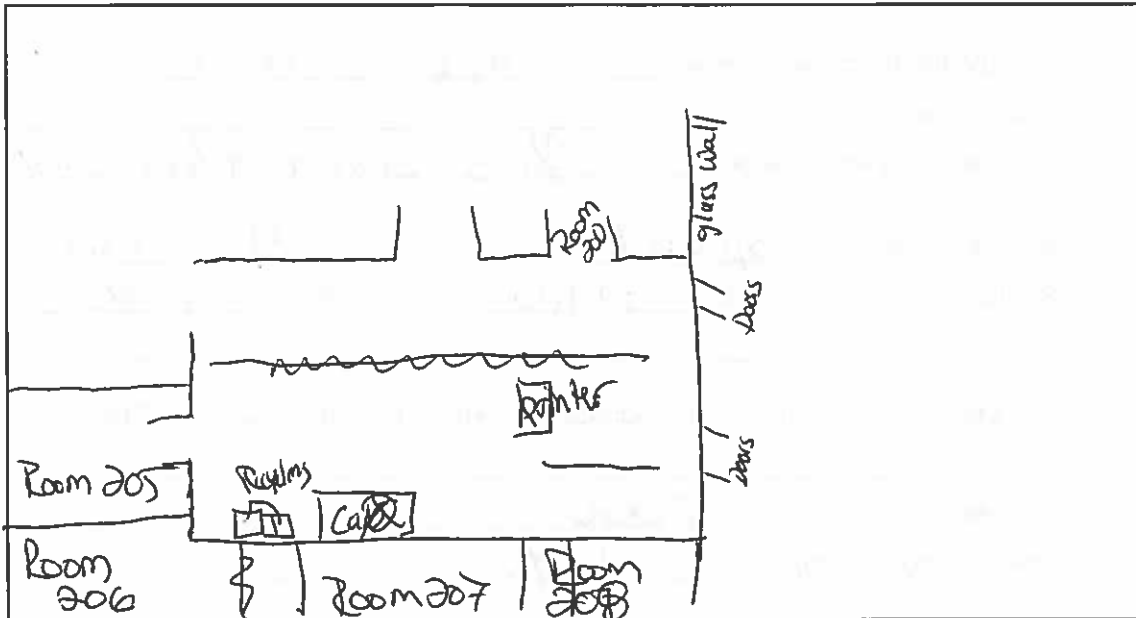
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample on term cabinet next to recycling bins
Perfume odor in room when sample collected

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI2-AI-17-14

Site Address: _____

Sample Canister Location: AOI2 - MOB Second Floor West Wing

Sample Date: 03/06/17 Sampler: Alissa Cannon

Sample Time: Start: 0935 Stop: 1735

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 0160

Flow Controller Serial No.: 00912

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>39.0</u>	<u>77.3</u>	<u>50.0</u>	<u>72.4</u>
Barometric Pressure	<u>30.65</u>		<u>30.53</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30+</u>	<u>5+</u>
Time:	<u>0935</u>	<u>1735</u>
PID Reading: Parts Per Billion	<u>115</u>	<u>292</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

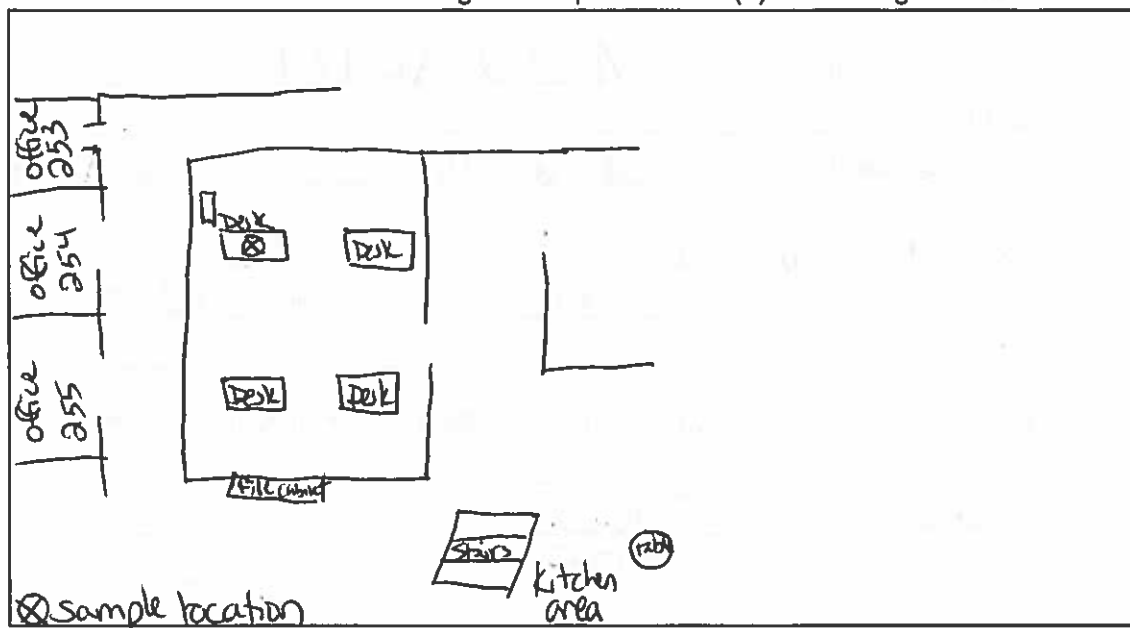
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Sunny 30°

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Canister was placed on a desk within a cubicle area near office 254, no open containers were noted within area

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOC2-AI-17-05

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: AOC2 MOB Second Floor Entry

Sample Date: 03/11/17 Sampler: Alissa Cannon

Sample Time: Start: 0914 Stop: 1715

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 0078

Flow Controller Serial No.: 00909

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>39.0</u>	<u>67.7°F</u>	<u>50.0</u>	<u>76.0</u>

Barometric Pressure	<u>30.67</u>	<u>30.53</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>31</u>	<u>3</u>

Time:	<u>0914</u>	<u>0715</u>
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PID Reading: Parts Per Billion	<u>115</u>	<u>289</u>
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Basement Depth (ft below grade):	<u>—</u>	
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Window Marked:	<u>Yes/No</u>
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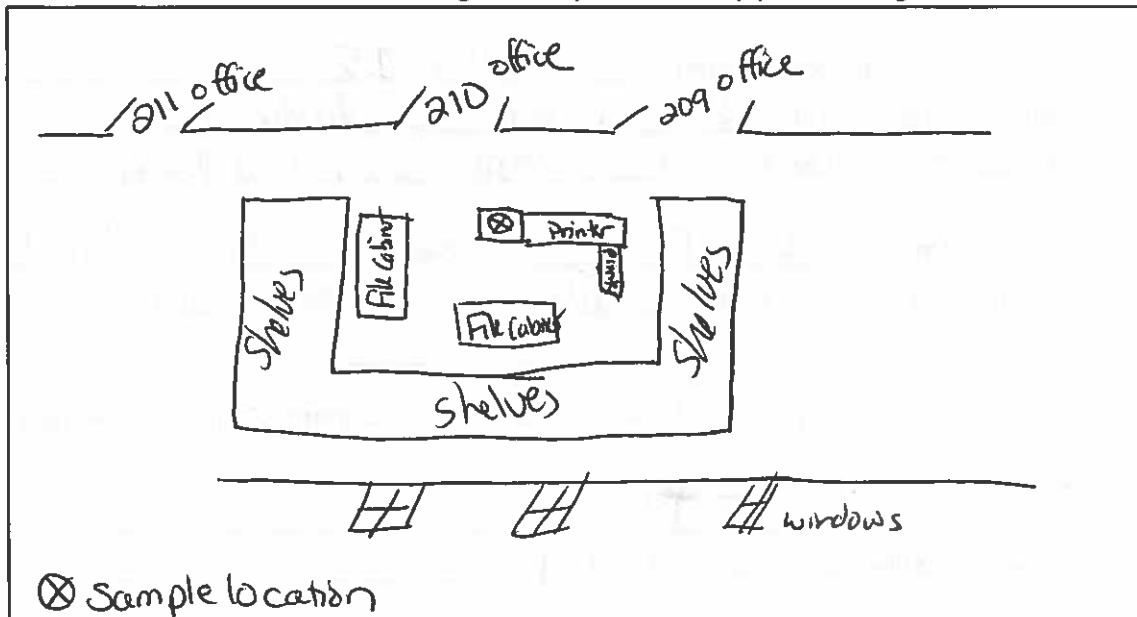
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Sunny, 30°

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample was collected on top of a 2.5 foot cabinet
next to the printer across the hall from offices 210 and 209
on the second floor of the MOB in ADI 2

Indoor Air Sampling Field Data Sheet (Form SP-28)

A) General Information

Sample Identification Number: ASIZ-AI-17-16
 Site Address: 3144 Passyunk Ave Philadelphia PA
 Sample Canister Location: Peabody Hall Building 5917 2nd Floor Conference room
 Sample Date: 3-10-17 Sampler: AM
 Sample Time: Start: 0821 Stop: _____
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 1265
 Flow Controller Serial No.: 0243
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44.6</u>	<u>65.0</u>		<u>64.5</u>
Barometric Pressure	<u>29.96</u>		<u>30.02</u>	
Canister Pressure Gauge Reading:	Start <u>-24</u>		Stop <u>-3</u>	
Time:	<u>0821</u>		<u>1621</u>	
PID Reading:	<u>0</u>		<u>0</u>	
Basement Depth (ft below grade):	<u>—</u>			
Window Marked:	<u>Yes/No</u>			

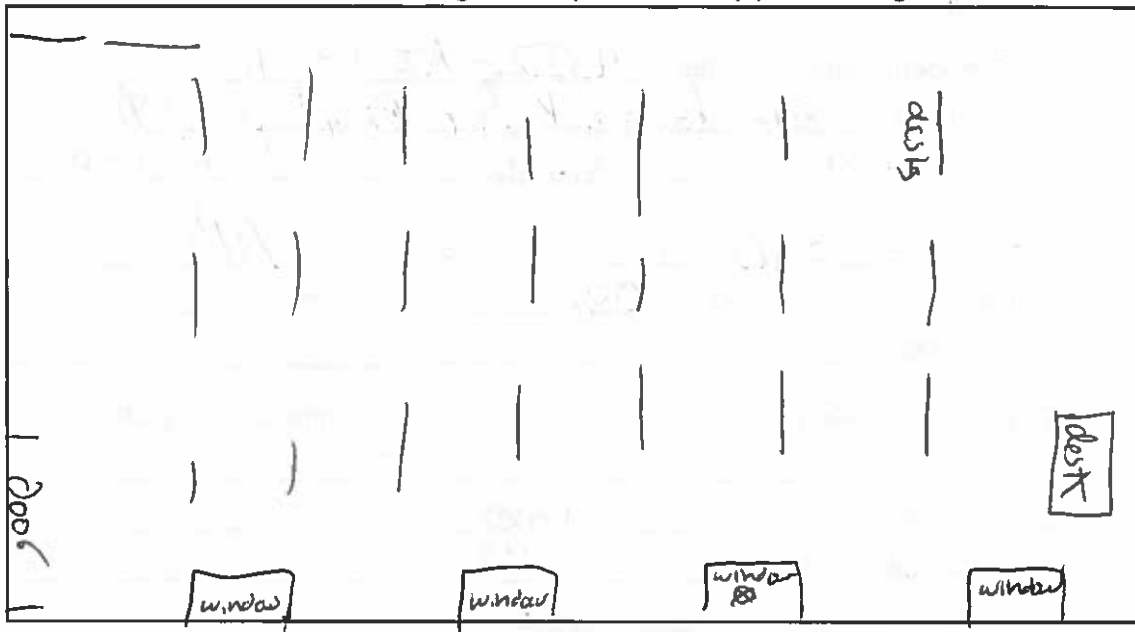
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: Rain, Snow, Cold, Wind, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample set in conference room #200 on window sill/
Desk tables throughout

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI2-AI-17-17
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: Refinery Hall Building 5917 2nd Floor East Wing
 Sample Date: 3-10- Sampler: D/A/h
 Sample Time: Start: 0821-0827 Stop: _____
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____
 Canister Serial No.: 2391
 Flow Controller Serial No.: 0324

Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

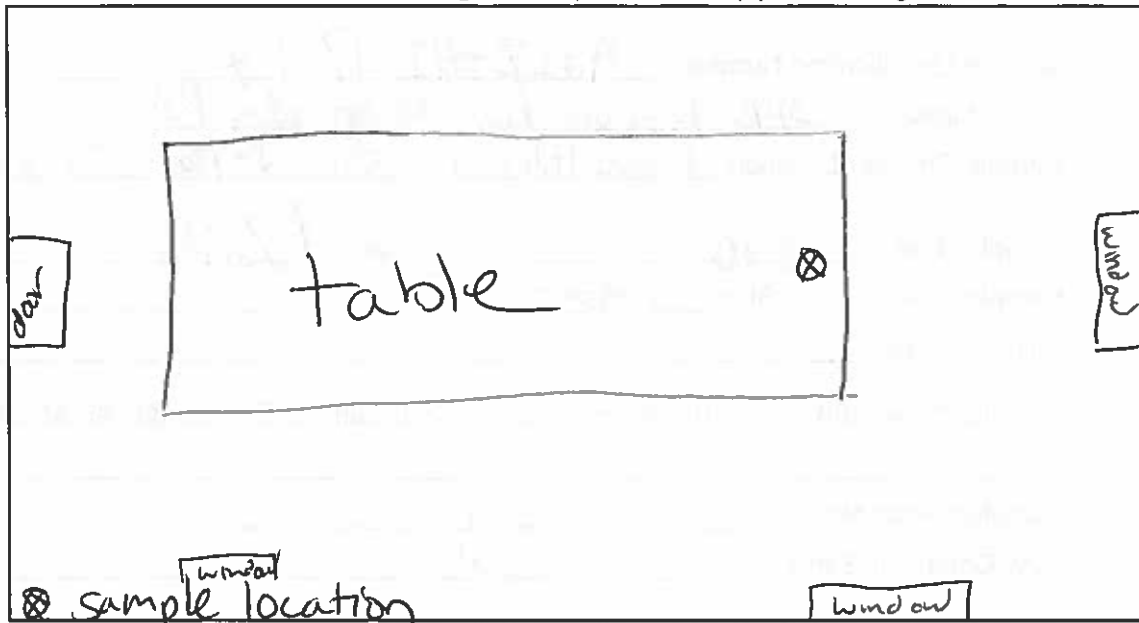
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46</u>	<u>61.8</u>		<u>67</u>
Barometric Pressure	<u>29.97</u>		<u>30.9</u>	
Canister Pressure Gauge Reading:	<u>-24^{AC}</u>	<u>-29</u>	<u>-7+</u>	
Time:	<u>0821^{AC}</u>	<u>0827</u>	<u>0827</u>	
PID Reading:	<u>0</u>		<u>0</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☐ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

Sample collect at end of conference table near
window in room 232

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AD12-AI-17-18

Site Address: Bldg 5920 Bio Area

Sample Canister Location: Main Hall

Sample Date: 3/11/17 Sampler: KL

Sample Time: Start: 803 Stop: 1612

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Pack 10-Can

Canister Serial No.: 2297

Flow Controller Serial No.: FL 1081

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23</u>	<u>72.5 °F</u>	<u>28</u>	<u>71.5</u>

	Start	Stop
Barometric Pressure	<u>30.41 in Hg</u>	<u>30.38</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>21.0 in Hg</u>	<u>-6</u>

	Start	Stop
Time:	<u>803</u>	<u>1612</u>

	Start	Stop
PID Reading:	<u>113</u>	<u>235</u>

Basement Depth (ft below grade): —

Window Marked: Yes/No

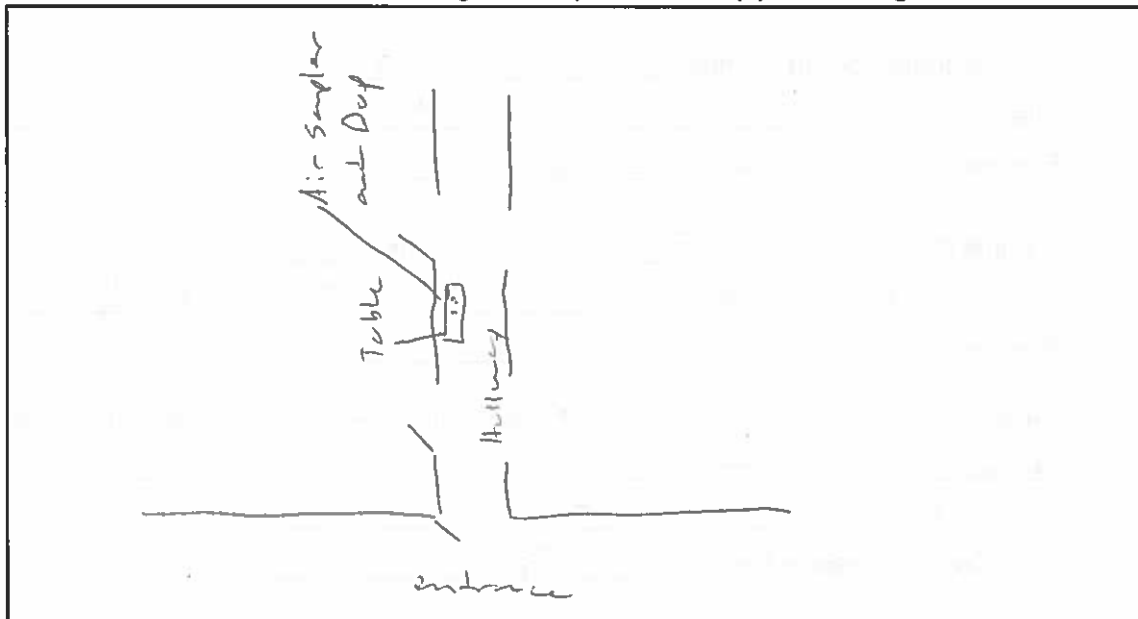
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler placed in hallway on table

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A012-AI-17-18 DUP

Site Address: Bldg 5920 Bldg Area

Sample Canister Location: DUP

Sample Date: 3/11/17 Sampler: KC

Sample Time: Start: 805 Stop: 1612

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Resnek To Can

Canister Serial No.: 2188

Flow Controller Serial No.: FL0225

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23</u>	<u>72.5°F</u>	<u>28</u>	<u>71.85</u>

	Start	Stop
Barometric Pressure	<u>30.91 in. Hg</u>	<u>30.38</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>29.0 in. Hg</u>	<u>-4</u>

	Start	Stop
Time:	<u>805</u>	<u>1612</u>

	Start	Stop
PID Reading:	<u>113</u>	<u>230</u>

Basement Depth (ft below grade): —

Window Marked: Yes/No

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler placed in hallway, on table.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI2-AI-17-19

Site Address: Bldg 6024 Control Room

Sample Canister Location: Break room

Sample Date: 3/11/17 Sampler: KC

Sample Time: Start: 845 Stop: 1645

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Perkin Elmer To-Can

Canister Serial No.: 2166

Flow Controller Serial No.: FL 0399

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23</u>	<u>69.1°F</u>	<u>28</u>	<u>67.5</u>

	Start	Stop
Barometric Pressure	<u>30.42 in Hg</u>	<u>30.38</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>320 + in Hg</u>	<u>-4</u>

	Start	Stop
Time:	<u>845</u>	<u>1645</u>

	Start	Stop
PID Reading:	<u>454 ppb</u>	<u>565</u>

	Start	Stop
Basement Depth (ft below grade):	<u>—</u>	<u>—</u>

	Start	Stop
Window Marked:	<u>Yes/No</u>	<u>—</u>

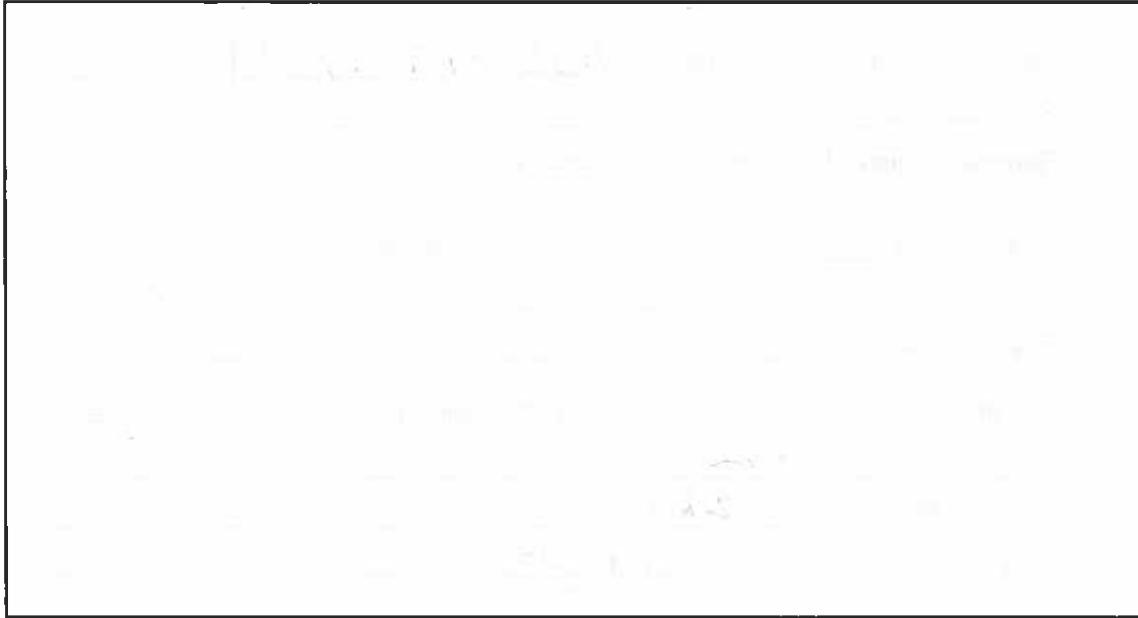
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

John Bomhoff said I did not require a work permit)
to place the air sampler

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI2-AI-17-20
 Site Address: BIO/BFW Control Room (6228)
 Sample Canister Location: Control Room

 Sample Date: 3/11/17 Sampler: KC
 Sample Time: Start: 756 Stop: 1610
 Shipping Date: _____

 Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):
Pestek To-Can
 Canister Serial No.: 2710
 Flow Controller Serial No.: FL0258

 Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

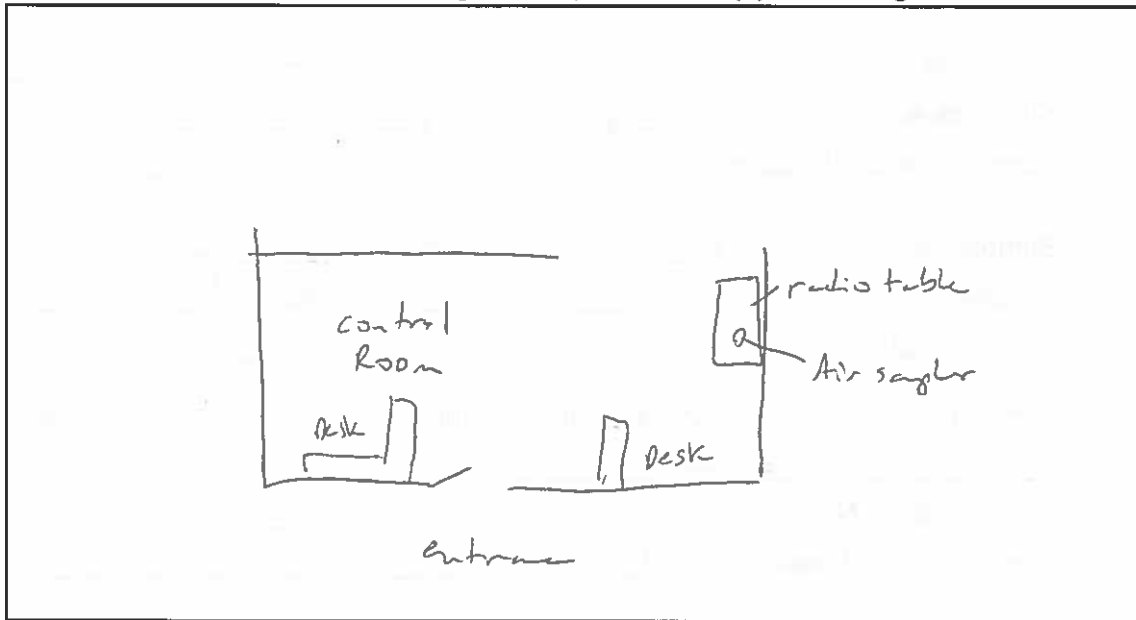
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23</u>	<u>69.5°F</u>	<u>28</u>	<u>65.5</u>
Barometric Pressure	<u>30.12 in Hg</u>		<u>30.38</u>	
Canister Pressure Gauge Reading:	Start <u>756 29.0 in Hg</u>		Stop <u>-8"</u>	
Time:	<u>756</u>		<u>1610</u>	
PID Reading:	<u>568 ppb</u>		<u>-411 ppb</u>	
Basement Depth (ft below grade):	<u>—</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Bob Monzo wrote a work permit that covers the area, including 5928 and 6228. Air sampler located on radio table in control room.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOT 2-AA-17-01

Site Address: Gate Area AOT 5th MCC

Sample Canister Location: Ambient

Sample Date: 3/11/17 Sampler: KC

Sample Time: Start: 738 Stop: 1605

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister/Other (specify): _____

Canister Serial No.: 2062

Flow Controller Serial No.: FC1073

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23.1</u>	<u>—</u>	<u>28</u>	<u>—</u>

Barometric Pressure	<u>30.41</u>	<u>30.36</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>24.07 in Hg</u>	<u>-4</u>
Time:	<u>738</u>	<u>1605</u>
PID Reading:	<u>71 ppb</u>	<u>0.0</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

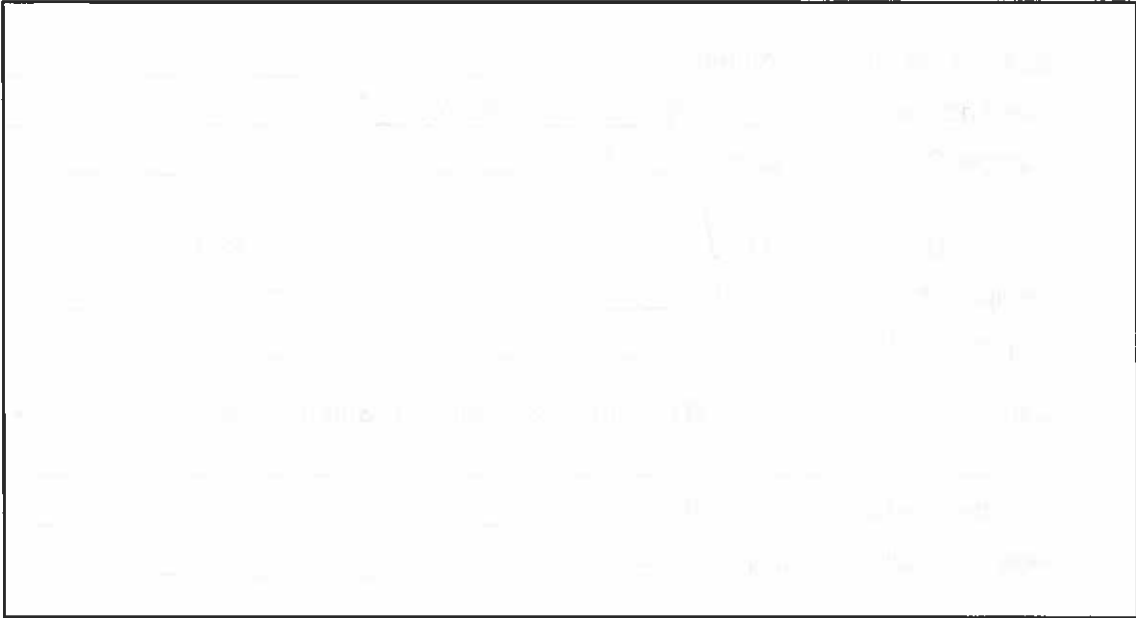
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI3-AI-17-01
Site Address: 3141 Passunk Ave, Philadelphia, PA
Sample Canister Location: AOI3- 3324 Building - Lunch Area Lunch
Sample Date: 3-9-17 Sampler: Danovan Young
Sample Time: Start: 0656 Stop: 1456
Shipping Date: _____
Canister Type: 400 mL – 1.0 L Summa Canister/ 6 L Summa Canister Other (specify): _____

Canister Serial No.: 852
Flow Controller Serial No.: 00905
Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

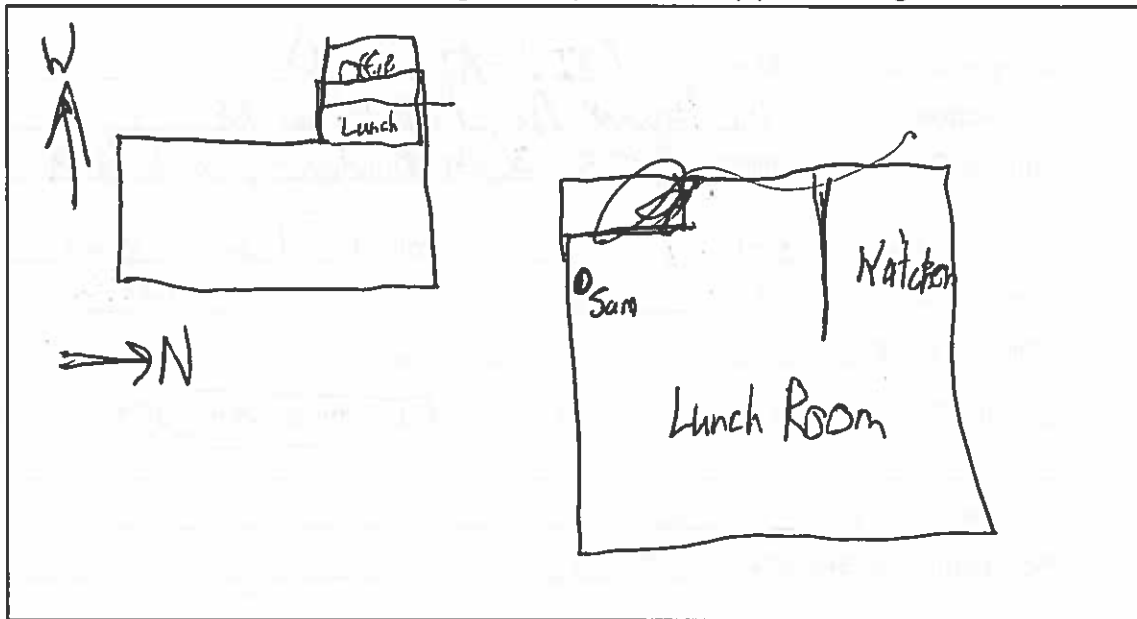
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>72.0</u>	<u>67</u>	<u>75.4</u>
Barometric Pressure	<u>30.21</u>		<u>30.11</u>	
Canister Pressure Gauge Reading:	Start <u>-30+</u>		Stop <u>-6+</u>	
Time:	<u>0656</u>		<u>1456</u>	
PID Reading:	<u>0.034</u>		<u>0.0 ppm</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Central Warehouse - Lunch Area SW Corner

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADI3-AI-17-02

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: ADI-3-3324 Building - Near Seal/Safety Store ~~Safety Store~~

Sample Date: 3-9-17 Sampler: Donovan Young

Sample Time: Start: 0700 Stop: 1505

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 3813

Flow Controller Serial No.: 02126

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>72.2</u>	<u>67</u>	<u>77.0</u>

Barometric Pressure	<u>30.21</u>	<u>30.11</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30⁺</u>	<u>22 (1.9)</u>

Time:	<u>0700</u>	<u>1505</u>
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PID Reading:	<u>0.0</u>	<u>0.0</u>
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Basement Depth (ft below grade):	<u>0</u>
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Window Marked:	<u>Yes/No</u>
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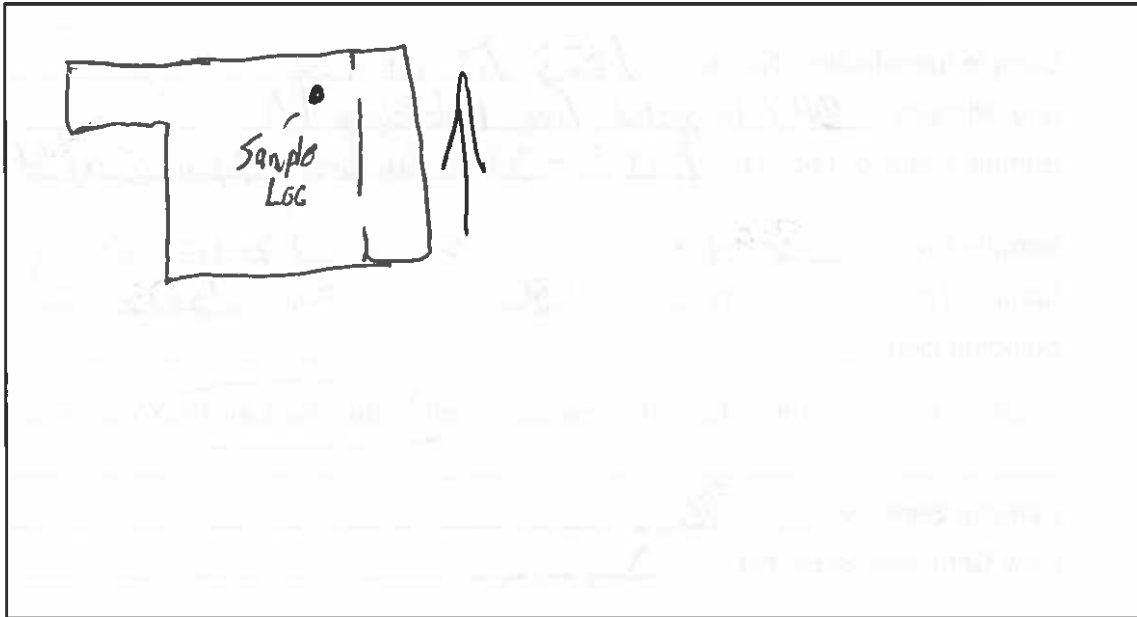
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Clear Sunny, Cool, Windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Central Warehouse - Near old Seal/Safety Store in
NE corner of warehouse

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A013-AI-17-03
 Site Address: 3144 Passyunk Ave Philadelphia PA GFF-L
 Sample Canister Location: A013-3324 Bldg - 1st floor Office next to lunch area
 Sample Date: 3-9-17 Sampler: Donovan Young
 Sample Time: Start: 0658 Stop: 1458
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister (6 L Summa Canister) Other (specify): _____
 Canister Serial No.: 3814
 Flow Controller Serial No.: 04532

Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

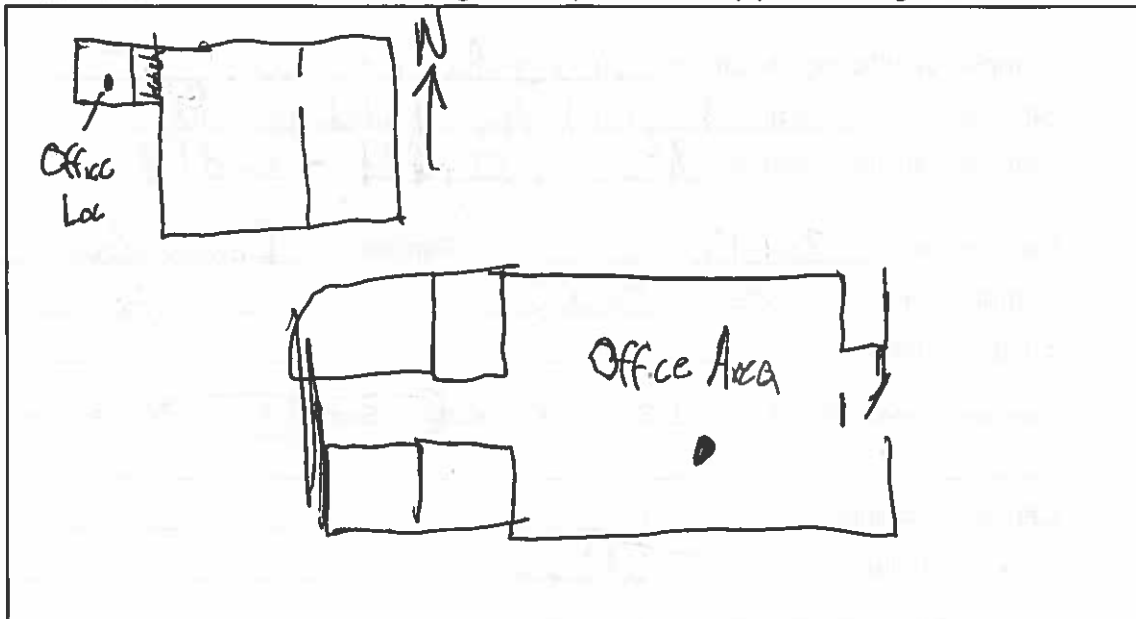
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>73.1</u>	<u>67</u>	<u>76.3</u>
Barometric Pressure	<u>30.21</u>		<u>30.12</u>	
Canister Pressure Gauge Reading:	Start <u>-30⁺</u>		Stop <u>-7⁺</u>	
Time:	<u>0658</u>		<u>1458</u>	
PID Reading:	<u>0.0</u>		<u>0.0</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Central Warehouse - Office area ~~12~~ Cubicle 12

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI3-AI-17-04
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: AOI3- 3324 Bldg (Central Warehouse) - Open Area on East Side
 Sample Date: 3-9-17 Sampler: Jarvis Young
 Sample Time: Start: 0707 Stop: 1507
 Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 863

Flow Controller Serial No.: ~~863~~ 01029

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>76.9</u>	<u>67</u>	<u>77.9</u>
Barometric Pressure	<u>30.21</u>		<u>30.11</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30⁺</u>	<u>-4⁺</u>
Time:	<u>0707</u>	<u>1507</u>
PID Reading:	<u>0.8</u>	<u>0.0</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

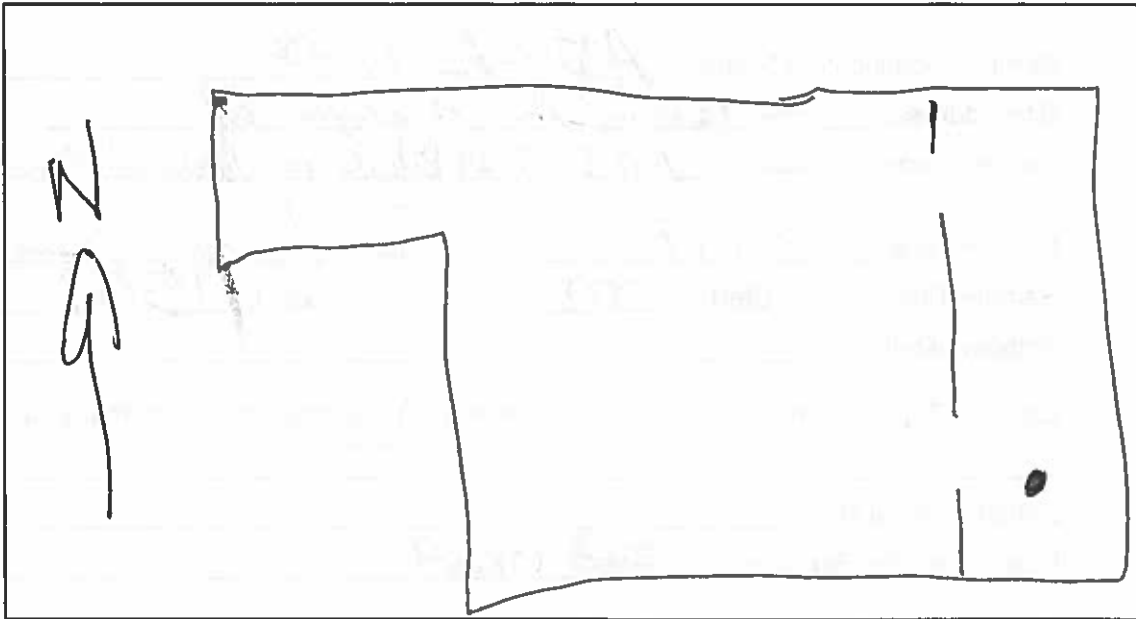
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Central Warehouse - Open Area Warehouse Area on East Side
SE Corner

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI3-AI-17-155
 Site Address: 3144 Passyunk Ave, Philadelphia PA
 Sample Canister Location: AOI3-3324 Bldg (Central Warehouse) - Open Warehouse On East Side (Duplicate)
 Sample Date: 3-9-17 Sampler: Dan van Young
 Sample Time: Start: 0707 Stop: _____
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 853
 Flow Controller Serial No.: 02076
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

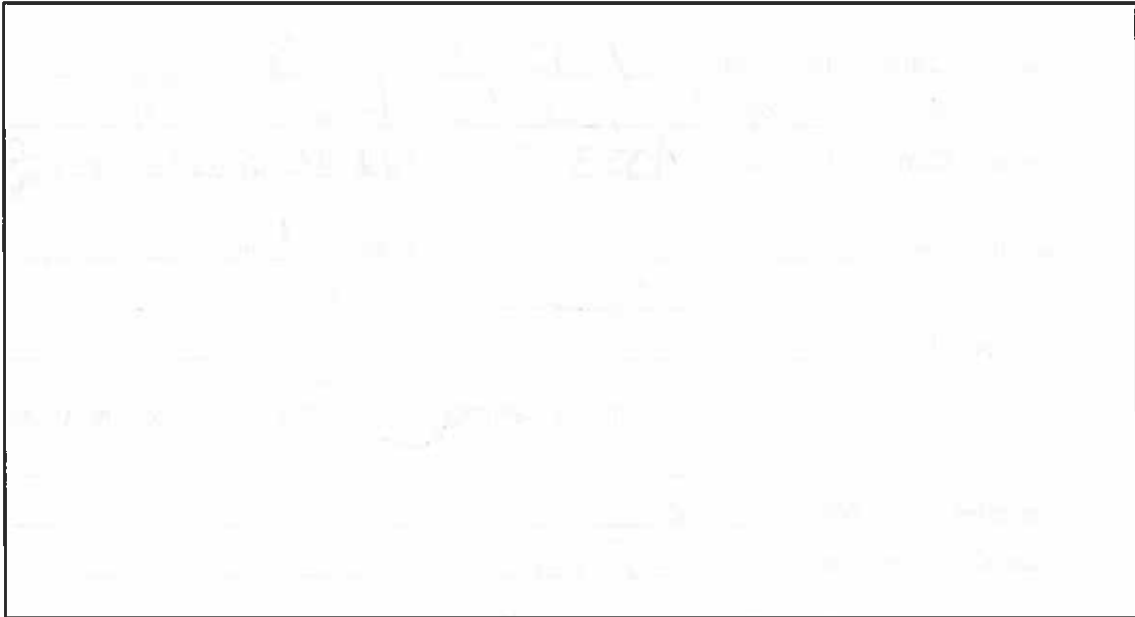
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>76.9</u>	<u>67</u>	<u>72.9</u>
Barometric Pressure	<u>30.21</u>		<u>30.11</u>	
Canister Pressure Gauge Reading:	Start <u>-29</u>		Stop <u>0.0</u>	
Time:	<u>0707</u>		<u>1446</u>	
PID Reading:	<u>0.0</u>		<u>0.0</u>	
Basement Depth (ft below grade):	_____			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Same as 04

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI3-AI-17-06
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: AOI3 - 3324 Bldg (Central Warehouse) - Shipping/Receiving Warehouse
 Sample Date: 3-9-17 Sampler: Danovan Young
 Sample Time: Start: 0703 Stop: 1503
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify): _____
 Canister Serial No.: 866
 Flow Controller Serial No.: 02131
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

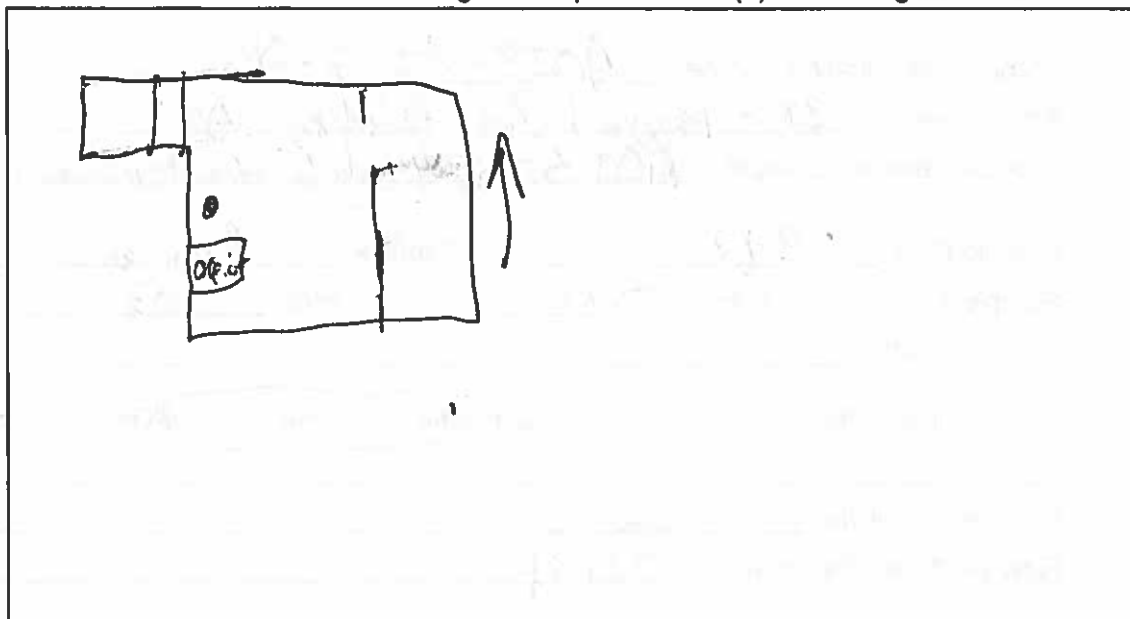
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>65.4</u>	<u>67</u>	<u>75.5</u>
Barometric Pressure	<u>30.21</u>		<u>30.11</u>	
Canister Pressure Gauge Reading:	Start: <u>-30⁺</u>		Stop: <u>-2</u>	
Time:	<u>0703</u>		<u>1503</u>	
PID Reading:	<u>0.0 ppm</u>		<u>0.8</u>	
Basement Depth (ft below grade):	<u>2</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Central Warehouse - Front Shipping/Receiving Warehouse
West Side of Warehouse; ~~near~~ N of Garage Entrance

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A013-AI-17-07
 Site Address: 3144 Passyunk Ave., Philadelphia, PA
 Sample Canister Location: A01-3 ~~Here~~ Contractor's Trailers - Trailer 13/TechSolv
 Sample Date: 3-9-17 Sampler: Danovan Young
 Sample Time: Start: 0641~~08~~ Stop: 1448
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 1648
 Flow Controller Serial No.: FC0307

Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

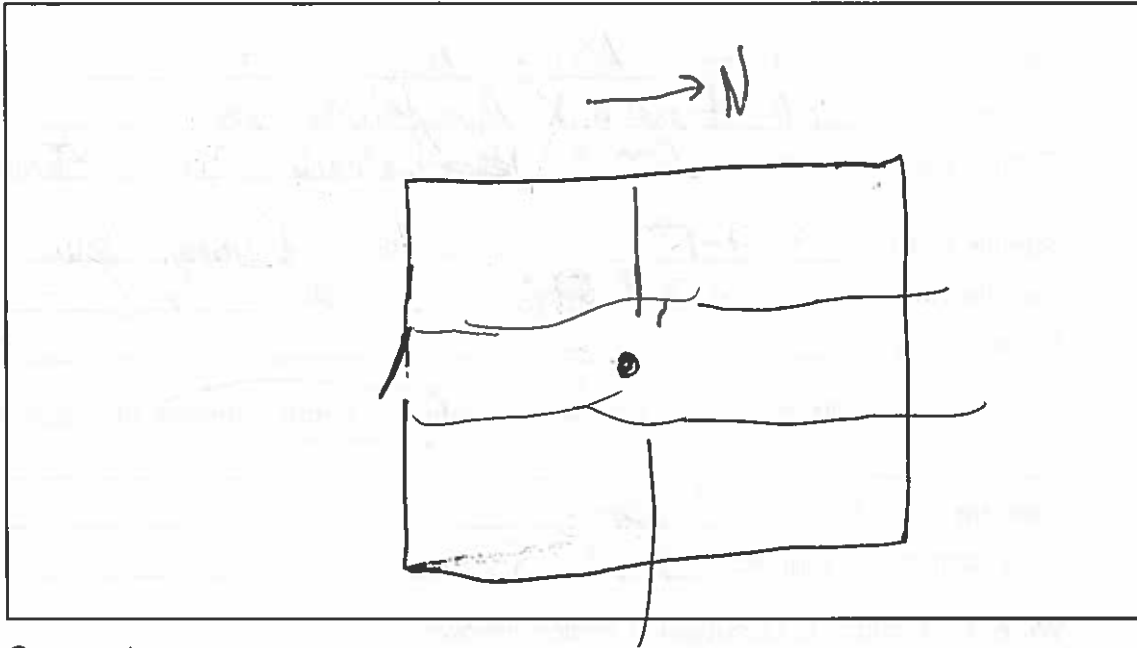
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>70.4</u>		<u>77.0</u>
Barometric Pressure	<u>30.71</u>		<u>30.11</u>	
Canister Pressure Gauge Reading:	<u>-30⁺</u>		<u>-4⁺</u>	
Time:	<u>064108</u>		<u>0 1448</u>	
PID Reading:	<u>0.0</u>		<u>0.0</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear, Cool, Sunny, Windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Contractor Trailers - Near Central Warehouse - Trailer 13/
Tech/Solv - Center ~~area~~ Hallway near Lockers

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: A013-AI-17-08
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: A013-3324 (Central Warehouse) Contractor Trailers North of Central Warehouse
 Sample Date: 3-9-17 Sampler: Danavan Yana
 Sample Time: Start: 0757 Stop: 1608
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: N3173
 Flow Controller Serial No.: FC0342

Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>67.5</u>	<u>67</u>	<u>74.2</u>
Barometric Pressure	<u>30.20</u>		<u>30.08</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30</u>	<u>-4</u>
Time:	<u>0757</u>	<u>1608</u>
PID Reading:	<u>0.000ppm</u>	<u>0.0</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Contractor Trailers North of Central Warehouse

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A03-AI-17-09

Site Address: 3144 Passyunk Ave

Sample Canister Location: A013 - Main Contractor

Sample Date: 3-10-17 Sampler: Donavan Young

Sample Time: Start: 0604 Stop: 1335

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/ 6 L Summa Canister Other (specify): _____

Canister Serial No.: 3403

Flow Controller Serial No.: 02072

Were "Instructions to Occupants Building" followed?

☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>59.44</u>	<u>70.1</u>	<u>38</u>	<u>79.3</u>

	Start	Stop
Barometric Pressure	<u>30.06</u>	<u>30.02</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>27</u>	<u>0.0</u>

	Start	Stop
Time:	<u>0604</u>	<u>1335</u>

	Start	Stop
PID Reading:	<u>0.0</u>	<u>0.0</u>

Basement Depth (ft below grade): —

Window Marked: Yes/No

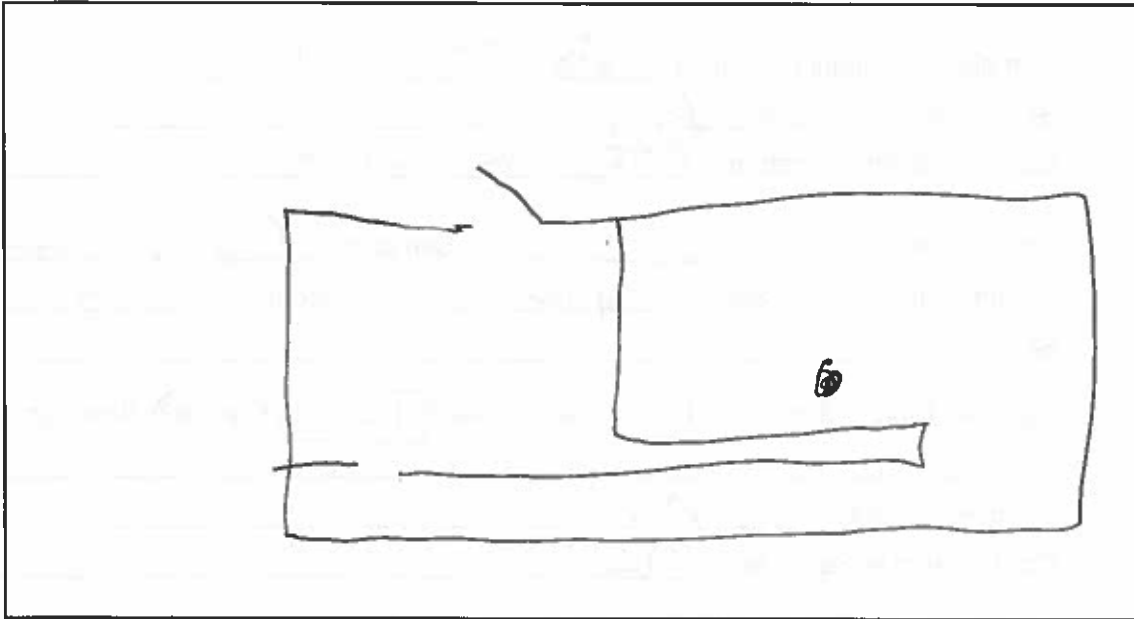
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cdd, Rain/Snowy Overcast

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

AOI 3 - ~~AB~~ - Main Contractor Trailer

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AD13-AA-17-01
Site Address: 3144 Passyunk Ave Philadelphia PA
Sample Canister Location: AD13- AMBIENT SW Corner of Warehouse
Sample Date: 3-9-17 Sampler: Dohovan Young
Sample Time: Start: 0726 Stop: 1455
Shipping Date: _____
Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
Canister Serial No.: 1395
Flow Controller Serial No.: 710568 Eurofin
Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>58.3</u>	<u>58.3 58.3</u>	<u>76.3</u>	<u>76.3</u>
Barometric Pressure	<u>30.22</u>		<u>30.12</u>	

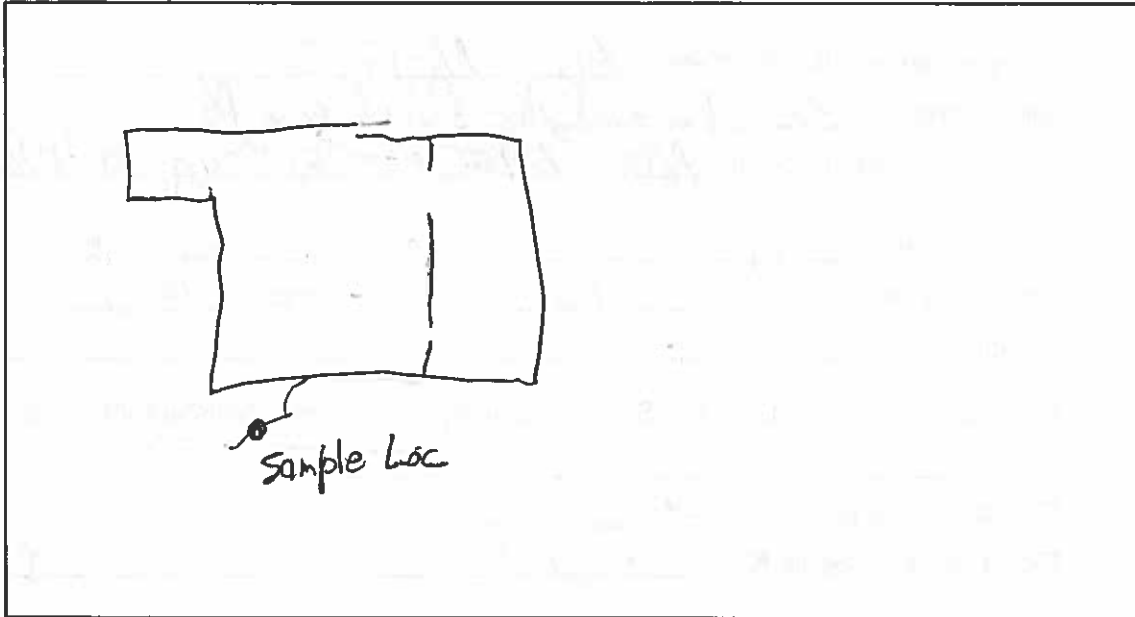
	Start	Stop
Canister Pressure Gauge Reading:	<u>-30</u>	<u>0.0</u>
Time:	<u>0726</u>	<u>0726 1455</u>
PID Reading:	<u>0.0 ppm</u>	<u>0.0</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear Cool, Sunny, Windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

AMBIENT, SW Corner of Warehouse

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADT4-AI-17-01

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: ADT 4 - Pump House 15 - Inside **EBB**

Sample Date: 3-9-17 Sampler: Donovan Young

Sample Time: Start: 0840 Stop: 1640

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: N1339 (94)

Flow Controller Serial No.: FC1014

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>72.2</u>	<u>69.7</u>	<u>74.1</u>

	Start	Stop
Barometric Pressure	<u>30.21</u>	<u>30.09</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-29</u>	<u>-52</u>

	Start	Stop
Time:	<u>0840</u>	<u>1640</u>

	Start	Stop
PID Reading:	<u>0.00 ppm</u>	<u>0.0</u>

Basement Depth (ft below grade): _____

Window Marked: Yes/No

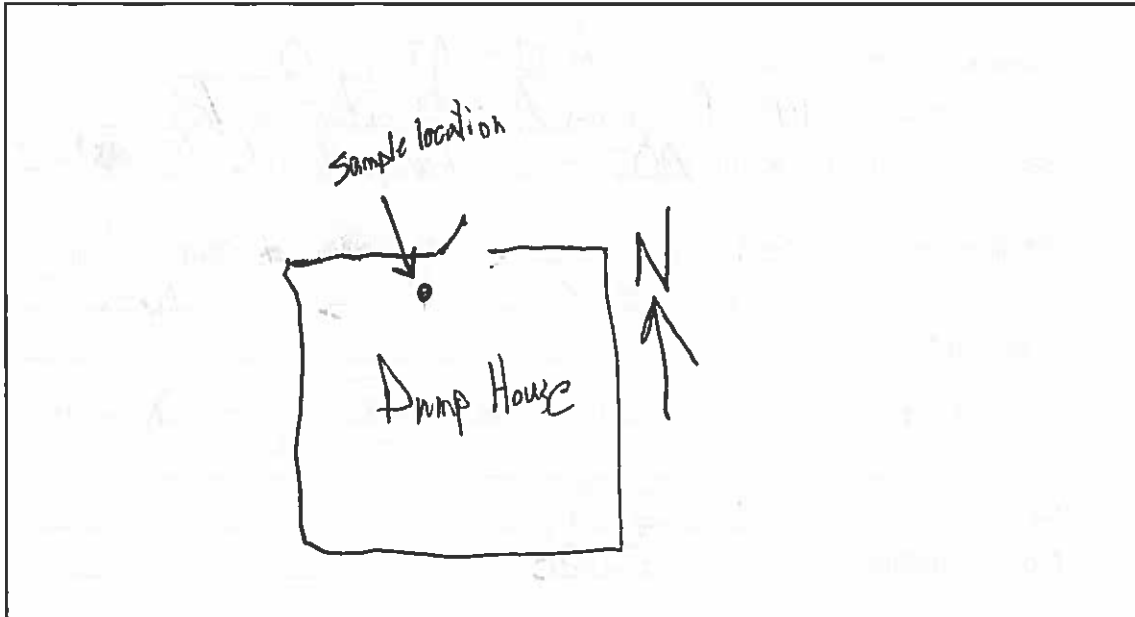
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments :

Inside Pump House IS on desk on North Side
Near Entrance

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AA-17-01
AOI-4-~~17~~
 Site Address: 3144 Passyunk Ave, Philadelphia PA
 Sample Canister Location: AOI-4 - AMBIENT - Outside Pump House
 Sample Date: 3-9-17 Sampler: Donovan Young
 Sample Time: Start: 0842 Stop: 1642
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister/ 6 L Summa Canister / Other (specify): _____
 Canister Serial No.: N1344 (99)
 Flow Controller Serial No.: FC0514

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>69.8 70.8</u>	<u>69.7</u>	
Barometric Pressure	<u>30.21</u>		<u>30.09</u>	
Canister Pressure Gauge Reading:	Start <u>0.42 -30+</u>		Stop <u>5</u>	
Time:	<u>0842</u>		<u>1642</u>	
PID Reading:	<u>0.0 ppm</u>		<u>0.0</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

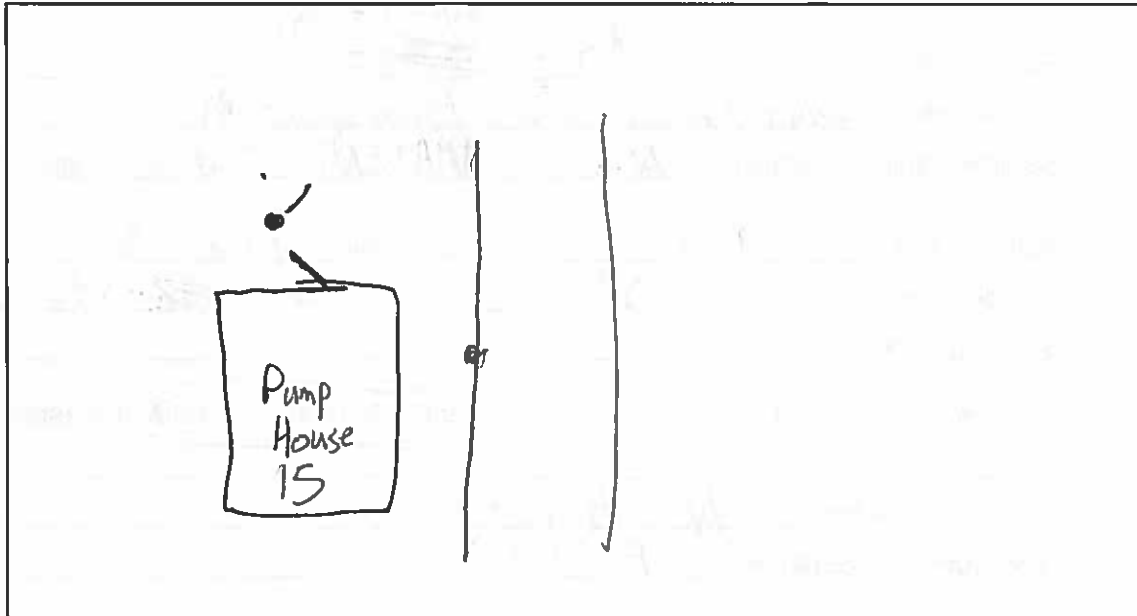
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy
Odor

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

North of Pump House 15 (Ambient)

Noticeable odor ~~from nearby~~ possibly from nearby discolored valves & piping. One valve all black with residue

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOIS-BAT-17-01

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: AOIS-501 Bldg - North Office Heart
near CR

Sample Date: 3-10-17 Sampler: DK

Sample Time: Start: 0641 Stop: 1442

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 1430 (872)

Flow Controller Serial No.: FC0532

Were "Instructions to Occupants Building" followed?
☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	<u>52.0</u>	<u>37</u>	<u>65.1</u>

Barometric Pressure	<u>30.06</u>	<u>30.03</u>
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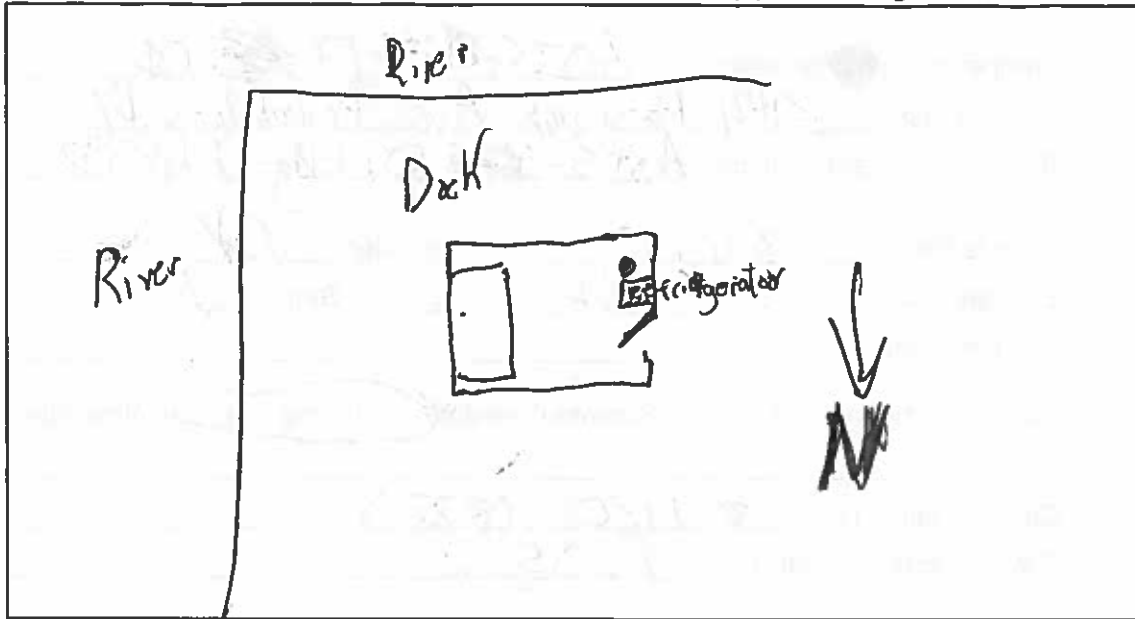
	Start	Stop
Canister Pressure Gauge Reading:	<u>-30+</u>	<u>-4</u>
Time:	<u>0641</u>	<u>1442</u>
PID Reading:	<u>0.0</u>	<u>0.0 ppm</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Rain/Snow, Cold, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

AOT5- SGI Bldg - Wharf Deck Office (closest to
control room) SW Corner of Room

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOIS-AI-17-02

Site Address: 3144 Passyunk Ave, Philadelphia PA

Sample Canister Location: AOIS-~~12~~ 517 Bldg - Blending & Shipping Office
Bulk Oil Dept Office

Sample Date: 3-15-17 Sampler: Danovan Young

Sample Time: Start: 0707 Stop: _____

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: N1353 (108)

Flow Controller Serial No.: FC0224

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	<u>70.7</u>	<u>37</u>	<u>77.1</u>

Barometric Pressure	<u>30.04</u>	<u>33.03</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30"</u>	<u>-4</u>

Time:	<u>0707</u>	<u>1507</u>
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PID Reading:	<u>0.0ppm</u>	<u>0.00ppm</u>
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Basement Depth (ft below grade): _____

Window Marked: Yes/No

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

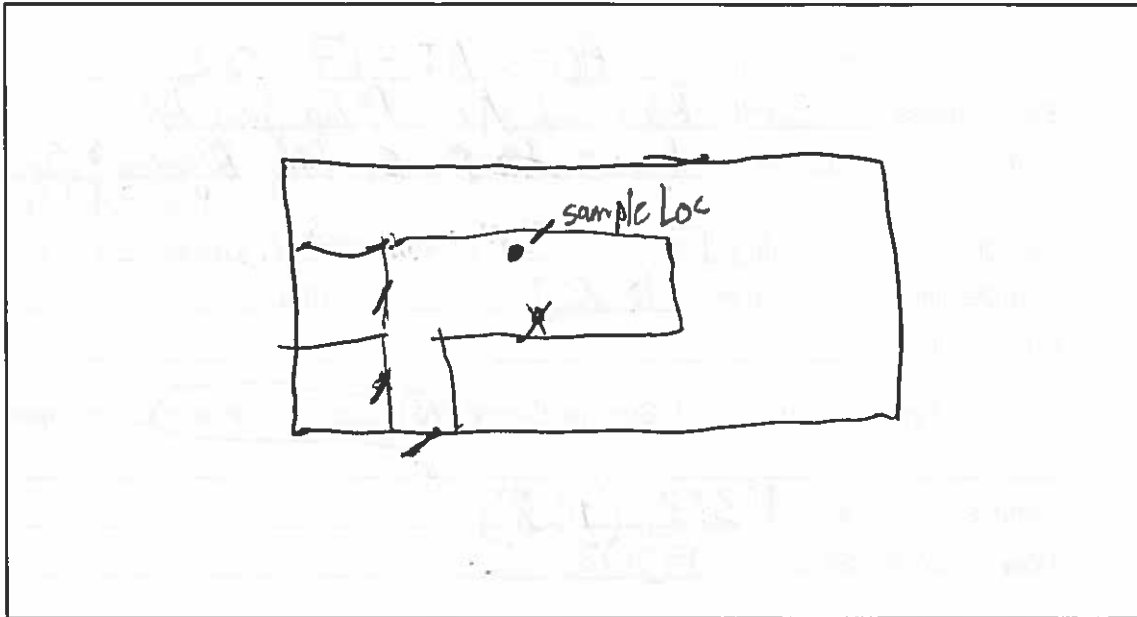
☐ Yes ☒ No

Describe the general weather conditions: Rain, Cold, Overcast, Snow

Kop. Chad Naggy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

517 Bldg - Blending + Shipping Office - Bulk Oil Dept Office, N side

No Permit Req'd - Chad Naggy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: ADIS-AI-17-03
 Site Address: 3144 Passyunk Ave. Philadelphia PA
 Sample Canister Location: ADIS-526 Bldg - Wharf Deck Office - 1st Floor
 Sample Date: 3-10-17 Sampler: Donovan Young
 Sample Time: Start: 650 Stop: 1450
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: (92)
 Flow Controller Serial No.: FC1060
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

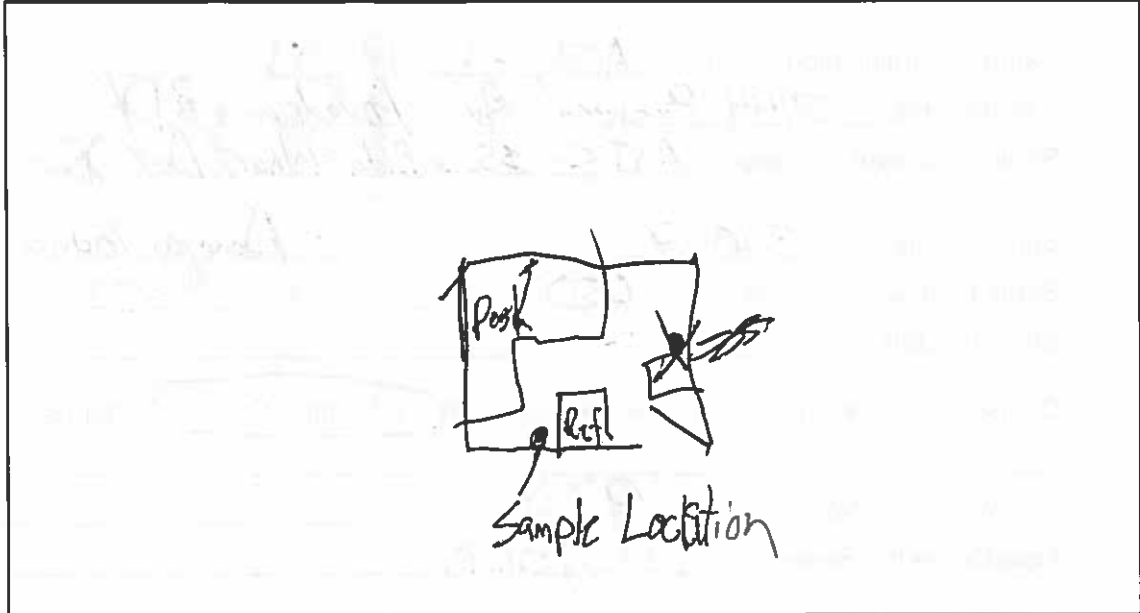
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	<u>67.2</u>	<u>37</u>	<u>59.7</u>
Barometric Pressure	<u>30.06</u>		<u>30.02</u>	
Canister Pressure Gauge Reading:	<u>-30⁺</u>		<u>-5</u>	
Time:	<u>650</u>		<u>1450</u>	
PID Reading:	<u>0.0ppm</u>		<u>0.0ppm</u>	
Basement Depth (ft below grade):	<u>2</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Rain/Snow, Cold, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

AOTIS - 526 Bldg - Ceftex

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: ADJ-5-AI-17-04
 Site Address: 3144 Passyunk Ave, Philadelphia PA
 Sample Canister Location: ADJ-5 - 5216 Bldg - h/h of Dock Office 2nd Floor
 Sample Date: 3-18-17 Sampler: Donovan Young
 Sample Time: Start: 6:45 Stop: 11:46
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify): _____
 Canister Serial No.: 5732 (1250)
 Flow Controller Serial No.: FC1032
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	<u>54</u>	<u>37</u>	<u>51.7</u>
Barometric Pressure	<u>30.05</u>		<u>30.01</u>	
Canister Pressure Gauge Reading:	Start <u>-29</u>		Stop <u>-5</u>	
Time:	<u>6:45</u>		<u>11:46</u>	
PID Reading:	<u>0.8</u>		<u>1528 ppm</u>	
Basement Depth (ft below grade):	<u>✓</u>			
Window Marked:	<u>Yes/No</u>			

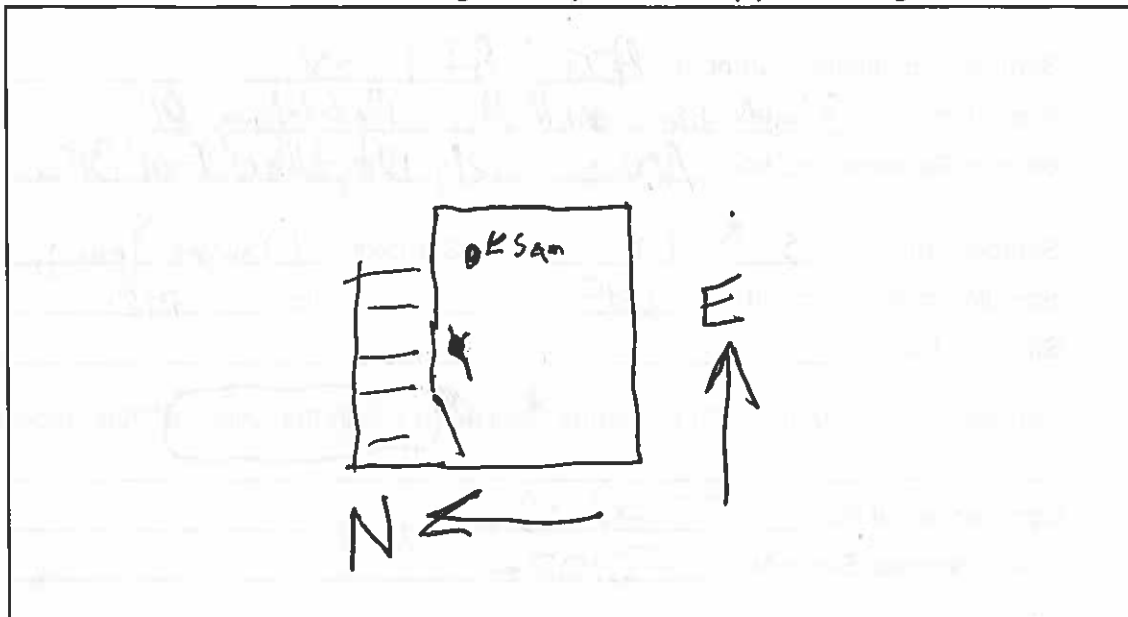
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cold, Rain/Snow, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Wharf Dock Office - 526 Bldg - 2nd Floor, NW Corner

Convent work going on

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AE-17-05

Site Address: 3744 Passyunk Ave, Philadelphia, PA

Sample Canister Location: AE-625 Bldg - Control Room Near Railroad

Sample Date: 3-10-17 Sampler: Donovan Young

Sample Time: Start: 0632 Stop: 14:35

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: A7903 (2017)

Flow Controller Serial No.: FC0105

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	<u>71.0</u>	<u>37</u>	<u>63.5</u>

Barometric Pressure	<u>30.04</u>	<u>30.03</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30+</u>	<u>-4</u>

Time:	<u>0632</u>	<u>14:35</u>
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PID Reading:	<u>0.0 ppm</u>	<u>0.0</u>
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Basement Depth (ft below grade):	<u>-</u>
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Window Marked:	<u>Yes/No</u>
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Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

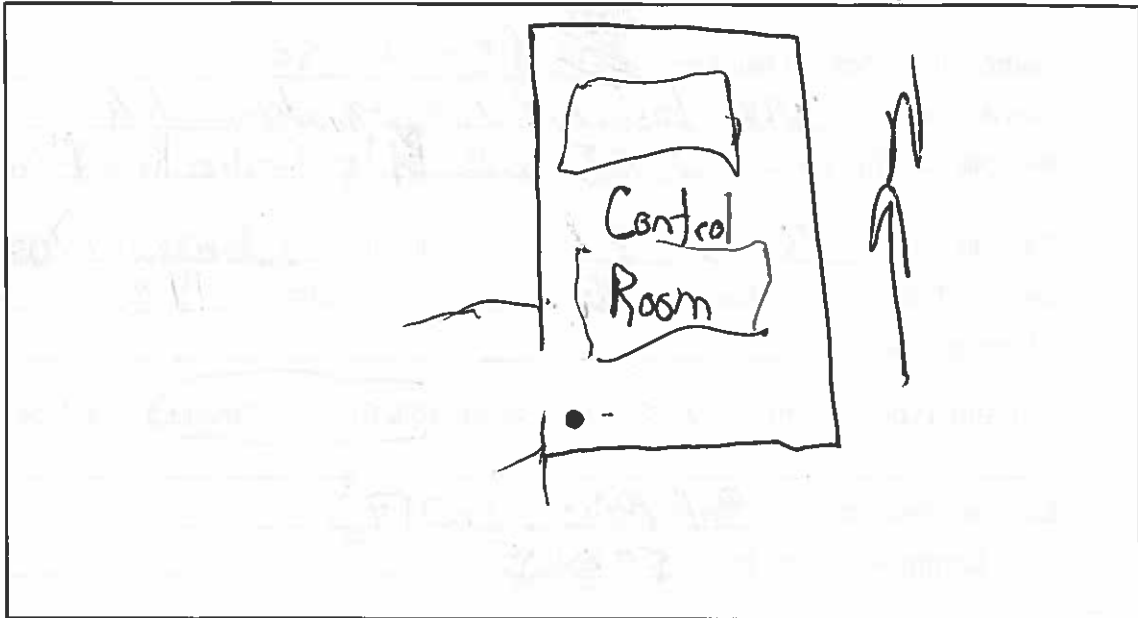
☐ Yes ☒ No

Describe the general weather conditions: Rain/Snow, Cold, Overcast

Ray Holland

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

AOI 5 - 425 Bldg - Near Railroad - Control Room
SW Corner near Entrance

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADIS-AI-17-06
 Site Address: 3144 Passynak Ave Philadelphia
 Sample Canister Location: ADIS-SUMPH034A/B- Double Trailer w/ 3rd Party
 Sample Date: 3-10-17 Sampler: DY/AM
 Sample Time: Start: 0704 Stop: 1504
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify): _____
 Canister Serial No.: FE N1330 (85)
 Flow Controller Serial No.: 1126 FC 1016
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	<u>69.6</u>	<u>37</u>	<u>80.6</u>
Barometric Pressure	<u>30.63</u>		<u>30.02</u>	
Canister Pressure Gauge Reading:	Start <u>-30+</u>		Stop <u>-5</u>	
Time:	<u>0704</u>		<u>1504</u>	
PID Reading:	<u>0.0ppm</u>		<u>0.0</u>	
Basement Depth (ft below grade):	_____		_____	
Window Marked:	Yes/No _____		_____	

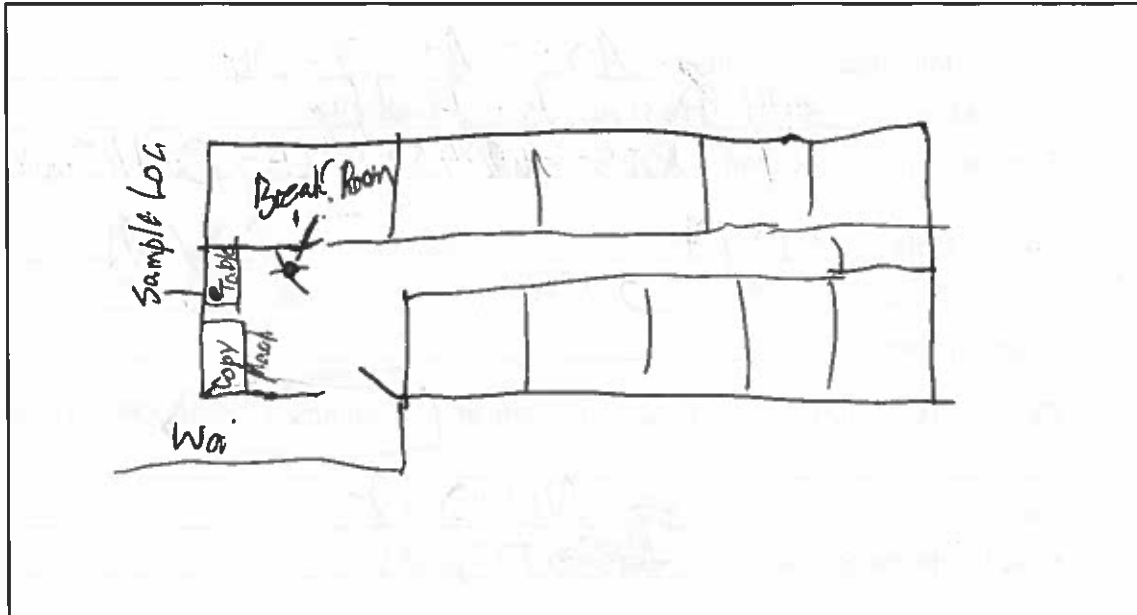
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Rain/Snow, Cold, Overcast

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

ACT. 5 - Lobby at Entrance on side;
Corner

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADIS-AI-17-087

Site Address: 344 Passyunk Ave, Philadelphia PA

Sample Canister Location: ADIS-CP Dock 2 - 1st Floor

Dock 2

Sample Date: 3-10-17 Sampler: Donovan Yanny

Sample Time: Start: 0644 Stop: 1444

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify): _____

Canister Serial No.: (2042)

Flow Controller Serial No.: 0370

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>44</u>	<u>64.6</u>	<u>37</u>	<u>85.8</u>

	Start	Stop
Barometric Pressure	<u>30.05</u>	<u>30.02</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>27"</u>	<u>-4</u>

	Start	Stop
Time:	<u>0644</u>	<u>1444</u>

	Start	Stop
PID Reading:	<u>0.0 ppm</u>	<u>0.0</u>

Basement Depth (ft below grade): —

Window Marked: Yes/No

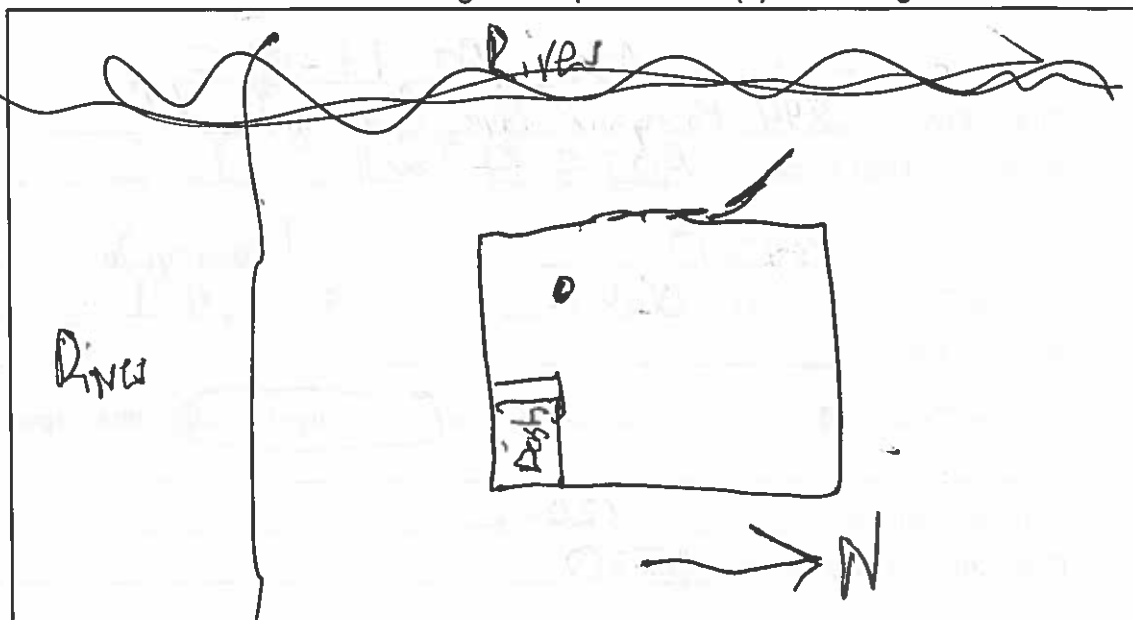
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Rain, Overcast, Cold, Snow

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

AOIS - GP Deck 2 - SW Corner

GP 10 Berth - Drop Point #277

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOIS-AA-17-01

Site Address: Bldg 517 (AOIS) Blading & Shipp. 7

Sample Canister Location: Ambient

Sample Date: 3/11/17 Sampler: 1-L

Sample Time: Start: 716 Stop: 1525

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister/Other (specify): _____

Canister Serial No.: 2062 2354

Flow Controller Serial No.: FC1075 FL0-142

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>23.1</u>	<u>—</u>	<u>29</u>	<u>—</u>

	Start	Stop
Barometric Pressure	<u>30.44 in Hg</u>	<u>30.40</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>30.0* in Hg</u>	<u>5.5 in Hg</u>
Time:	<u>716</u>	<u>7:25 1525</u>
PID Reading:	<u>43 ppb</u>	<u>6 ppb</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

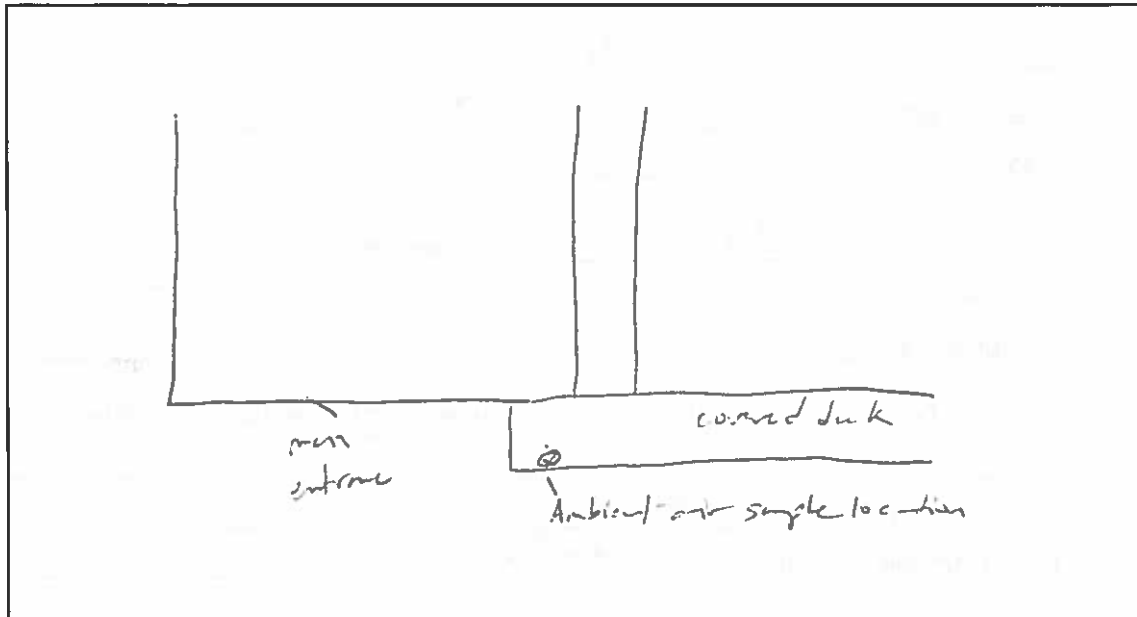
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Spoke w/ Chic Schaefer - he said that I did not need a permit to set an ambient air sampler outside. He called the area permit writer to let him know that he authorized me to do so. Ambient-air sample located on covered deck area.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: 1016-4I-17-01

Site Address: B651

Sample Canister Location: Fitness Center / Gym - 3rd Floor

Sample Date: 3/8/17 Sampler: KL

Sample Time: Start: 911 Stop: 1713

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify):

Back to Can

Canister Serial No.: 257 MKL 527

Flow Controller Serial No.: 958077

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>74.6°F</u>		<u>77.7°F</u>

	Start	Stop
Barometric Pressure	<u>30.25 in Hg</u>	<u>30.10 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-29.5 in Hg</u>	<u>-4.5 in Hg</u>

	Start	Stop
Time:	<u>911</u>	<u>1713</u>

	Start	Stop
PID Reading:	<u>258</u>	<u>173</u>

Basement Depth (ft below grade): —

Window Marked: Yes/No

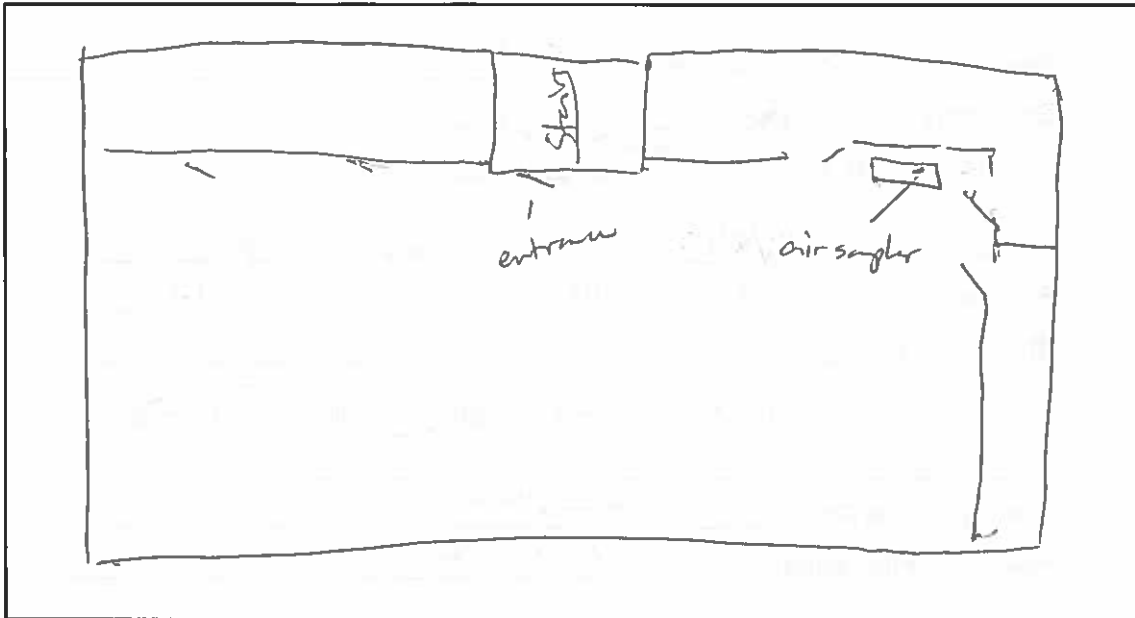
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, becoming sunny, breezy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was located on a table against the wall.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: 4016-AI-17-02

Site Address: Bldg 651 - East End 1st Floor

Sample Canister Location: Offices

Sample Date: 3/8/17 Sampler: KL

Sample Time: Start: 929 Stop: 1733

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify):

Raskin To-Can

Canister Serial No.: 1387

Flow Controller Serial No.: 840487

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>73.5°F</u>		<u>81.0°F</u>

Barometric Pressure	<u>30.24 in Hg</u>	<u>30.12 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-5.5 in Hg</u>

Time:	<u>929</u>	<u>1733</u>
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PID Reading:	<u>399 ppb</u>	<u>249 ppb</u>
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Basement Depth (ft below grade):	<u>-</u>	
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Window Marked:	<u>Yes/No</u>
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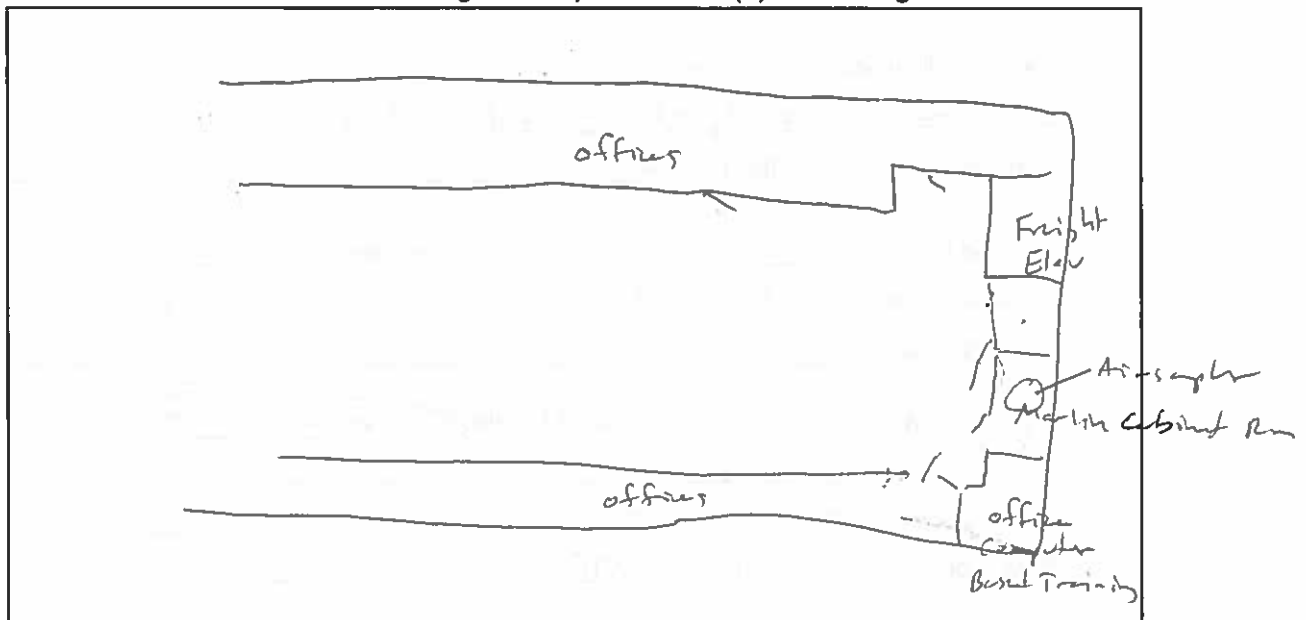
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, becoming sunny, breezy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was placed on a table in the Machine Cabinet Room the was open to the common area

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOIG-AI-177-03

Site Address: BLDG 651 - West end / 1st Floor

Sample Canister Location: Offices

Sample Date: 3/8/17 Sampler: NCL

Sample Time: Start: 9:19 AM Stop: 1723

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

DeskK TD-Can

Canister Serial No.: 1378

Flow Controller Serial No.: 675037

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52F</u>	<u>74.2°F</u>		<u>78.9°F</u>

	Start	Stop
Barometric Pressure	<u>30.25 in Hg</u>	<u>30.12 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-29.5 in Hg</u>	<u>-4.0 in Hg</u>

	Start	Stop
Time:	<u>9:20 AM NCL</u>	<u>1723</u>

	Start	Stop
PID Reading:	<u>329 ppb</u>	<u>252 ppb</u>

Basement Depth (ft below grade): -

Window Marked: Yes/No

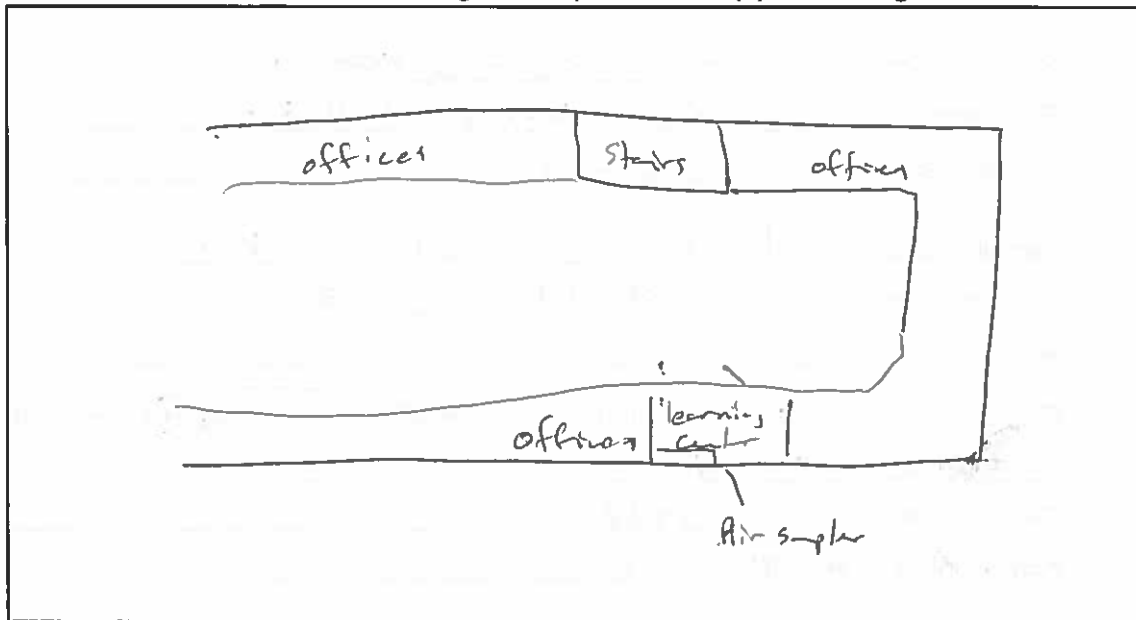
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, becoming breezy, breezy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was placed in the learning center on a table.
Door is open to common area.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOIG-AI-17-04

Site Address: Bldg 651 ^{Basement} 1st floor Offices

Sample Canister Location: Lunch area central to offices

Sample Date: 3/8/17 Sampler: KC

Sample Time: Start: 940 Stop: 1740

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/ 6 L Summa Canister / Other (specify):

Resek T-Can

Canister Serial No.: 1228

Flow Controller Serial No.: 701140

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>71.3°F</u>		<u>79.5°F</u>

Barometric Pressure	<u>30.26 in Hg</u>	<u>30.13 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-29.5 in Hg</u>	<u>-5.0 in Hg</u>

Time:	<u>940</u>	<u>1740</u>
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PID Reading:	<u>251 ppb</u>	<u>186 ppb</u>
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Basement Depth (ft below grade):	<u>—</u>	
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Window Marked:	<u>Yes/No</u>
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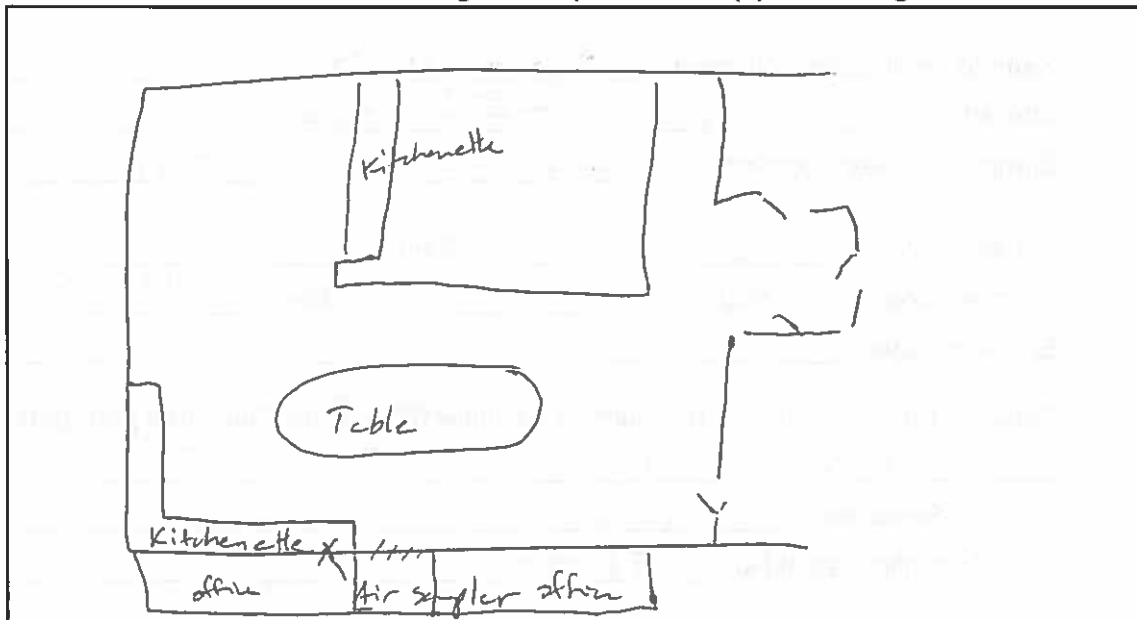
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, becoming sunny, breezy,

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler located on counter in lunch area central
to offices.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: A0I6-AI-17-05

Site Address: Trade shops (178)

Sample Canister Location: Break room, table by fridge

Sample Date: 3/8/17 Sampler: KL

Sample Time: Start: 804 Stop: _____

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):
Pestek To-can

Canister Serial No.: 1232

Flow Controller Serial No.: 958169

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>74.2</u>		

	Start	Stop
Barometric Pressure	<u>30.27 in Hg</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>-24.0 in Hg</u>	

Time:	<u>804</u>	
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PID Reading:	<u>183 ppb</u>	
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Basement Depth (ft below grade):	<u>-</u>	
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Window Marked:	<u>Yes/No</u>	
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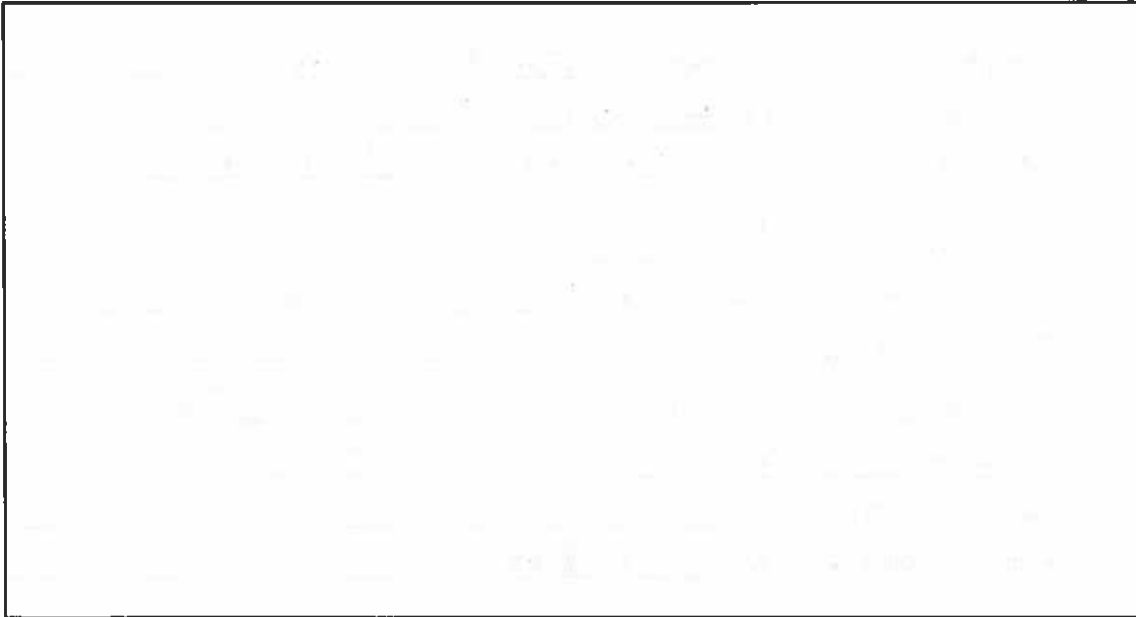
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, hazy, sunny, breeze

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

At 12:05, canister vac gauge is 0.0 in Hg. Filings all seem tight

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADIG-AI-17-05

Site Address: Trade stop (178)

Sample Canister Location: Break room

Sample Date: 8/9/17 Sampler: KC

Sample Time: Start: 7:27 Stop: 15:29

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify):

quick-connect

Canister Serial No.: 874

Flow Controller Serial No.: 32057

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50°F</u>	<u>80.1°F</u>	<u>67°F</u>	<u>82.2°F</u>

	Start	Stop
Barometric Pressure	<u>30.19 in Hg</u>	<u>30.10 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-29.0 in Hg</u>	<u>-1.0 in Hg</u>
Time:	<u>7:27</u>	<u>15:29</u>
PID Reading:	<u>39 ppb</u>	<u>45 ppb</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

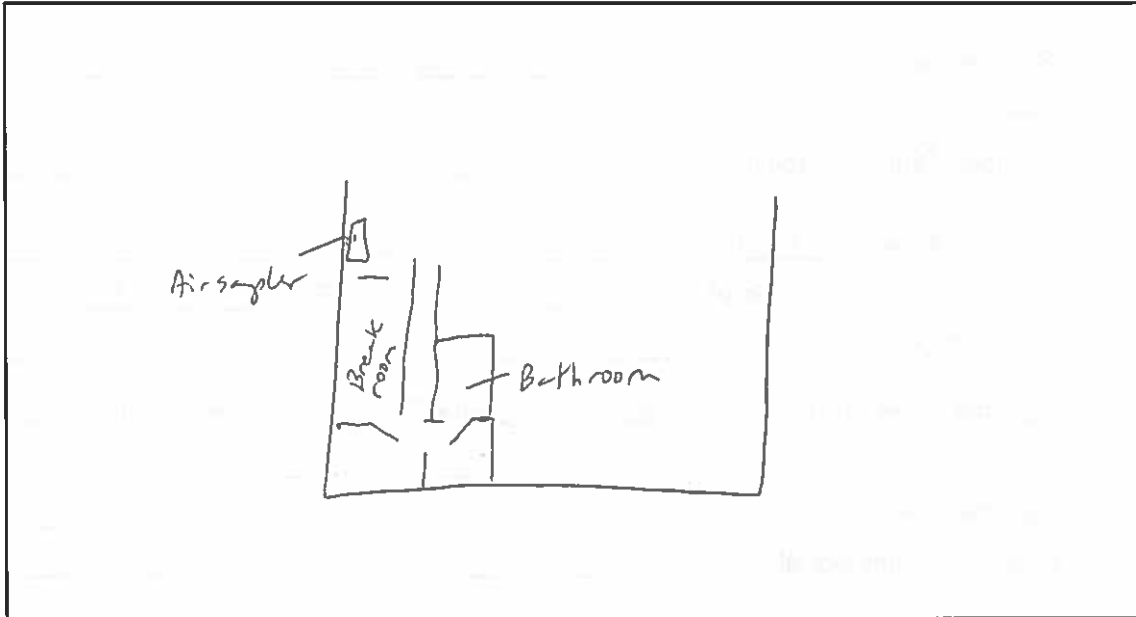
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments *Pasternak*

Mark Pestic does not require a permit to place the air sampler in the Bldg.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOIG-AI-17-06

Site Address: Bldg 295 24 GLE Bldg

Sample Canister Location: 2nd Floor

Sample Date: 3/8/12 Sampler: KL

Sample Time: Start: 955 Stop: 1755

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify):

Entech Silenite

Canister Serial No.: 3420

Flow Controller Serial No.: 01167

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>75.5°F</u>		<u>79.5°F</u>

	Start	Stop
Barometric Pressure	<u>30.24 in Hg</u>	<u>30.11 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>29.0 in Hg</u>	<u>0 in Hg</u>

Time:	<u>955</u>	<u>1755</u>
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PID Reading:	<u>243</u>	<u>209</u>
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Basement Depth (ft below grade):	<u>—</u>	
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Window Marked:	<u>Yes/No</u>	
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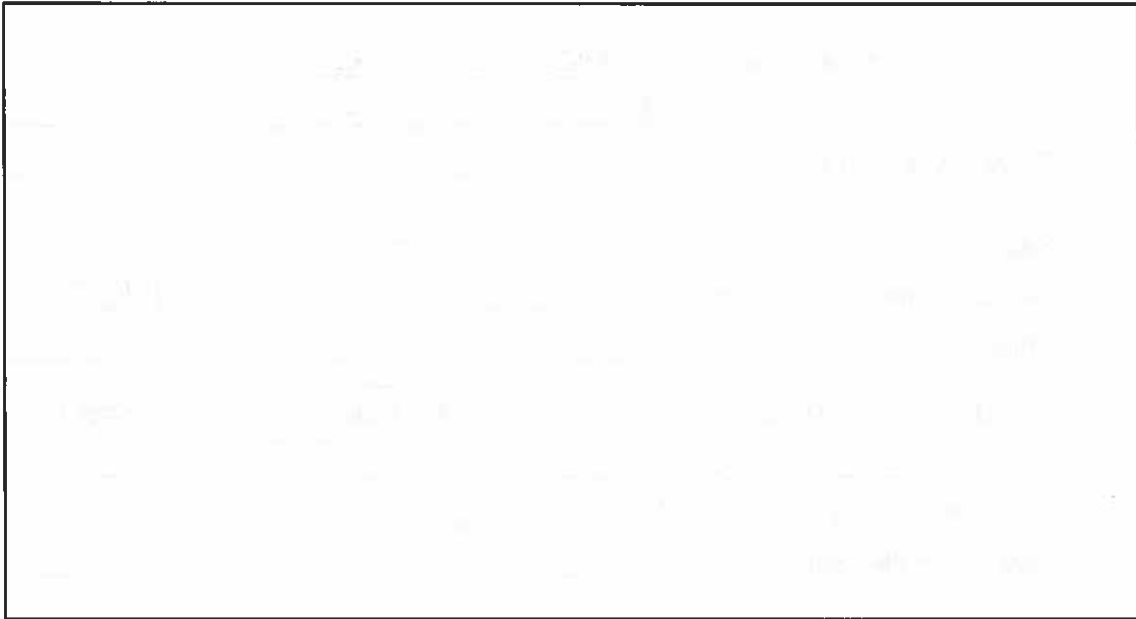
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: cloudy, becoming sunny, breeze

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADT6-AI-17-07R

Site Address: 3144 Passynuk Ave, Philadelphia, PA

Sample Canister Location: ADT6-295 Bldg (GP Office) - 1st Floor Office in Central Area
Duplicate

Sample Date: 3-9-17 Sampler: Danovan Young

Sample Time: Start: 0857 Stop: 1657

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: N1350 (105)

Flow Controller Serial No.: FCG304

Were "Instructions to Occupants Building" followed?

☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>73.1</u>	<u>67</u>	<u>76.4</u>

Barometric Pressure	<u>30.22</u>	<u>30.10</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>26.5</u>	<u>41</u>

Time:	<u>857</u>	<u>1657</u>
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PID Reading:	<u>0.161 ppm</u>	<u>0.8</u>
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Basement Depth (ft below grade):	<u>—</u>	
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Window Marked:	<u>Yes/No</u>
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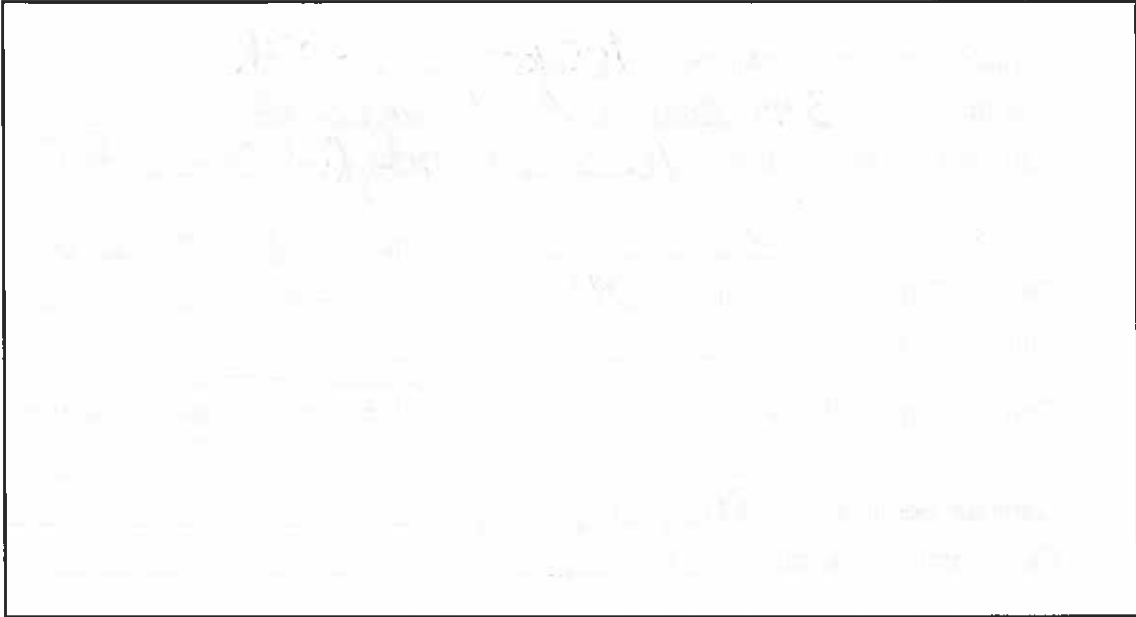
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Central Office Lobby

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADIG-AI-17-02

Site Address: Bldg 295 24 Gth Bldg

Sample Canister Location: Central area, 1st floor

Sample Date: 3/8/17 Sampler: KL

Sample Time: Start: 950 Stop: 1750

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify):

Restek To-Can

Canister Serial No.: 1411

Flow Controller Serial No.: 366894

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>74.1°F</u>		<u>76.2°F</u>

Barometric Pressure	<u>30.25 in Hg</u>	<u>30.13 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-5 in Hg</u>

Time:	<u>950</u>	<u>1750</u>
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PID Reading:	<u>250 ppb</u>	<u>204</u>
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Basement Depth (ft below grade):	<u>—</u>	
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Window Marked:	<u>Yes/No</u>
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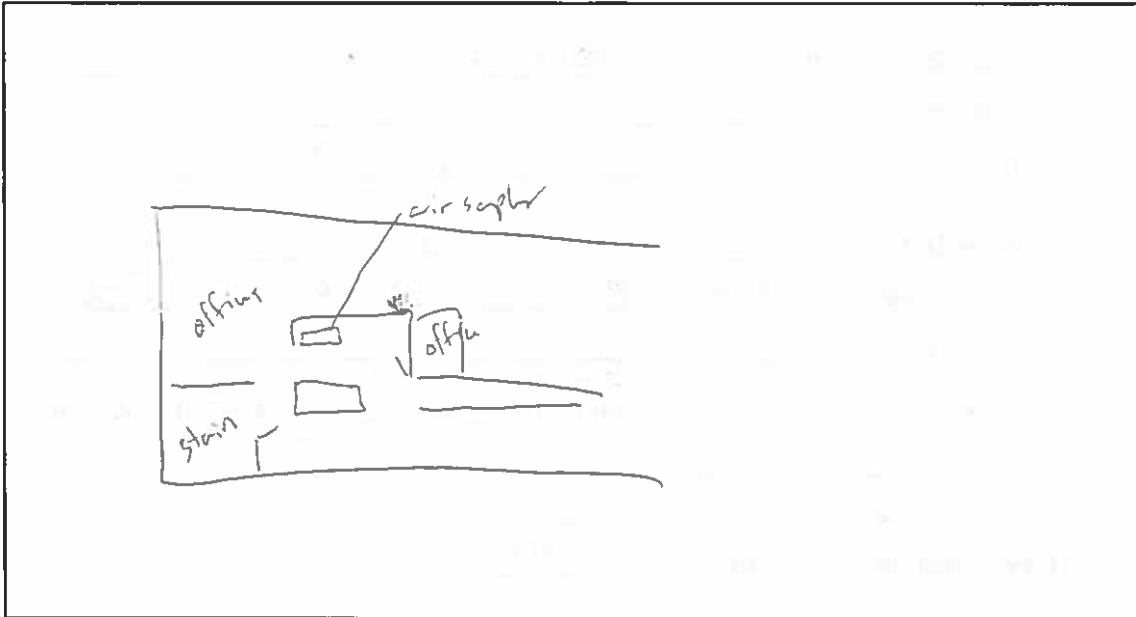
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: cloudy, becoming sunny, breezy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

John Kelly, stated that we do not need a work permit to install the air samplers. Air sampler placed on table chair next to printer.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI6-AI-17-08

Site Address: 3144 Passyunk Ave., Philadelphia, PA

Sample Canister Location: AOI6 NTF

Sample Date: 03/08/17 Sampler: Alissa Cannon

Sample Time: Start: 0812 Stop: 0812

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 1037

Flow Controller Serial No.: 900087

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>66.1°F</u>	<u>63°F</u>	<u>75.4°F</u>

Barometric Pressure	<u>30.28</u>	<u>30.12</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-29+</u>	<u>-5</u>

Time:	<u>0812</u>	<u>0812</u>
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PID Reading:	<u>35</u>	<u>72</u>
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Basement Depth (ft below grade):	<u>-</u>
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Window Marked:	<u>Yes/No</u>
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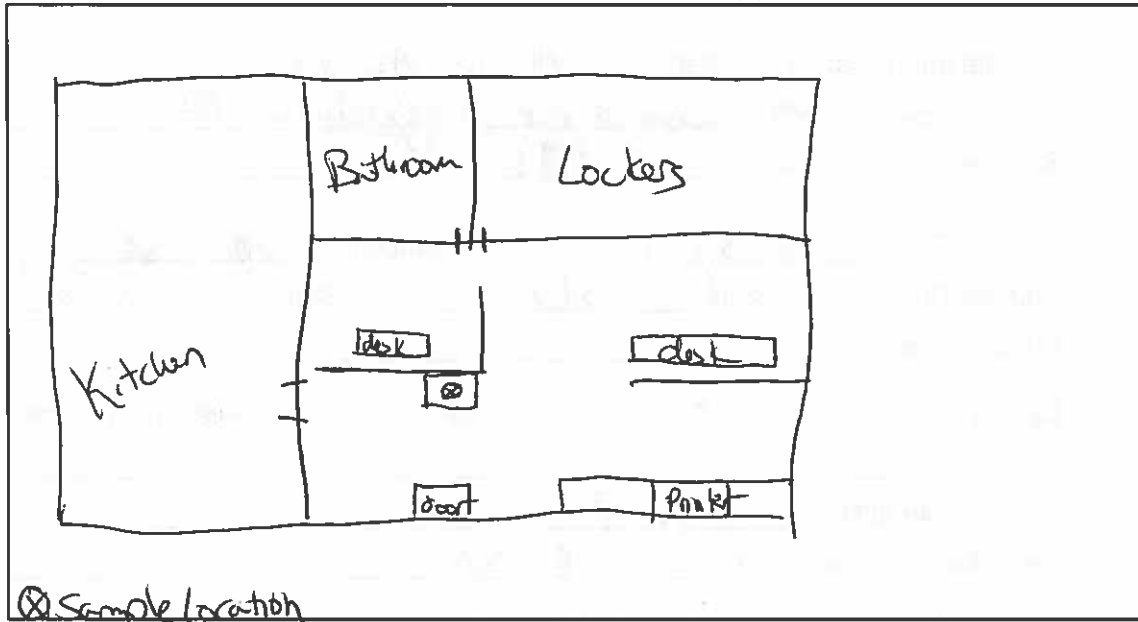
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: Cloudy 5

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C)

Comments

Sample canister set on cabinet for Contractor sign in

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADIG-AI-17-09
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: ABT-36 650 Building (GP MOB) -
Basement Center
 Sample Date: 3-8-17 Sampler: Domen Young
 Sample Time: Start: 0803 Stop: 1603
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 868
 Flow Controller Serial No.: 01024

Were "Instructions to Occupants Building" followed?

☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	51.9 <u>52</u>	<u>76.2</u>	<u>63</u>	<u>74.4</u>
Barometric Pressure	<u>30.24</u>		<u>30.14</u>	
Canister Pressure Gauge Reading:	Start <u>30⁺</u>		Stop <u>5</u>	
Time:	<u>0803</u>		<u>1603</u>	
PID Reading:	<u>0.197 ppm</u>		<u>0.0</u>	
Basement Depth (ft below grade):	<u>~6ft</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

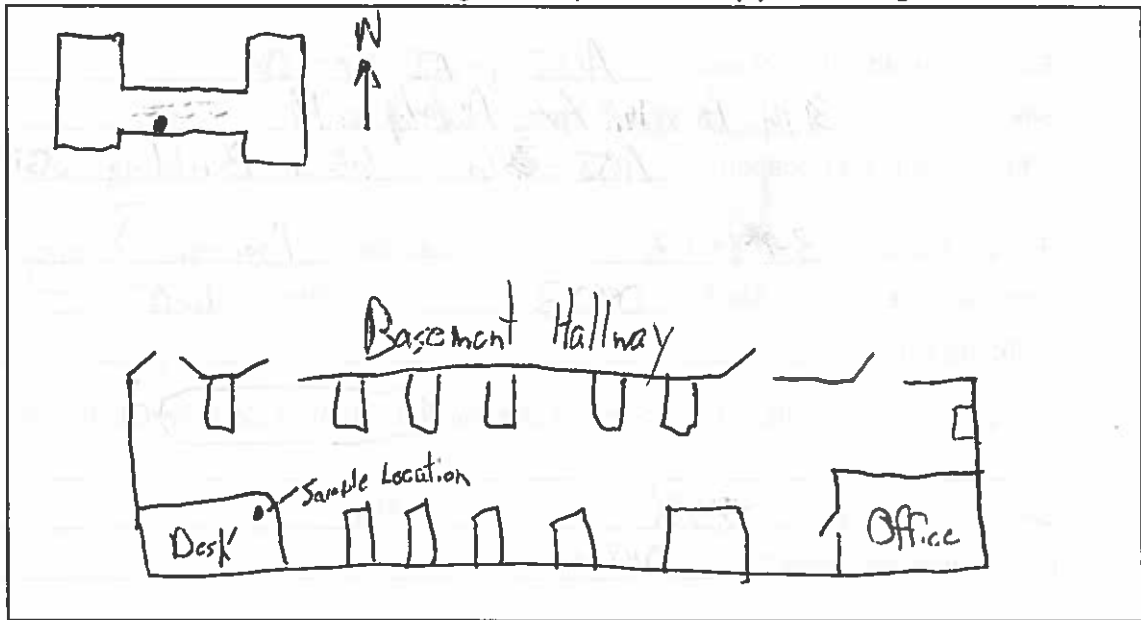
☐ Yes ☒ No

Describe the general weather conditions: Overcast, Slight Drizzle at Times,
Cool

Dan Rock

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Training Room 013 - South-Center of Basement Floor
Room Size ~60' x 20'

Sample in SW corner of Room

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI-6-AI-17-10
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: AOI-6 650 Building (GP-MOB) - Basement East

Sample Date: 3-8-17 Sampler: Donovan Young
 Sample Time: Start: 0818 Stop: 1537

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 00911

Flow Controller Serial No.: 865

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	52 52	73.2	63	73.1

Barometric Pressure	<u>30.24 in Hg</u>	<u>30.14</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>27</u>	<u>0</u>

Time:	<u>0818</u>	<u>1537</u>
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PID Reading:	<u>0.156 ppm</u>	<u>0.003 ppm</u>
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Basement Depth (ft below grade):	<u>~1 ft</u>
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Window Marked:	<u>Yes/No</u>
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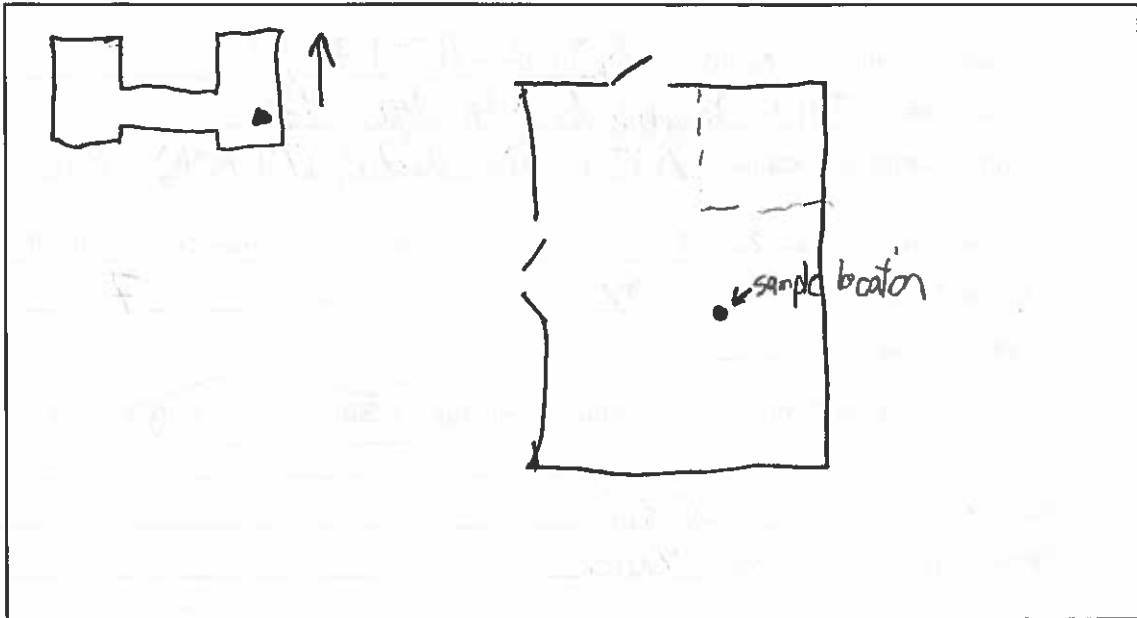
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Overcast, Drizzle, Cool AM
Sunny, Clear, Cool, - PM

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Room 019 West side of Basement; Center of Room

Room Size ~50'x150'

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOIG-AI-17-11
 Site Address: 3144 Passyunk Ave. Philadelphia, PA
 Sample Canister Location: AOI-6 (650) Building (GP-MOB) - Basement ~~W3~~ W3
 Sample Date: 3-8-17 Sampler: Donavan Young
 Sample Time: Start: 0827 Stop: _____
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 3419
 Flow Controller Serial No.: ~~3419~~ 01161
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

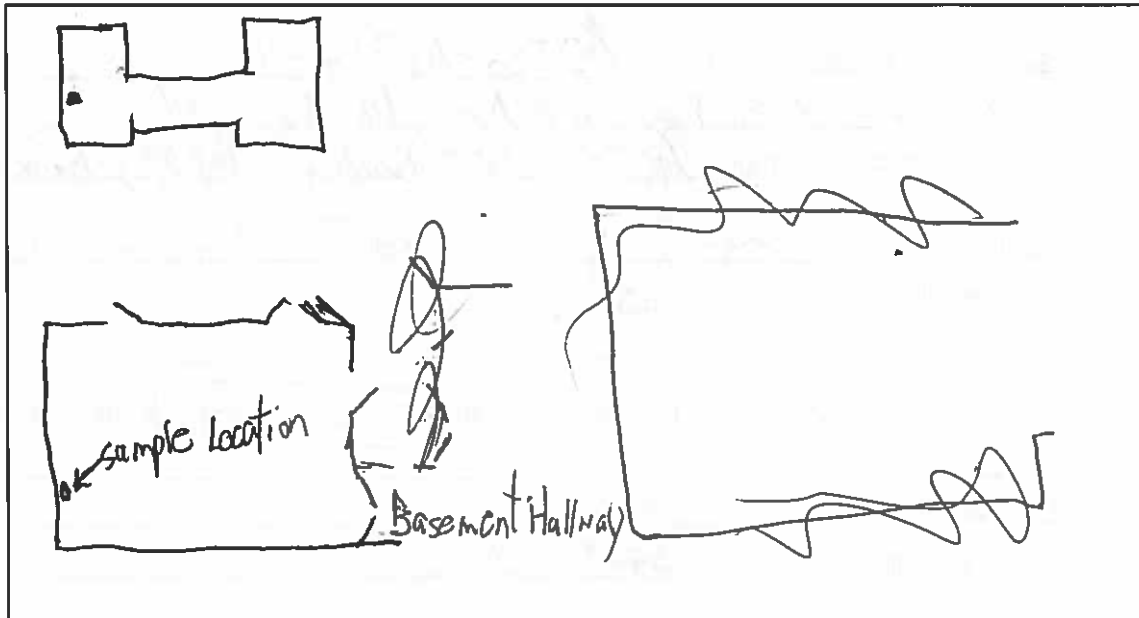
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>61.9 52</u>	<u>75.2°F</u>	<u>63</u>	<u>73.2</u>
Barometric Pressure	<u>30.23 in/Hg</u>		<u>30.14</u>	
Canister Pressure Gauge Reading:	Start <u>-30</u>		Stop <u>3.5 3.5</u>	
Time:	<u>0827</u>		<u>1627</u>	
PID Reading:	<u>0.182 ppm</u>		<u>0.000 ppm</u>	
Basement Depth (ft below grade):	<u>~1.5 ft</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Overcast Drizzle Cool-Am
Clear, Sunny, Cool-PM

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Room 005 Engineering Department File Room
West Side of Room

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI-6-AI-17-12
 Site Address: 3144 Passyunk Ave. Philadelphia PA
 Sample Canister Location: AOI-6 650 Building (GP-MOB) - 1st Floor Entrance
 Sample Date: 3-8-17 Sampler: Dorvan Young
 Sample Time: Start: 0842 Stop: 1638
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 1628
 Flow Controller Serial No.: 01419
 Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

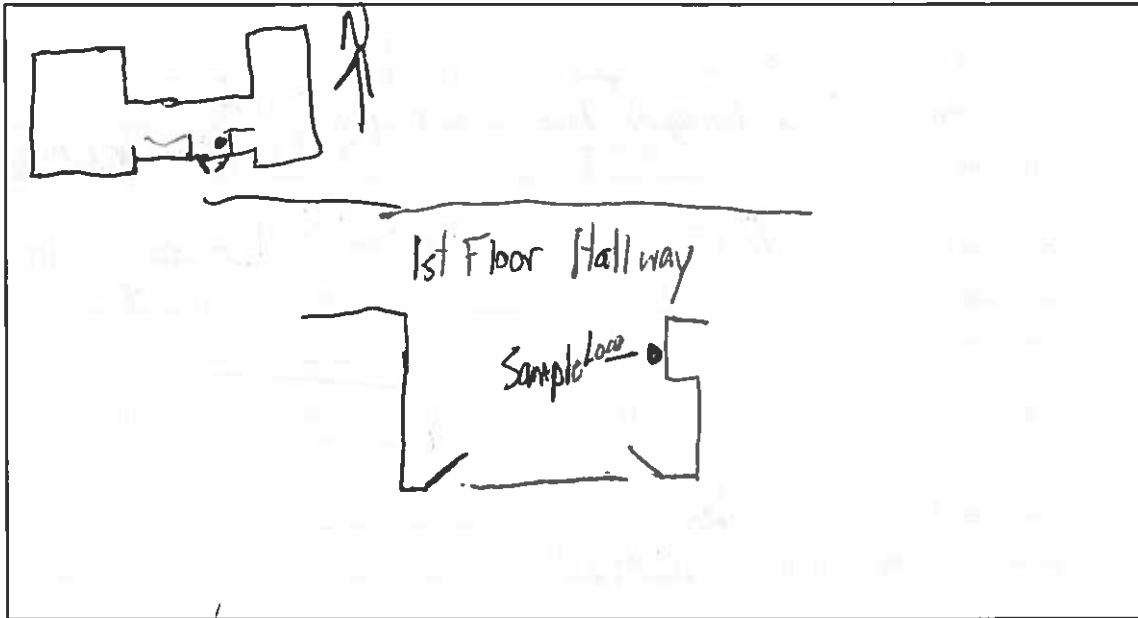
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	62.4 61.5	73.8	63	74.1
Barometric Pressure	30.21		30.13	
Canister Pressure Gauge Reading:	Start 29.5		Stop 0.0	
Time:	0842		1638	
PID Reading:	0.285ppm		0.0ppm	
Basement Depth (ft below grade):	_____			
Window Marked:	Yes/No _____			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☐ No

Describe the general weather conditions: Overcast, Drizzly - AM
Clear, Sunny, Cool - PM

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

1st Floor Entrance - East Side, near Hallway

Open to Hallway ~20'x16'

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOIG-AI-17-13
 Site Address: 3144 Passyunk Ave, Philadelphia PA
 Sample Canister Location: AOIG 450 Building (GP MOD) - 1st Floor West
 Sample Date: 3-8-17 Sampler: Damon Young
 Sample Time: Start: 0834 Stop: 1634
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister/Other (specify): _____
 Canister Serial No.: 3406
 Flow Controller Serial No.: 00916

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>64.52</u>	<u>77.0</u>	<u>63</u>	<u>75.0</u>
Barometric Pressure	<u>30.19</u>		<u>30.13</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30</u>	<u>1.0</u>
Time:	<u>0834</u>	<u>1634</u>
PID Reading:	<u>0.241 ppm</u>	<u>0.00 ppm</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

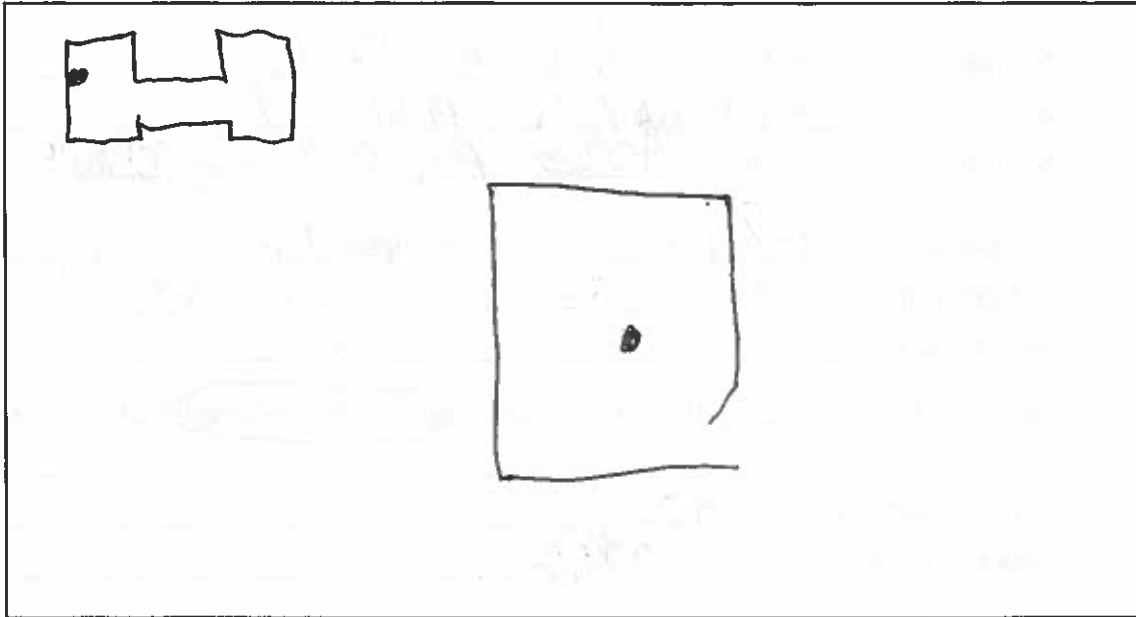
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Overcast, Drizzle, Cool - AM
Clear, Sunny, Cool - PM

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Room 103/105 Center of Room on File Cabinet

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADIC-AI-17-14
 Site Address: 3144 Passyunk Ave, Philadelphia PA
 Sample Canister Location: AOT-6 650 Building (GP MOB) - 2nd Floor East
 Sample Date: 3-8-17 Sampler: Deborah Young
 Sample Time: Start: 0908 Stop: 1708
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 862
 Flow Controller Serial No.: 04512
 Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	71.4 52	71.4 79.4	63	71.4 77.9
Barometric Pressure	30.28	30.17	30.12	

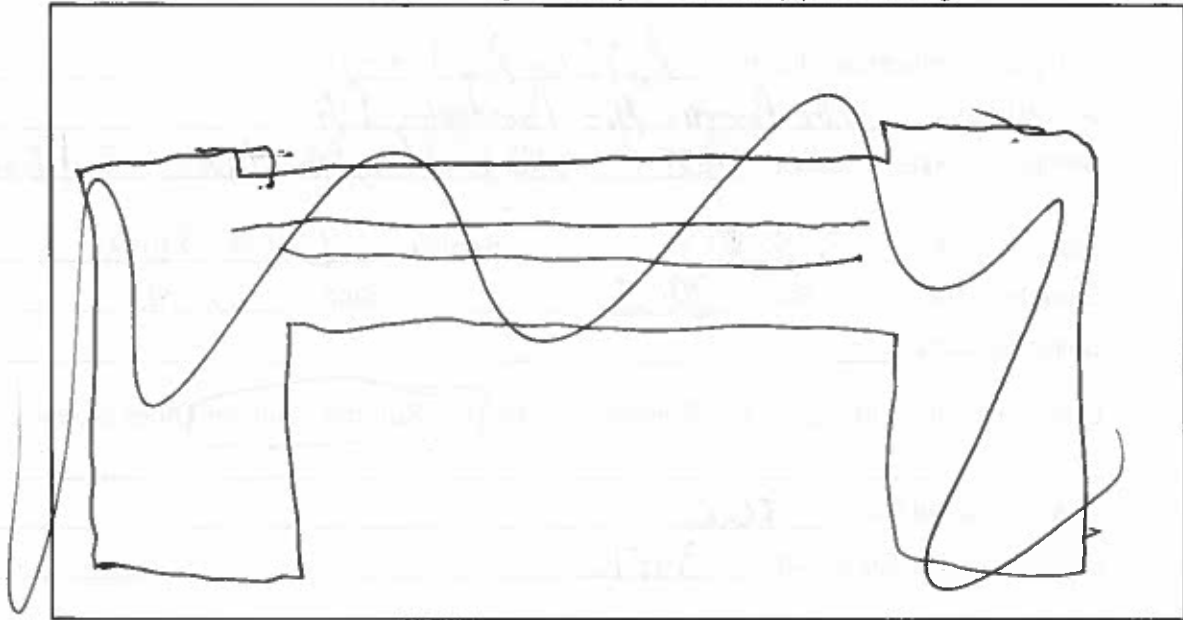
	Start	Stop
Canister Pressure Gauge Reading:	30 ⁺	2.0
Time:	0908	1708
PID Reading:	0.325 ppm	0.000 ppm
Basement Depth (ft below grade):		
Window Marked:	Yes/No	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Overcast, Drizzle, Cool - AM
Clear, Sunny, Cool, - PM

Indoor Air Sampling Field Data Sheet
(Form SP-28)

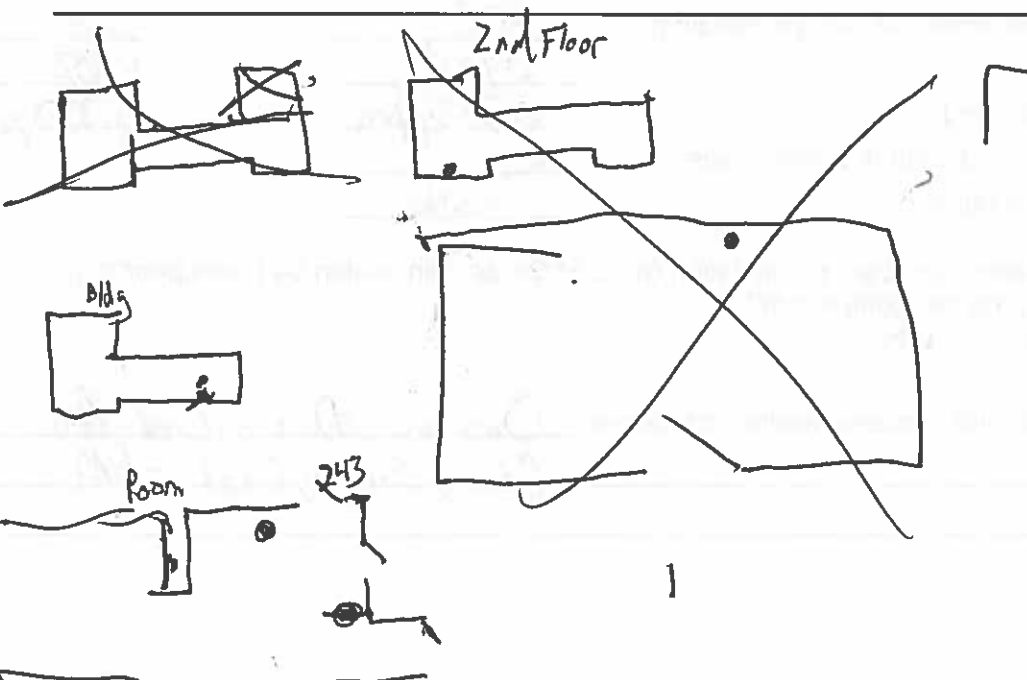
Provide Drawing of Sample Location(s) in Building



C) Comments

~~Room 225 Technical Services Conference Room~~
~~South wall~~

Room 243 N wall



**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: ADIG-AI-17-15

Site Address: 3144 Passyunk Ave, Philadelphia, PA

57 Sample Canister Location: ADIG-650 R/W - 2nd (GP MOB) - 2nd Floor West

Sample Date: 3-9-17 Sampler: Dohovan Young

Sample Time: Start: 0741 Stop: 1

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 333

Flow Controller Serial No.: 1527410 Eurofin

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50</u>	<u>70.0</u>	<u>76.67</u>	<u>78.4</u>
Barometric Pressure	<u>30.20</u>		<u>30.09</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30</u>	<u>0.0</u>
Time:	<u>0741</u>	<u>1540</u>
PID Reading:	<u>0.031</u>	<u>0.0</u>
Basement Depth (ft below grade):	_____	
Window Marked:	<u>Yes/No</u>	

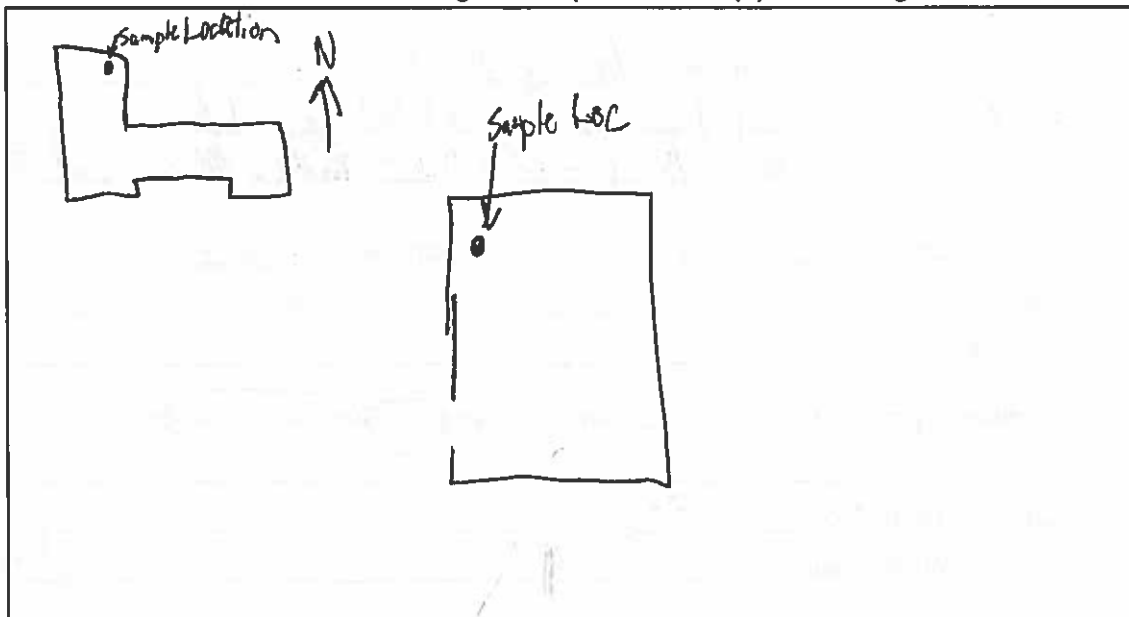
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cool, Windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Room 2 - Lunch/Breakroom in NE corner of West Wing
NW Corner of Room

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: ADIL6-AI-17-15
Site Address: 3144 Passyunk Ave, Philadelphia PA
Sample Canister Location: ADIL6 - GSD Bldg (GP MOB) - 2nd Floor West
Sample Date: 3-8-17 Sampler: Donovan Young
Sample Time: Start: 9:00 Stop: N/A
Shipping Date: _____
Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister/Other (specify): _____

Canister Serial No.: 1648
Flow Controller Serial No.: ~~EC03~~ 7341791 Eurofin
Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>61.52</u>	<u>81.8</u>		
Barometric Pressure	<u>30.18</u>			

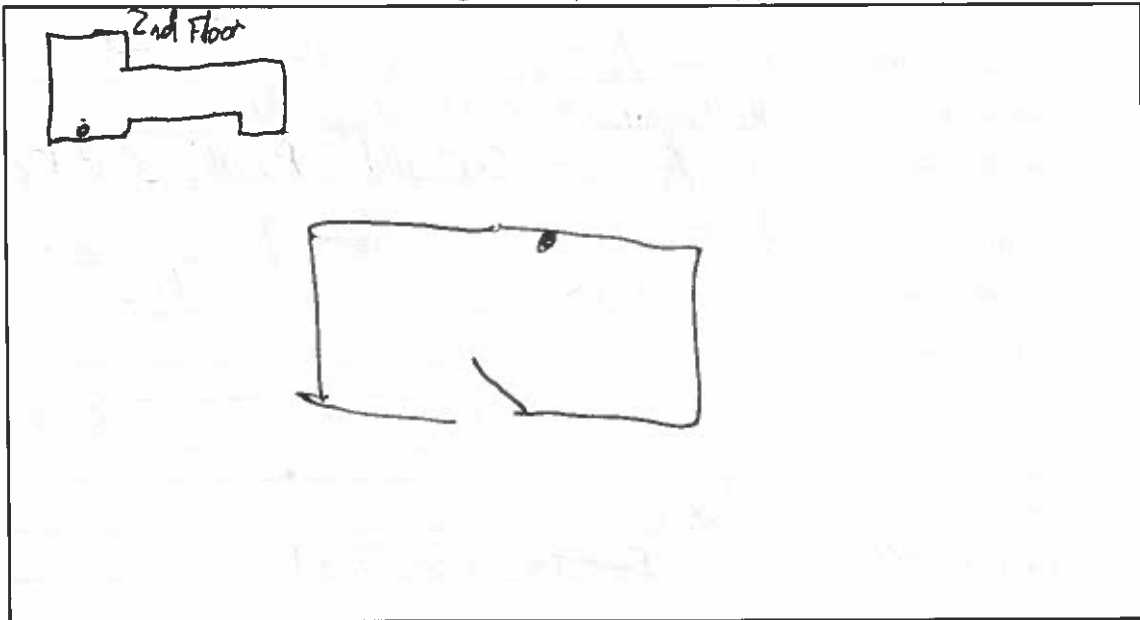
	Start	Stop
Canister Pressure Gauge Reading:	<u>30</u>	
Time:	<u>9:00</u>	
PID Reading:	<u>0.233 ppm</u>	
Basement Depth (ft below grade):		
Window Marked:	<u>Yes/No</u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Overcast, Pricile Cool AM
Clear, Sunny, Cool - PM

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C)

Comments

Room 225 Technical Services Conference Room,
South Side

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI6-AI-17-17

Site Address: Carpenter Shop (726) - Conf. Table Room

Sample Canister Location: On side table in Conf. Table Room

Sample Date: 3/8/17 Sampler: KC

Sample Time: Start: 753 Stop: 1557

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify):

Respek 10-Can

Canister Serial No.: 1245

Flow Controller Serial No.: 344045

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F 30.26 in Hg NKC</u>	<u>72.7°F</u>		<u>76.2°F</u> <u>77.6°F NKC</u>
Barometric Pressure	<u>30.26 in Hg</u>		<u>30.13 in Hg</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-9.0 in Hg</u>
Time:	<u>753</u>	<u>1557</u>
PID Reading:	<u>32 ppb</u>	<u>0 ppb</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

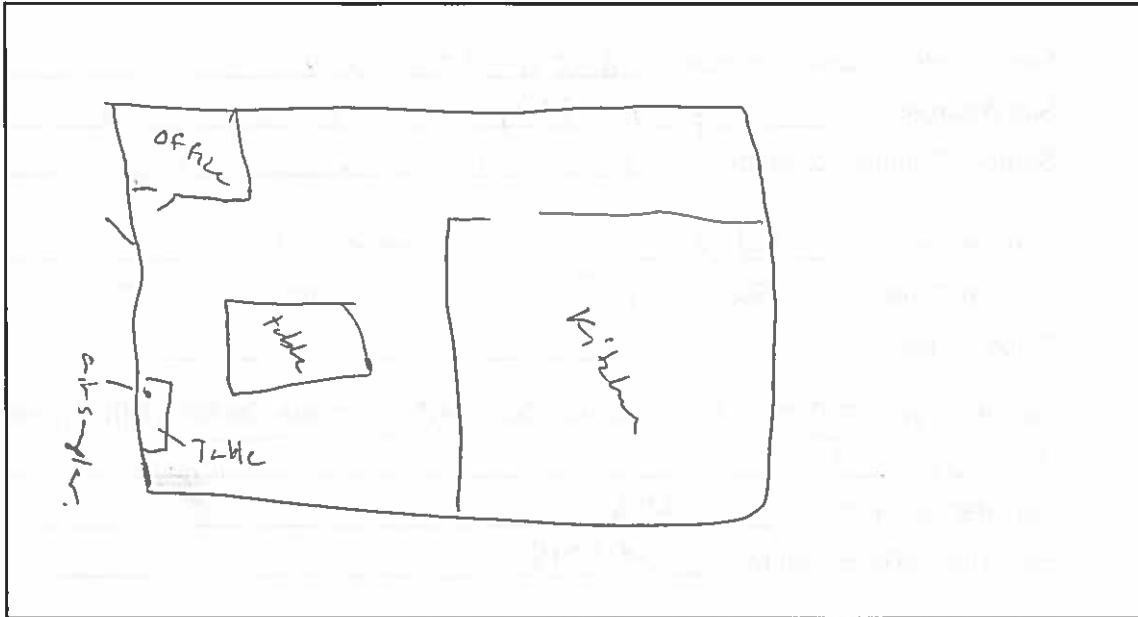
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, becoming sunny, breezy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Window was open during sample retrieval @ 1557,

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOE6-AI-17-18

Site Address: Bldg 739 Control House

Sample Canister Location: On table by radios in control room

Sample Date: 3/8/17 Sampler: KC

Sample Time: Start: 8¹⁸ Stop: 16²⁰

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister/Other (specify):

Pestek TD-Can

Canister Serial No.: 1472

Flow Controller Serial No.: 824845

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>72.0°F</u>		

Barometric Pressure 30.26 in Hg

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-4.0 in Hg</u>

Time:	<u>8¹⁸</u>	<u>16²⁰</u>
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PID Reading:	<u>135 ppb</u>	<u>1 ppb</u>
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Basement Depth (ft below grade): —

Window Marked: Yes/No

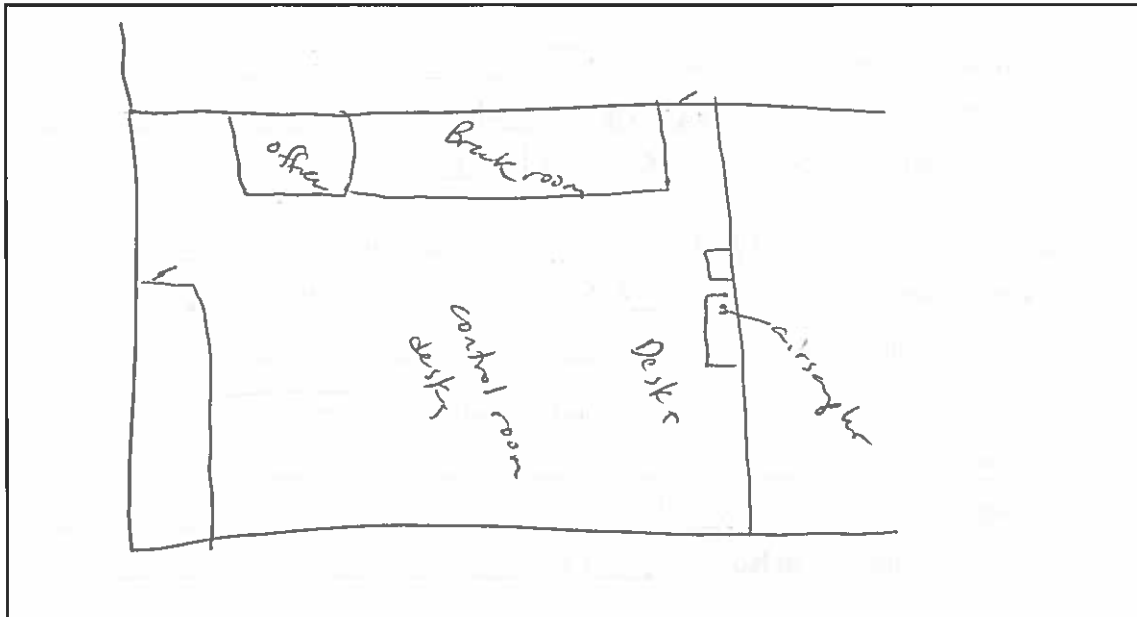
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, becoming sunny, breezy

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was placed on a desk against the wall in the control room area.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOIG-AI-17-19

Site Address: 3144 Passunk Ave, Philadelphia PA

Sample Canister Location: ATP Building Office

Sample Date: 03/08/17 Sampler: Alissa Cannon

Sample Time: Start: 0824 Stop: 1624

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 831

Flow Controller Serial No.: 710538

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52.0 F</u>	<u>68.3 F</u>	<u>63</u>	<u>72.7</u>

Barometric Pressure	<u>30.27 in Hg</u>	<u>30.12 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>29.0</u>	<u>-1</u>

Time:	<u>0824</u>	<u>1624</u>
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PID Reading:	<u>15</u>	<u>15</u>
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Basement Depth (ft below grade):	<u>-</u>
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Window Marked:	<u>Yes/No</u>
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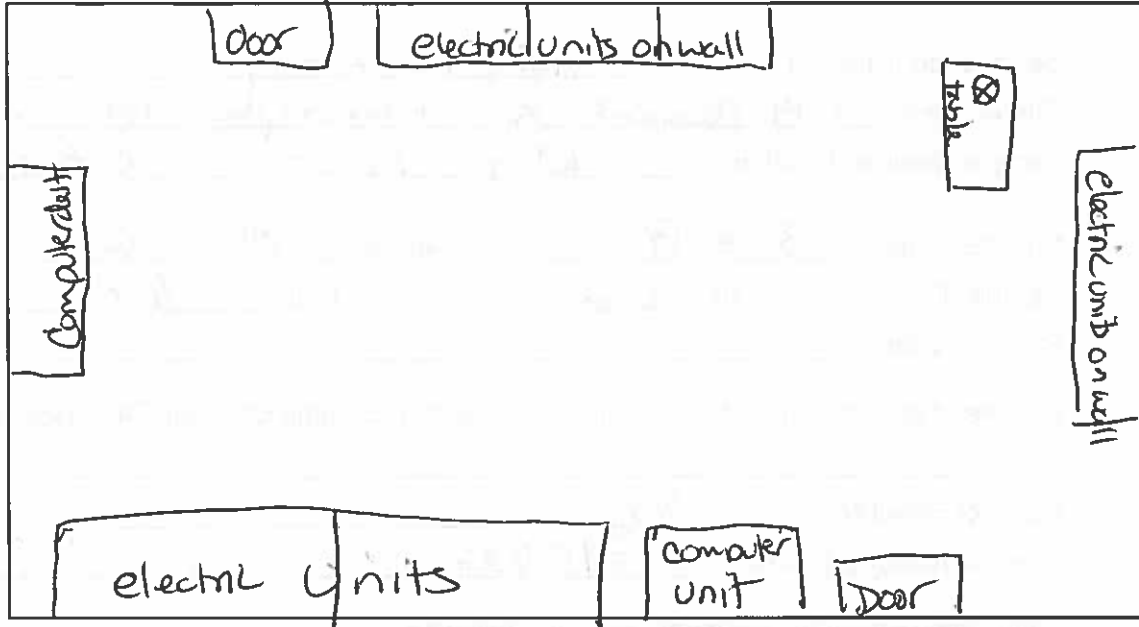
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: cloudy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample location on top of table inside office in
South east corner of building

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI6-AI-17-20

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: Control Building 6627

Sample Date: 03/08/17 Sampler: Miss Cannon

Sample Time: Start: 0834 Stop: 1634

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 1336

Flow Controller Serial No.: 67 024

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>52°F</u>	<u>68.7°F</u>	<u>63°F</u>	<u>73.8°F</u>
Barometric Pressure	<u>30.27</u>		<u>30.12</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30</u>	<u>-1</u>
Time:	<u>0834</u>	<u>1634</u>
PID Reading:	<u>250</u>	<u>236</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

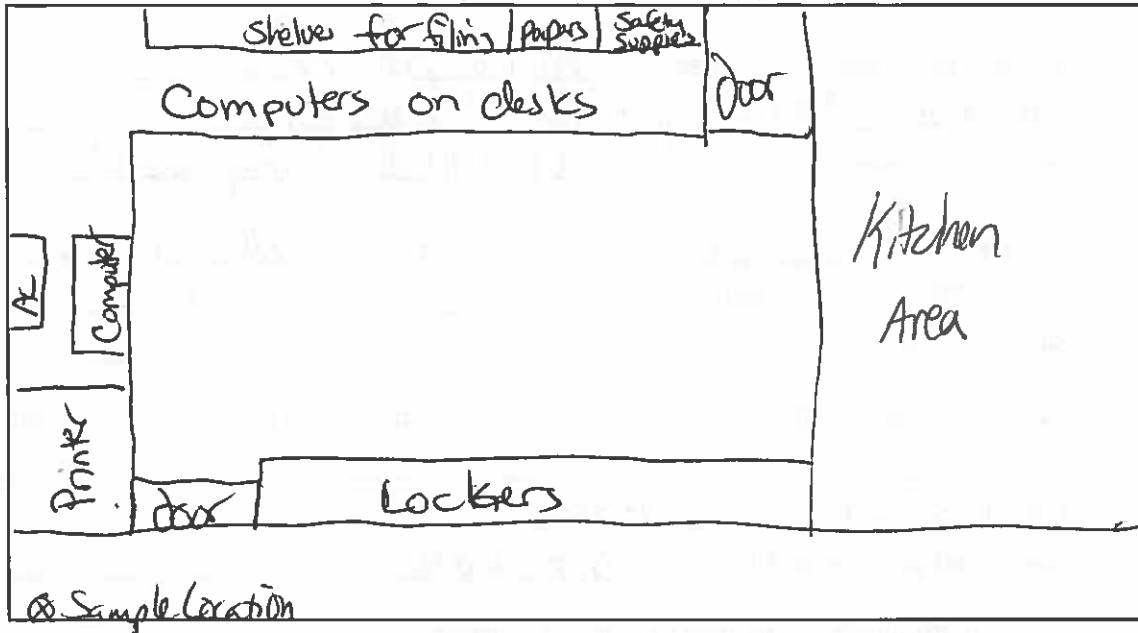
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: Cloudy 52

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

Sample collected on top of table by printer

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI6-AI-17-21

Site Address: 3144 Passyunk Ave Philadelphia PA

Sample Canister Location: Building C636

Sample Date: 03/08/17 Sampler: Alisa Cannon

Sample Time: Start: 1006 Stop: 1606

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 1189

Flow Controller Serial No.: 900011

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>54</u>	<u>67.0</u>		<u>70.6</u>

Barometric Pressure	<u>30.26</u>	<u>30.11</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>29+</u>	<u>-4</u>

Time:	<u>1006</u>	<u>1606</u>
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PID Reading:	<u>49</u>	<u>34</u>
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Basement Depth (ft below grade): _____

Window Marked: Yes/No

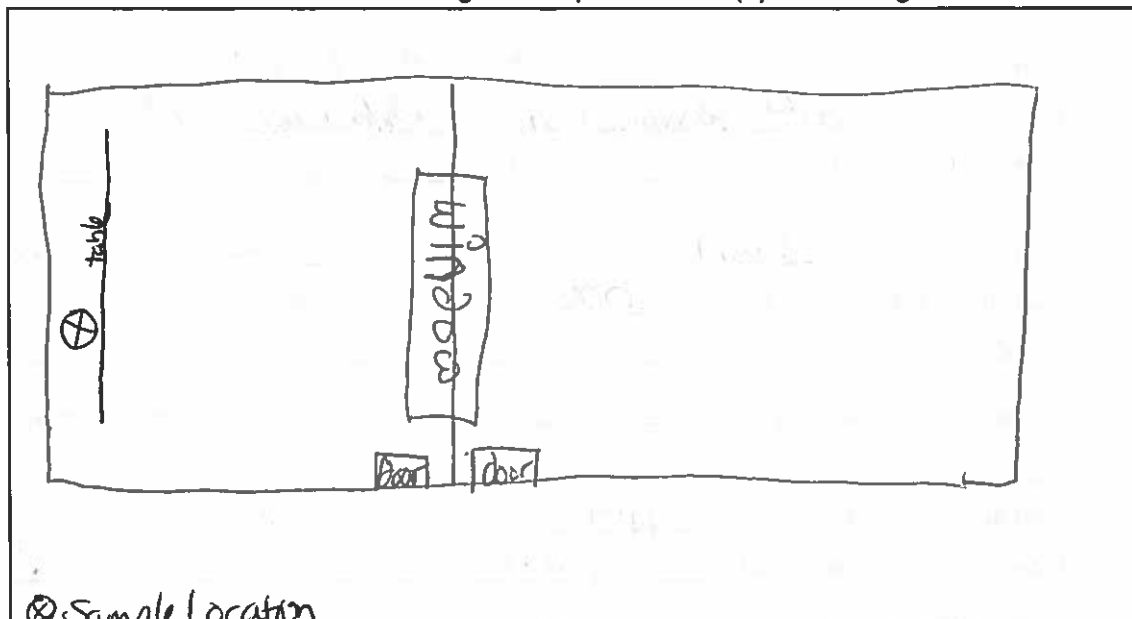
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample collected on desk near window on contractors/
truckers side

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI6-AI-17-22
Site Address: 3144 Passyunk Ave, Philadelphia, PA
Sample Canister Location: AOI-6 • 650 Building (GP MOB) - Basement Center (Duplicate)
Sample Date: 3-8-17 Sampler: Danovan Young
Sample Time: Start: 0919 Stop: 1712
Shipping Date: _____
Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____
Canister Serial No.: 854
Flow Controller Serial No.: 2122
Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

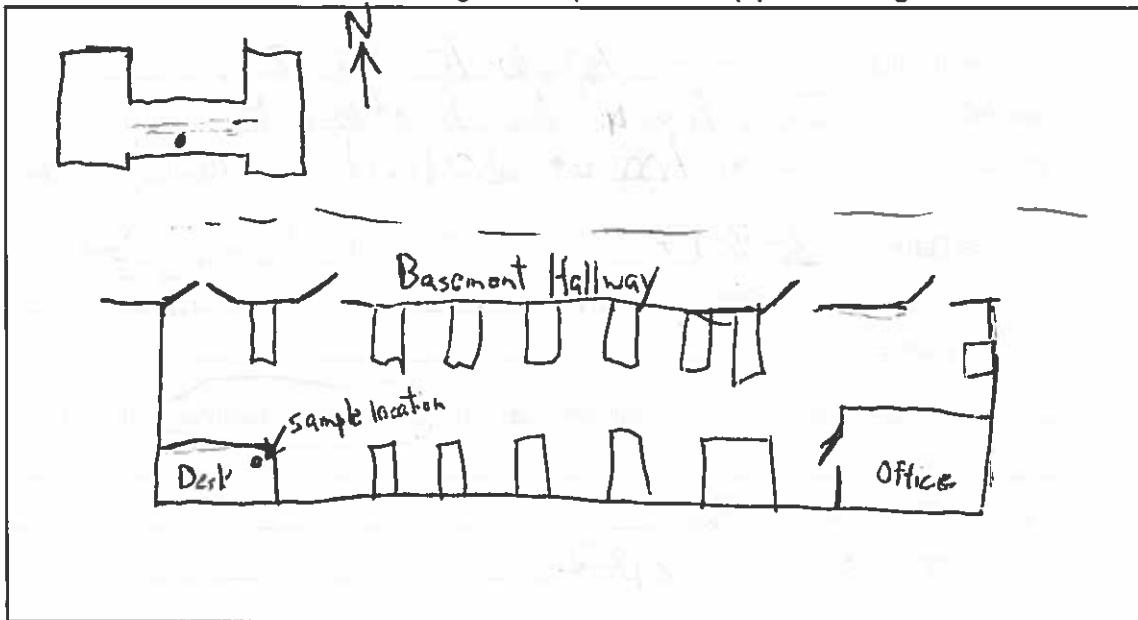
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	52 <u>52</u>	76.7 <u>76.7</u>	<u>67</u>	<u>74.4</u>
Barometric Pressure	<u>30.24</u>		<u>30.14</u>	
Canister Pressure Gauge Reading:	30 <u>30</u>		<u>0.0</u>	
Time:	<u>0919</u>		<u>1712</u>	
PID Reading:	<u>0.999 ppm</u>		<u>0.00 ppm</u>	
Basement Depth (ft below grade):	<u>~6 ft</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Overcast, Slight Drizzle at times
Cool

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Training Room 013 - ~~South~~ Center of Basement Floor
~40' x 20'

Sample in SW corner of room

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOIC6-AA-1701
 Site Address: 3144 Passyunk Ave, Philadelphia, PA
 Sample Canister Location: 50 feet northwest corner of building 739

Sample Date: 03/08/17 Sampler: Alissa Cannon
 Sample Time: Start: 0930 Stop: 1530
 Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 1179
 Flow Controller Serial No.: 248310

Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

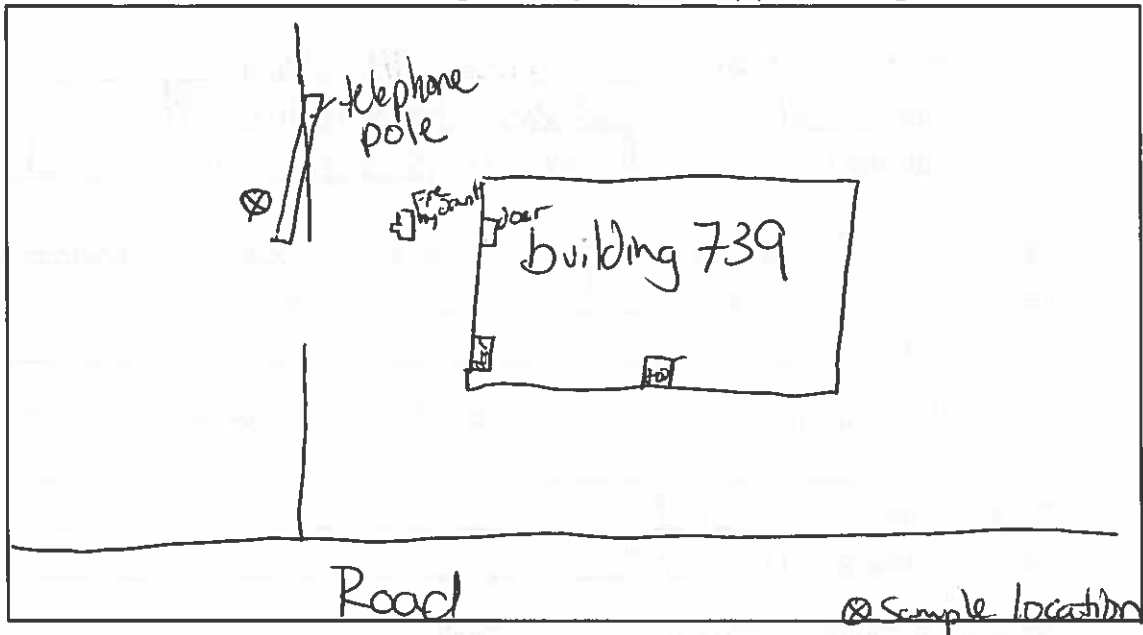
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>54.8</u>	<u>—</u>	<u>64.4</u>	<u>—</u>
Barometric Pressure	<u>30.27</u>		<u>30.11</u>	
Canister Pressure Gauge Reading:	Start <u>30</u>		Stop <u>-4</u>	
Time:	<u>0930</u>		<u>1530</u>	
PID Reading:	<u>0</u>		<u>19</u>	
Basement Depth (ft below grade):	<u>—</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☐ No

Describe the general weather conditions: cloudy - partial cloudy
windy

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample collected on tripod near northwest corner of building 739

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI6-AA-1702 ^{AK}

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: Outside MDR

Sample Date: 3-8-17 Sampler: Donovan Young

Sample Time: Start: 16:30 Stop: 1830

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 966896

Flow Controller Serial No.: A16942 (1521)

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	62.5 55	62	62.3	
Barometric Pressure	30.12	30.12	30.12	

	Start	Stop
Canister Pressure Gauge Reading:	30	-6
Time:	10:30	1830
PID Reading:	26	23
Basement Depth (ft below grade):	—	
Window Marked:	Yes/No	

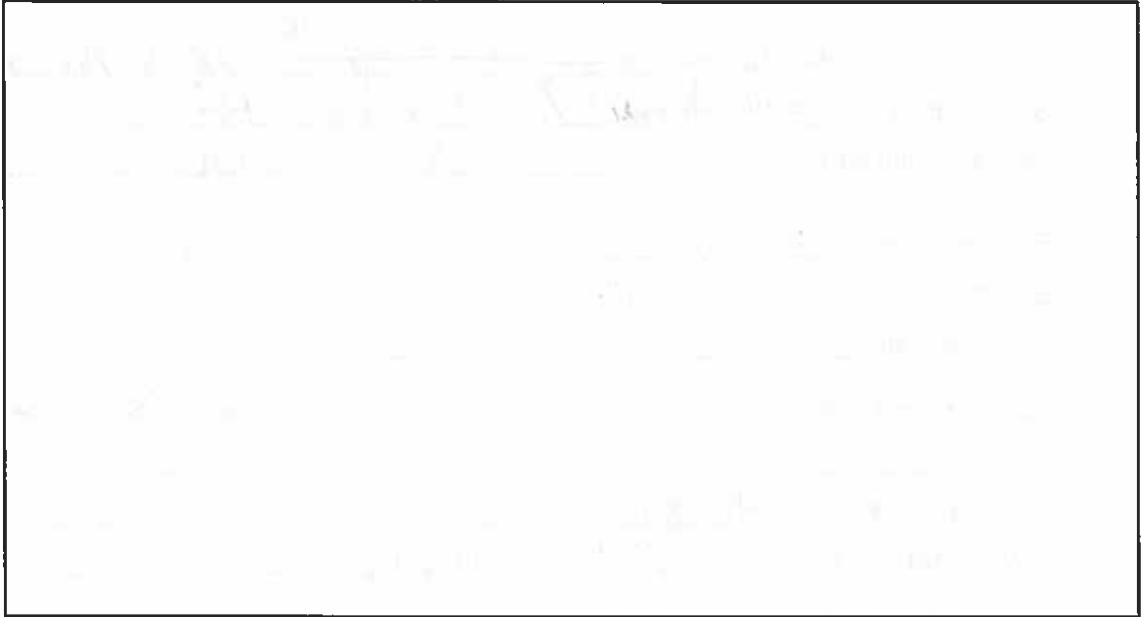
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☐ No

Describe the general weather conditions: Clear, Sunny, Cool

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI7-AI-17-01
 Site Address: 3144 Passyunk Ave Philadelphia PA
 Sample Canister Location: AOI7- unit B7 Control Building 6020 6022
 Sample Date: 03/07/17 Sampler: Alissa Cannon
 Sample Time: Start: 0848 Stop: 1648
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____

Canister Serial No.: 0070
 Flow Controller Serial No.: 01160

Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

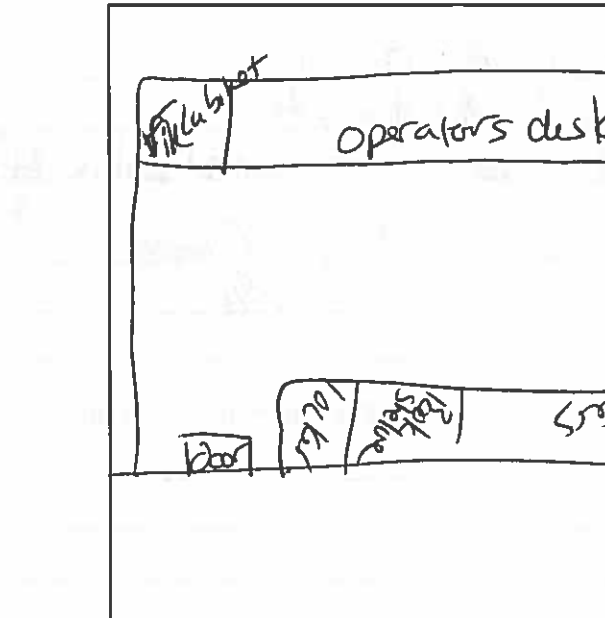
B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.9</u>	<u>69.2</u>	<u>66</u>	<u>78.3</u>
Barometric Pressure	<u>30.5</u>		<u>30.28</u>	
Canister Pressure Gauge Reading:	Start <u>30+</u>		Stop <u>8+</u>	
Time:	<u>0848</u>		<u>1648</u>	
PID Reading:	<u>734</u>		<u>578</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: light rain

Provide Drawing of



C) Comments

St before opening valve, reading may 4
Sample unit on top of table make-

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI7-AE-17-02
 Site Address: 3144 Passyunk Ave Philadelphia PA
 Sample Canister Location: AOI7 Unit 433 Control Building 6625

Sample Date: 03/07/17 Sampler: Alisa Cannon
 Sample Time: Start: 0823 Stop: 1623
 Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____

Canister Serial No.: 3393
 Flow Controller Serial No.: 02080

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.9</u>	<u>70.2</u>	<u>66</u>	<u>77.6</u>
Barometric Pressure	<u>30.49</u>		<u>30.28</u>	

	Start	Stop
Canister Pressure Gauge Reading:	<u>30.5</u>	<u>31</u>
Time:	<u>0823</u>	<u>1623</u>
PID Reading:	<u>820</u>	<u>316</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

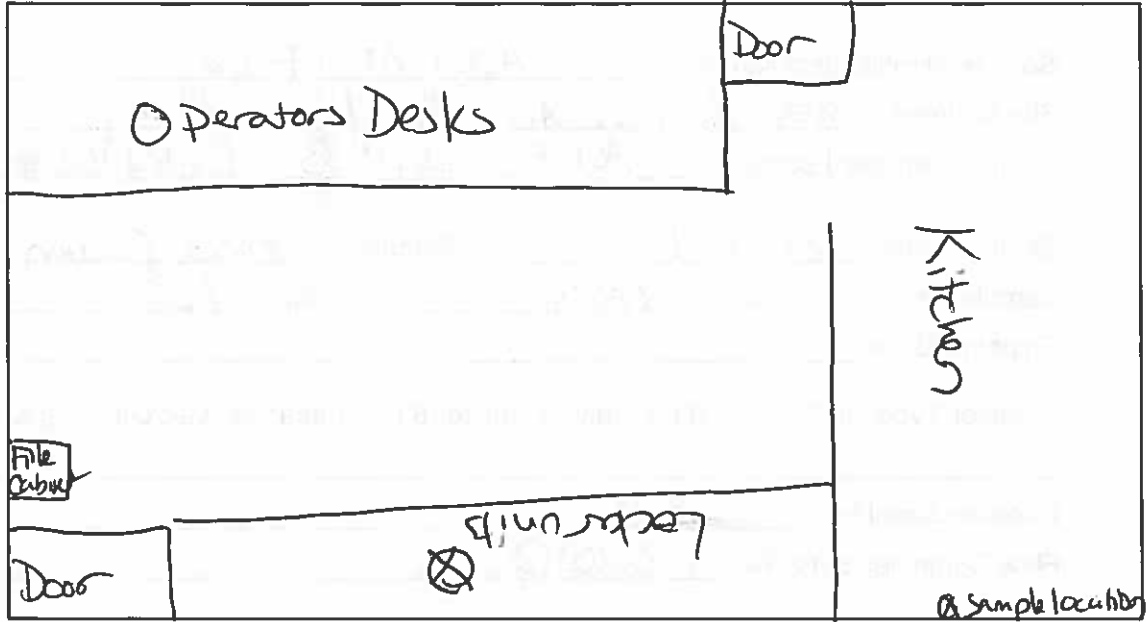
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: light rain

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample location on top of approximately 3 foot high locker storage units along long side of unit building below key panel units on wall

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AEI7-AE-17-03

Site Address: 3144 Passyunk Ave, Philadelphia, PA

Sample Canister Location: AEI7 6626

Sample Date: 03/07/17 Sampler: Alissa Cannon

Sample Time: Start: 0831 Stop: 1631

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 0850

Flow Controller Serial No.: 4529

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.9</u>	<u>69.4</u>	<u>66</u>	<u>78.1</u>

Barometric Pressure	<u>30.5</u>	<u>30.28</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>30+</u>	<u>6+</u>

Time:	<u>0831</u>	<u>1631</u>
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PID Reading:	<u>323</u>	<u>320</u>
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Basement Depth (ft below grade): —

Window Marked: Yes/No

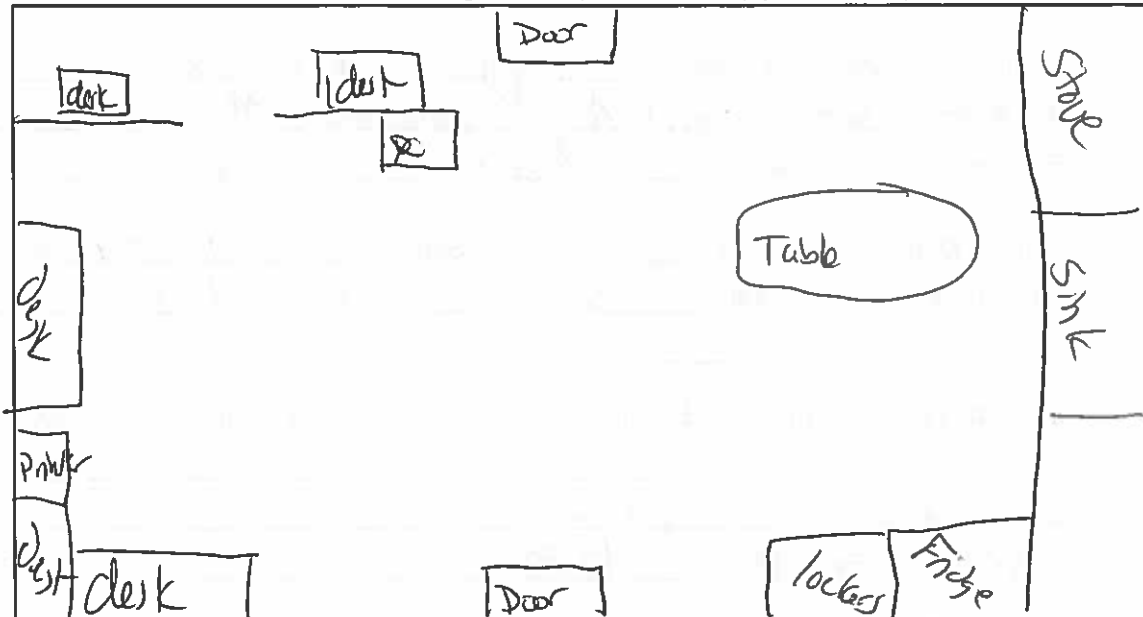
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: light rain

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

Sample on table by desk

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI7-AI-17-04

Site Address: 3144 Passyunk Ave Philadelphia PA

Sample Canister Location: AOI7- WTP

Sample Date: 03/07/17 Sampler: Alicia Cannon

Sample Time: Start: 0905 Stop: 1714

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 2799

Flow Controller Serial No.: 137298 FC 1038

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.9</u>	<u>67.9</u>	<u>66</u>	<u>76.8</u>

Barometric Pressure	<u>30.49</u>	<u>30.27</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>30+</u>	<u>3+</u>

Time:	<u>0905</u>	<u>1714</u>
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PID Reading:	<u>288</u>	<u>232</u>
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Basement Depth (ft below grade): _____

Window Marked: Yes/No

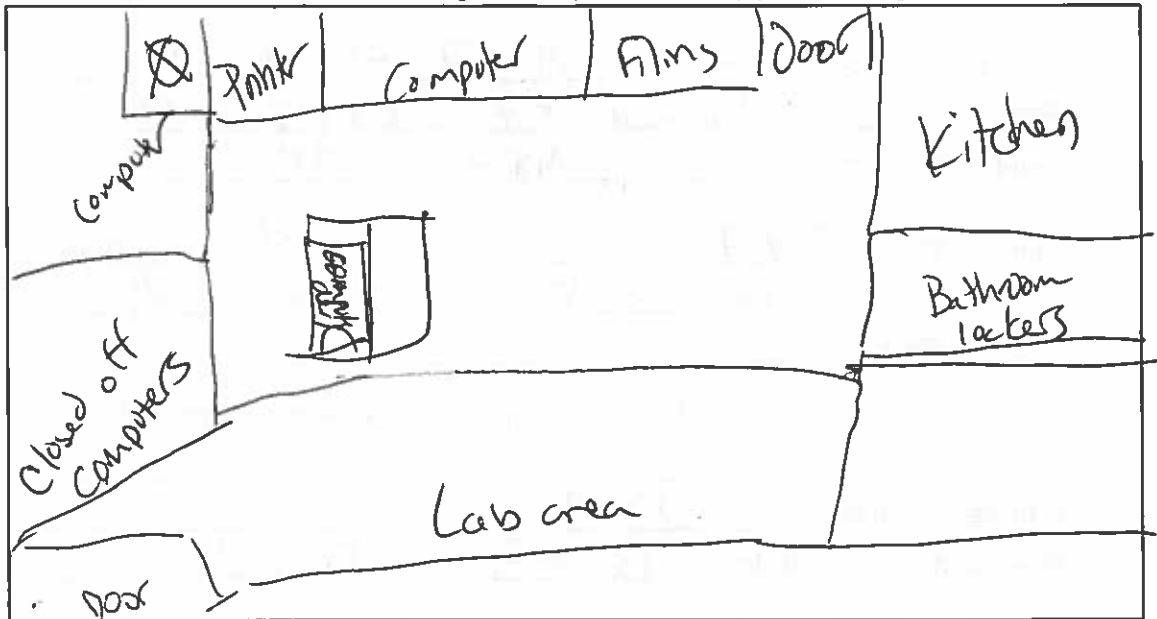
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: light rain

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

Sample collected on top printer paper, no odors

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AST7-AI-17-05

Site Address: Bldg 450 440 NCL

Sample Canister Location: 2nd Floor across from Rm 221 (locked)

Sample Date: 3/7/17 Sampler: KC

Sample Time: Start: 907 Stop: 1519 1719 NCL

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Restek To-Can

Canister Serial No.: 2715

Flow Controller Serial No.: FL0120

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°F</u>	<u>69.8°F</u>	<u>57°F</u>	<u>74.4°F</u>

	Start	Stop
Barometric Pressure	<u>30.43 in Hg</u>	<u>30.26 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-4.0 in Hg</u>
Time:	<u>907</u>	<u>1519 1719 NCL</u>
PID Reading:	<u>299 ppb</u>	<u>122 ppb</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

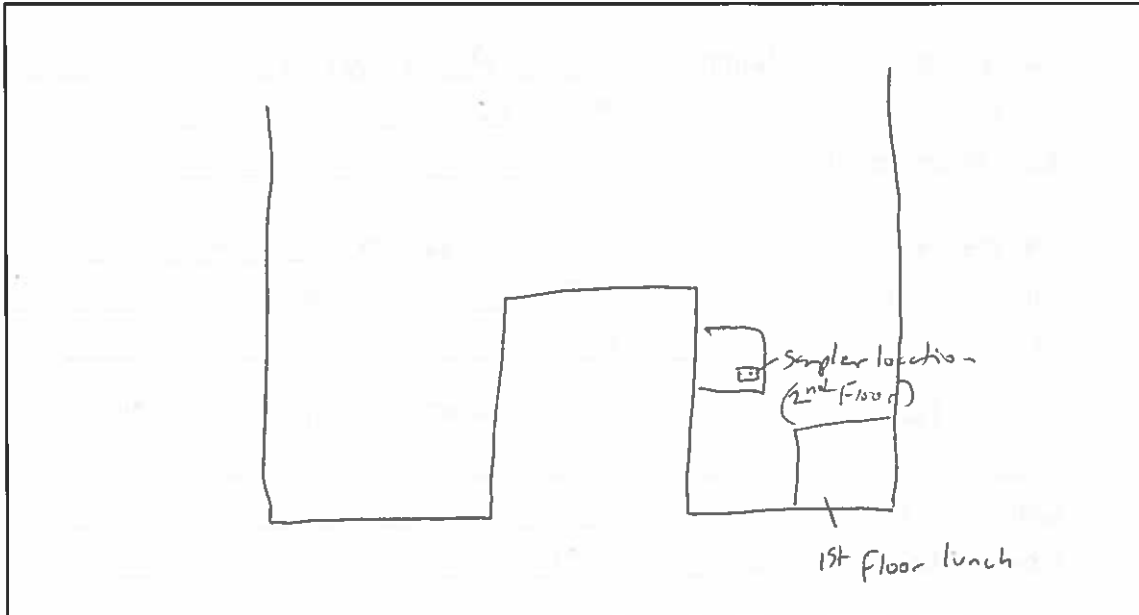
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: cloudy, light rain (occasional)

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

End cap threads are cross-threaded, cannot tighten cap past
hand-tight. Air sampler was placed on a table in the office
across the hall from Rm 221 (locked.)

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI7-AI-17-06

Site Address: Bldg 440 2nd Floor Meeting Room

Sample Canister Location: 2nd Floor Meeting Room

Sample Date: 9/7/17 Sampler: V-L

Sample Time: Start: 924 Stop: 1529 1729 NKL

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister / Other (specify):

Entek Silonik

Canister Serial No.: 16701 - quick connect

Flow Controller Serial No.: CS1200ES SN: 02062

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.0°F</u>	<u>74.4°F</u>	<u>59°F</u>	<u>77.5°F</u>

	Start	Stop
Barometric Pressure	<u>30.43 in Hg</u>	<u>30.26 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0+ in Hg</u>	<u>-4.0 in Hg</u>
Time:	<u>924</u>	<u>1529 1729 NKL</u>
PID Reading:	<u>257 ppb</u>	<u>161 ppb</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

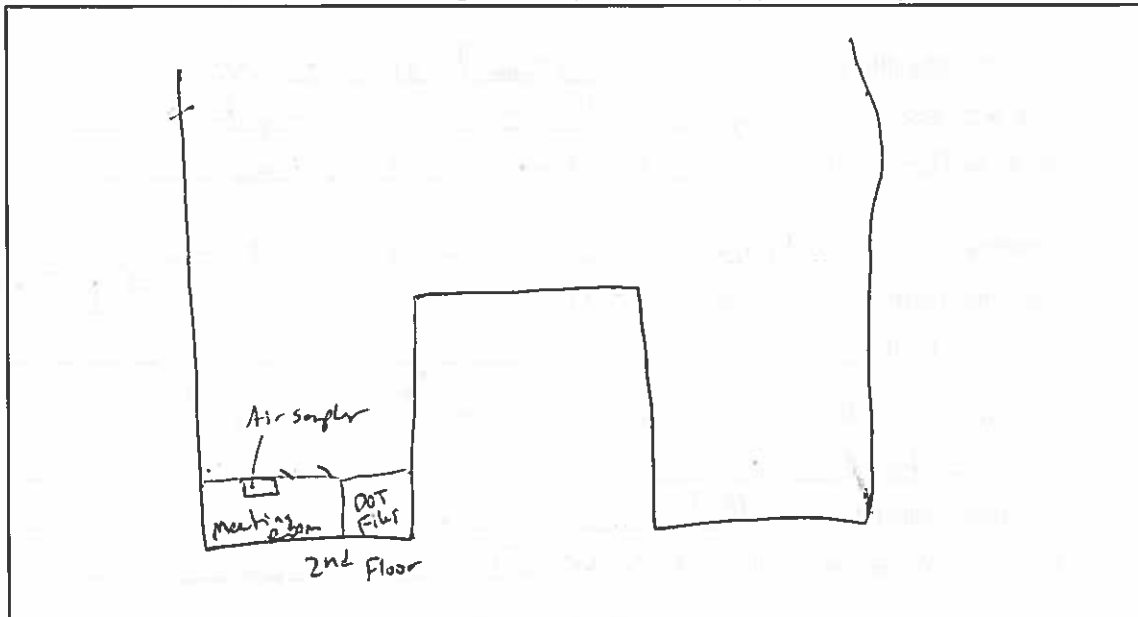
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, light rain (occasional)

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was placed on a table along interior wall in 2nd floor meeting room.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI7-AI-17-07

Site Address: Bldg 450 440 NKE

Sample Canister Location: 1st Floor Lunch

Sample Date: 3/7/12 Sampler: KL

Sample Time: Start: 9⁰¹ Stop: 17¹⁵

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Restek To-Can

Canister Serial No.: 0121

Flow Controller Serial No.: FC0112

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°F</u>	<u>69.5°F</u>	<u>57°F</u>	<u>73.5°F</u>

Barometric Pressure	<u>30.45 in Hg</u>	<u>30.28 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-29.5 in Hg</u>	<u>-13.0 in Hg</u>

Time:	<u>9⁰¹</u>	<u>17¹⁵</u>
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PID Reading:	<u>445 ppb</u>	<u>121 ppb</u>
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Basement Depth (ft below grade):	<u>—</u>	
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Window Marked:	<u>Yes/No</u>	
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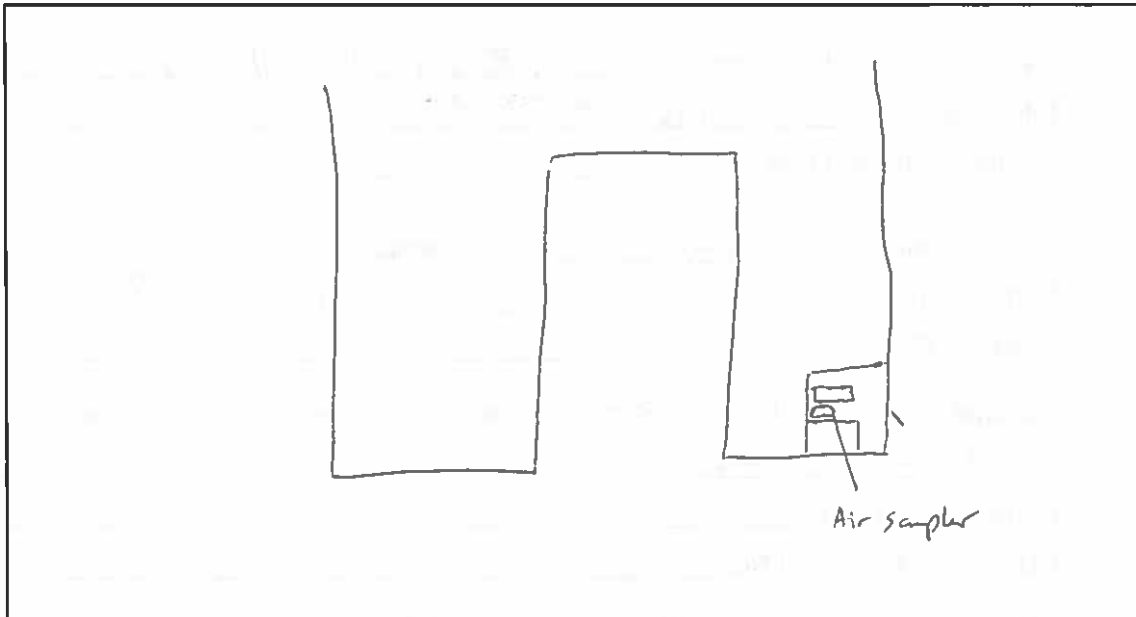
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, light rain (occasional)

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was placed on a side table near lunch table in the 1st floor lunch room. Spoke with Leo Osterheldt about work permit - he did not require one for placement of air canisters.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI7-AI-17-08
 Site Address: Bldg 440 1st Floor Lunch Room (below Conf Rm)
 Sample Canister Location: 1st Floor Lunch Room (below Conf. Rm)

 Sample Date: 9/7/17 Sampler: 12L
 Sample Time: Start: 14th 9:18 Stop: 1725
 Shipping Date: _____

 Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):
Entech Silenite
 Canister Serial No.: 16654 - quick connect
 Flow Controller Serial No.: CS 12005 SW 01028

 Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

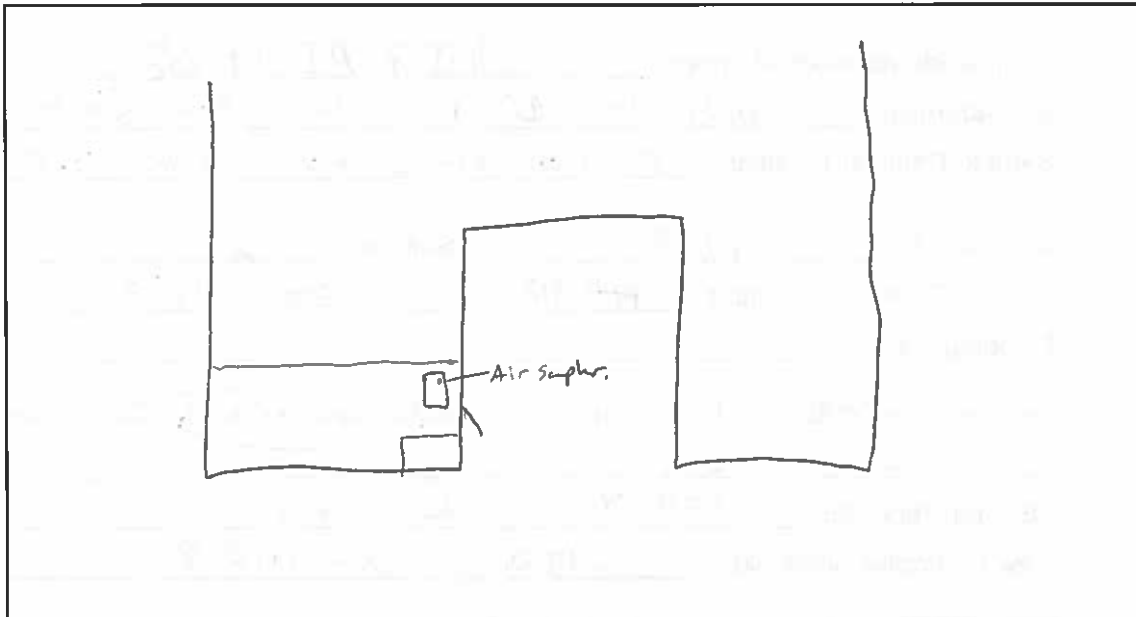
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°F</u>	<u>73.3°F</u>	<u>57°F</u>	<u>76.6°F</u>
Barometric Pressure	<u>30.44 in Hg</u>		<u>30.28 in Hg</u>	
Canister Pressure Gauge Reading:	Start <u>-30.0 ⁺ in Hg</u>		Stop <u>-4.0 in Hg</u>	
Time:	<u>9:18</u>		<u>1725</u>	
PID Reading:	<u>262</u>		<u>105 ppb</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Cloudy, light rain (occasional)

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was placed on table in the 1st floor lunch
area.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI7-AI-17-09

Site Address: Bldg 440⁵ NKL

Sample Canister Location: Computer Room

Sample Date: 3/7/17 Sampler: NKL

Sample Time: Start: 8²² Stop: 16²⁸

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Restek To-Can

Canister Serial No.: 2379

Flow Controller Serial No.: FL1015 '18"

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°</u>	<u>72.9°F</u> <u>71.3</u>	<u>57°F</u>	<u>74.5°F</u>

Barometric Pressure	<u>30.46 in Hg</u>	<u>30.28 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.5 in Hg</u>	<u>-5.0 in Hg</u>
Time:	<u>8²²</u>	<u>16²⁸</u>
PID Reading:	<u>180 ppb</u>	<u>187 ppb</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

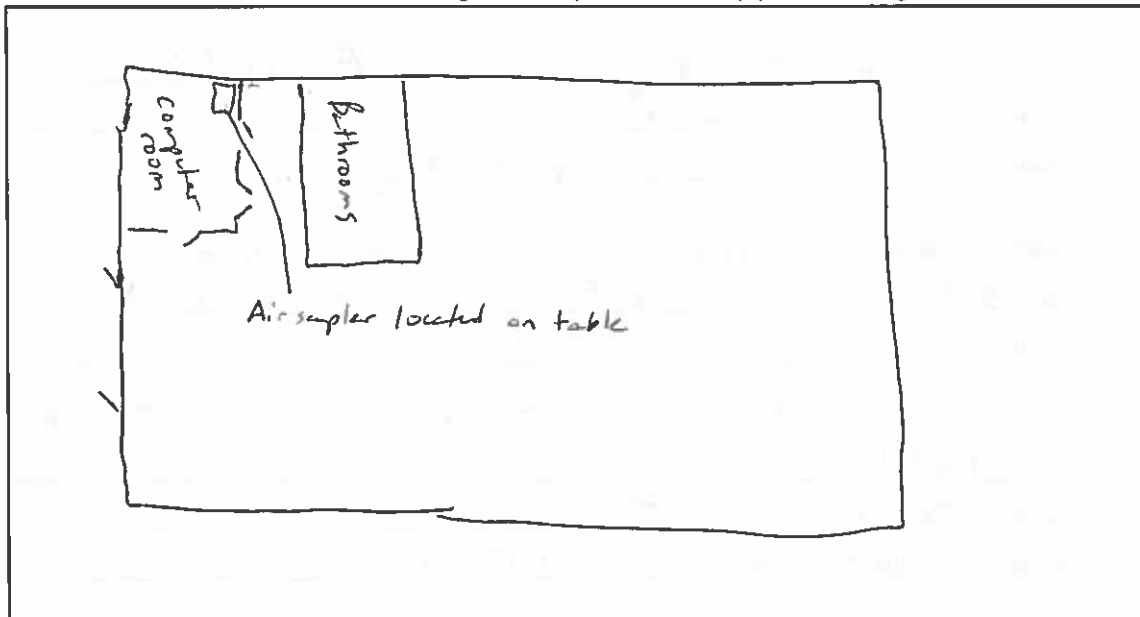
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, light rain (occasional)

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler located in back area of computer room,
on a table to the right of the Kitchen area. Room
is air-conditioned. Confirmed with John Wilson upon entering
the building that we did not require a work permit to place
air samplers in the building.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A077-AT-17-10

Site Address: Bldg 4450 NKC

Sample Canister Location: "Back Addition on Shelf"

Sample Date: 3/7/17 Sampler: KL

Sample Time: Start: 8³⁰ Stop: 16³²

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Reskuk To-Can

Canister Serial No.: 0521

Flow Controller Serial No.: FC0028 "8"

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°</u>	<u>72.9°F</u>	<u>57°F</u>	<u>76.4°F</u>

Barometric Pressure	<u>30.46</u>	<u>30.28 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-5.0 in Hg</u>

Time:	<u>8³⁰</u>	<u>16³²</u>
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PID Reading:	<u>172 ppb</u>	<u>106 ppb</u>
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Basement Depth (ft below grade):	<u>—</u>
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Window Marked:	<u>Yes/No</u>
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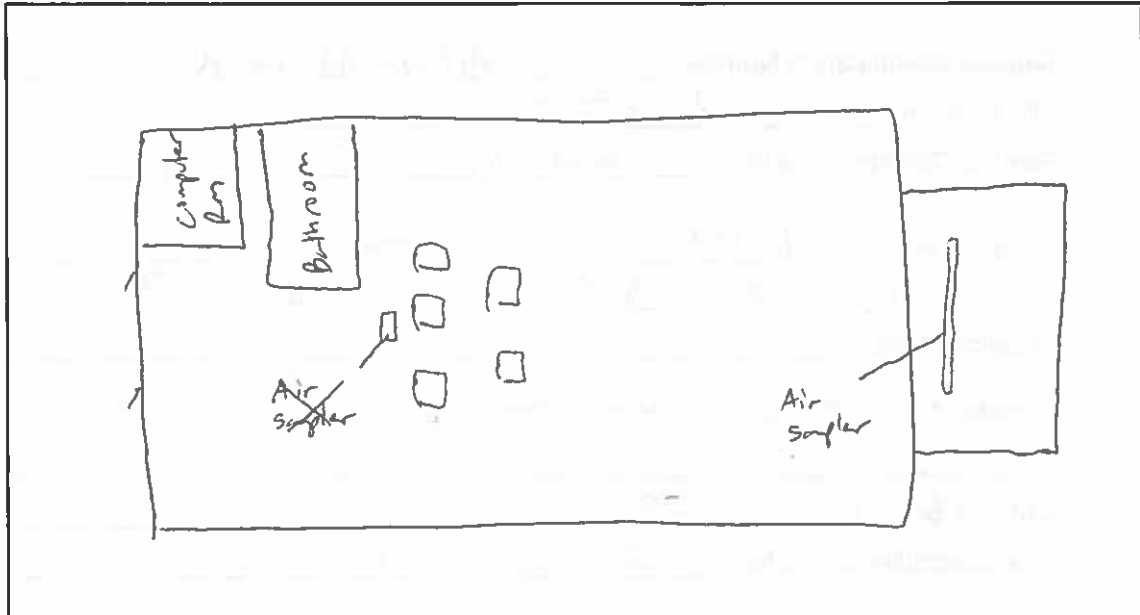
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Cloudy, light rain (occasional)

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

~~Air sampler was located on a table in the center meeting/break/~~
~~lunch area.~~

Air sampler was located on 1st shelf (center area) entering
addition area.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: A017-AI-17-11

Site Address: Bldg 440 450 NRC

Sample Canister Location: "On shelf near middle-walled Area"

Sample Date: 3/7/17 Sampler: KC

Sample Time: Start: 8³⁵ Stop: 16³⁷

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Restek To-Can

Canister Serial No.: 0164

Flow Controller Serial No.: FC0261

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°F</u>	<u>73.0°F</u>	<u>57°F</u>	<u>76.3°F</u>

Barometric Pressure	<u>30.75 in Hg</u>	<u>30.28 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-4.0 in Hg</u>
Time:	<u>8³⁵</u>	<u>16³⁷</u>
PID Reading:	<u>1443 ppb</u>	<u>59 ppb</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

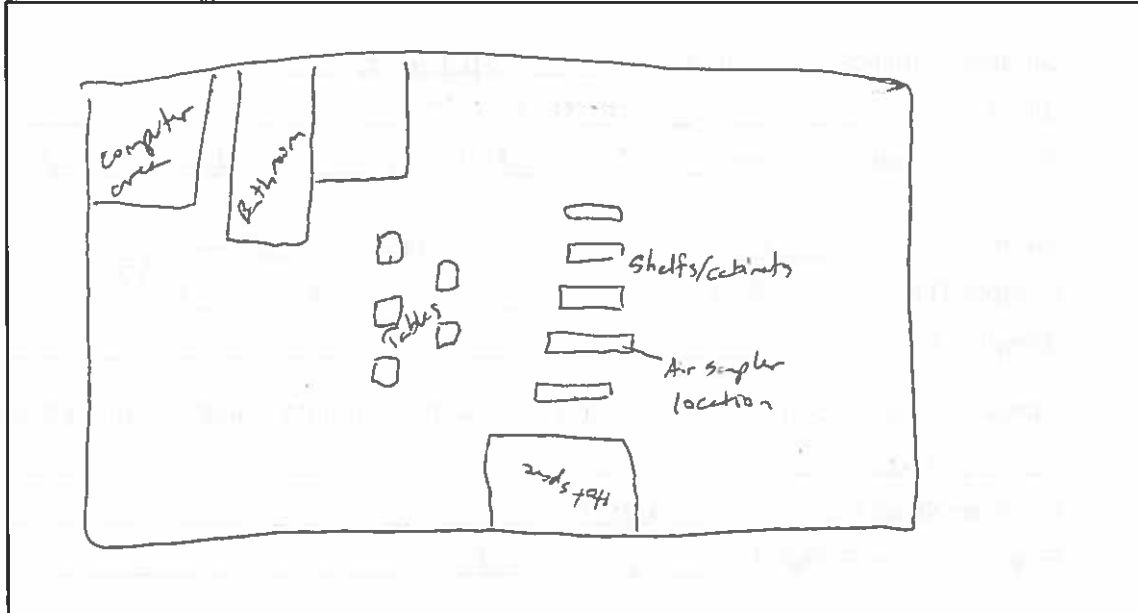
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: cloudy, light rain (occasional)

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler was located on a filing cabinet near hot space room.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: ADT7-AI-17-D

Site Address: Bldg 440 450 NCL

Sample Canister Location: "Hot Spare Room - Vent Area Middle"

Sample Date: 3/7/17 Sampler: KC

Sample Time: Start: 841 Stop: 1642

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Restek To-Can

Canister Serial No.: 0204

Flow Controller Serial No.: FC0015

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°F</u>	<u>71.7°F</u>	<u>57°F</u>	<u>71.7°F</u>

	Start	Stop
Barometric Pressure	<u>30.45 in Hg</u>	<u>30.28 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-5.0 in Hg</u>
Time:	<u>841</u>	<u>1642</u>
PID Reading:	<u>568 ppb</u>	<u>421 ppb</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

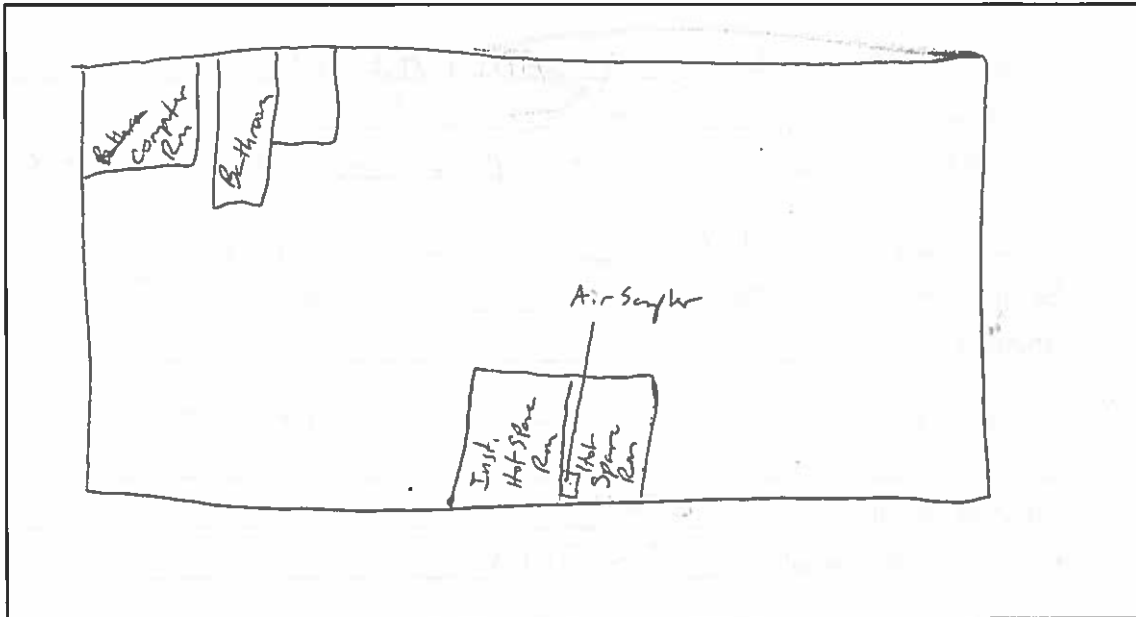
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: cloudy, light rain (occasional)

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Air sampler located on a table along the common wall towards the back of the enclosed room. Room is air-conditioned.

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: ADT-AT-17 B

Site Address: 1115 440450 NKE

Sample Canister Location: "Table East Side Near open Office"

Sample Date: 3/7/12 Sampler: KL

Sample Time: Start: 848 Stop: 1652

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Restek To-Can

Canister Serial No.: 0264

Flow Controller Serial No.: FC 0290 "8"

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46°F</u>	<u>72.5°F</u>	<u>57.0°F</u>	<u>75.5°F</u>

	Start	Stop
Barometric Pressure	<u>30.45 in Hg</u>	<u>30.28 in Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-5.5 in Hg</u>

	Start	Stop
Time:	<u>848</u>	<u>1652</u>

	Start	Stop
PID Reading:	<u>1438</u>	<u>70 ppb</u>

	Start	Stop
Basement Depth (ft below grade):	<u>-</u>	<u>-</u>

	Start	Stop
Window Marked:	<u>Yes/No</u>	<u>Yes/No</u>

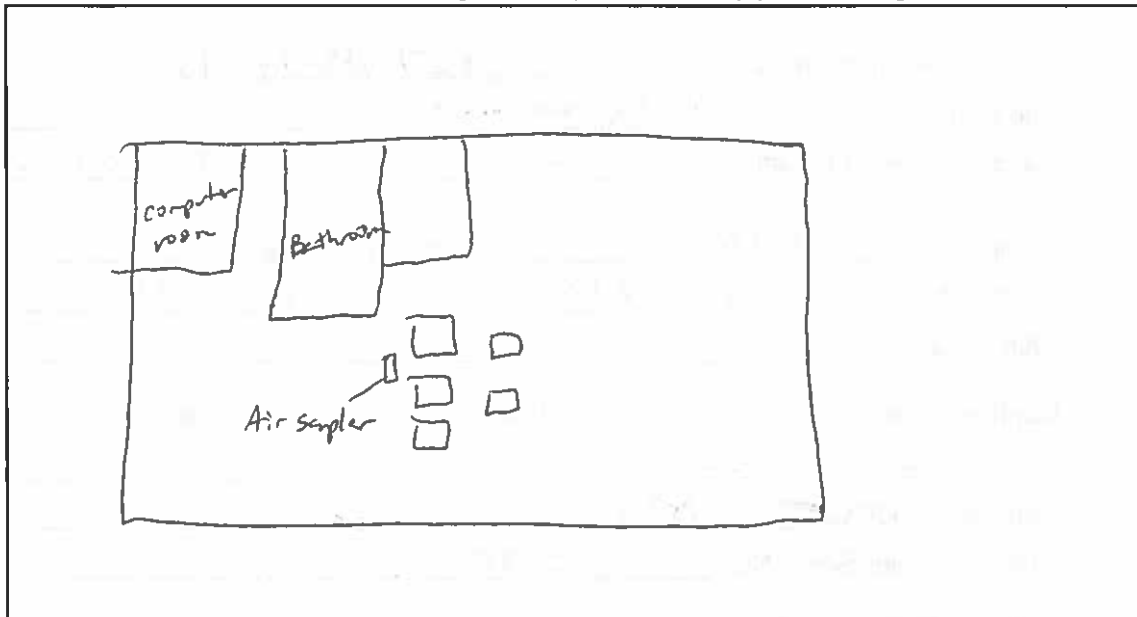
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: cloudy, light rain (occasional)

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

Air Sampler was located on a table in the center meeting/
break/lunch area

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI7-AI-17-14

Site Address: 3144 Passyunk Ave Philadelphia PA

Sample Canister Location: AOI7 Canteen

Sample Date: 03/07/17 Sampler: Alissa Cannon

Sample Time: Start: 0759 Stop: 1559

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 0077

Flow Controller Serial No.: 02070

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.9</u>	<u>67.5</u>	<u>66</u>	<u>78.1</u>

Barometric Pressure	<u>30.5</u>	<u>30.29</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>29</u>	<u>8.0</u>

Time:	<u>0759</u>	<u>1559</u>
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PID Reading: parts per billion	<u>92</u>	<u>76</u>
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Basement Depth (ft below grade):	<u>-</u>	
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Window Marked:	<u>Yes/No</u>
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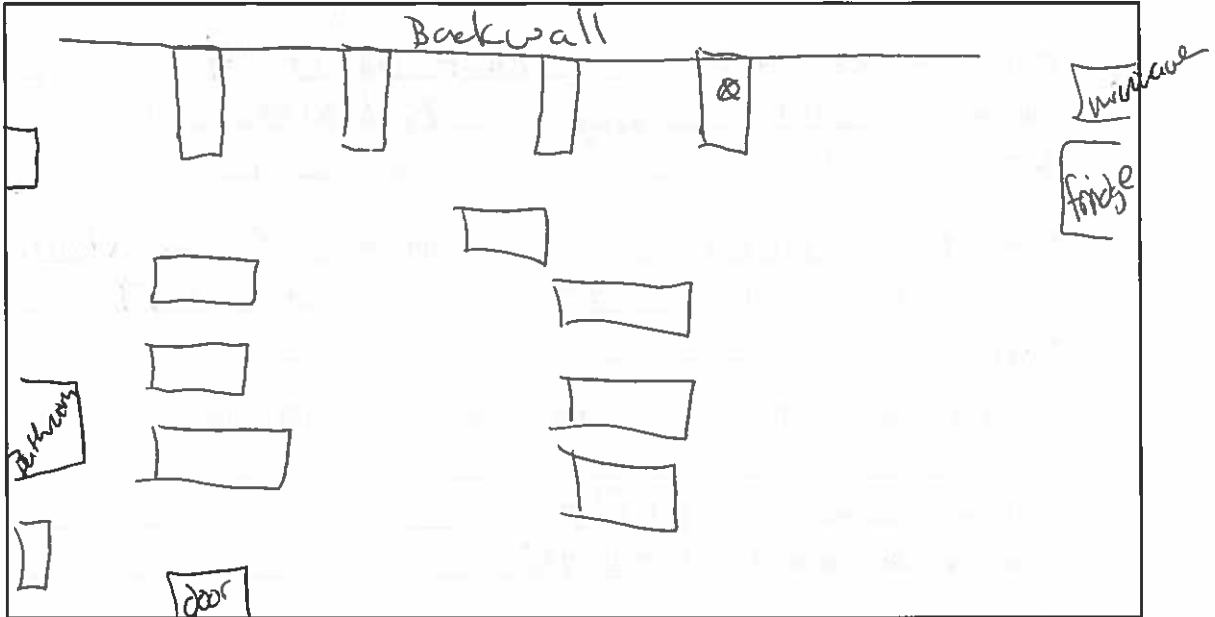
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: light rain

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

canister set on back table, food and books in room

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI7-AI-17-15

Site Address: 3144 Passyunk Ave Philadelphia, PA

Sample Canister Location: AOI7 - Fire house office of George

attached
to Firehouse

Sample Date: 03/07/17 Sampler: Aliza Cannon

Sample Time: Start: 0934 Stop: 1743

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

Canister Serial No.: 2304

Flow Controller Serial No.: 7236983

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.9</u>	<u>66.2</u>	<u>74.3</u>	<u>74.3</u>

Barometric Pressure	<u>30.47</u>	<u>30.27</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>30+</u>	<u>4</u>

Time:	<u>0934</u>	<u>1743</u>
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PID Reading:	<u>258</u>	<u>220</u>
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Basement Depth (ft below grade): —

Window Marked: Yes/No

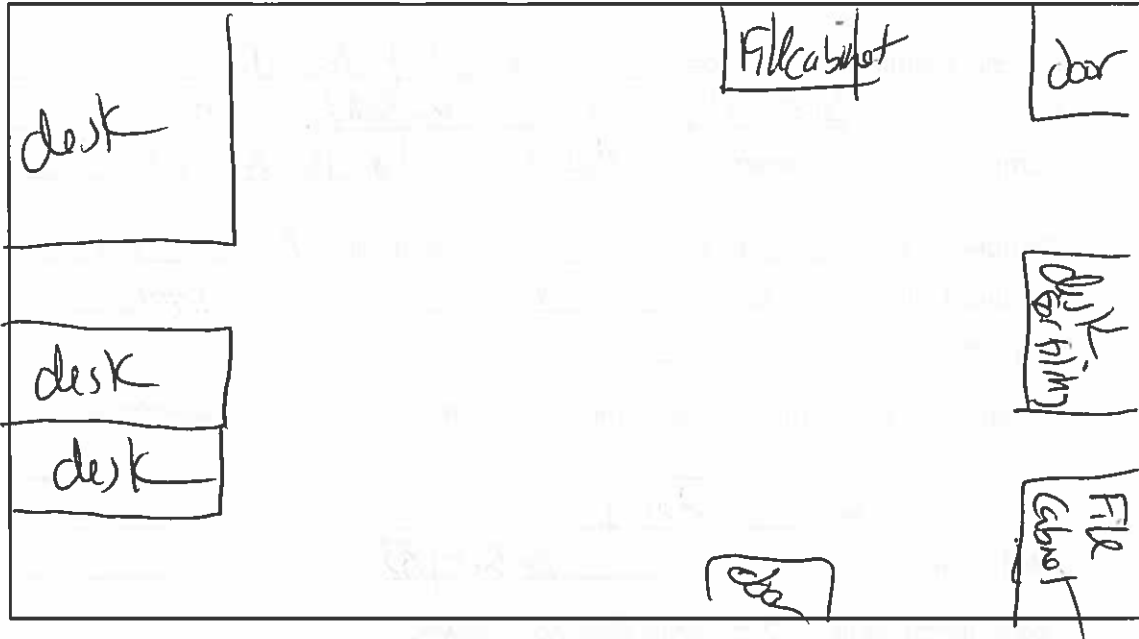
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: light rain

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

sample canister on top of file cabinet near door
to garage

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI7-AA-17-01

Site Address: 3144 Passyunk Ave Philadelphia PA

Sample Canister Location: AA-AOI7 WWTP

Sample Date: 03/07/17 Sampler: Alissa Cannon

Sample Time: Start: 0917 Stop: 1717

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify): _____

Canister Serial No.: 2721

Flow Controller Serial No.: FC0887 AOI941924

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>46.9</u>	<u>47.1</u>	<u>66</u>	

Barometric Pressure	<u>30.47</u>	<u>30.27</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>30+</u>	<u>5+</u>

Time:	<u>0917</u>	<u>081717</u>
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PID Reading:	<u>200</u>	<u>141</u>
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Basement Depth (ft below grade):	<u>-</u>	
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Window Marked:	<u>Yes/No</u>
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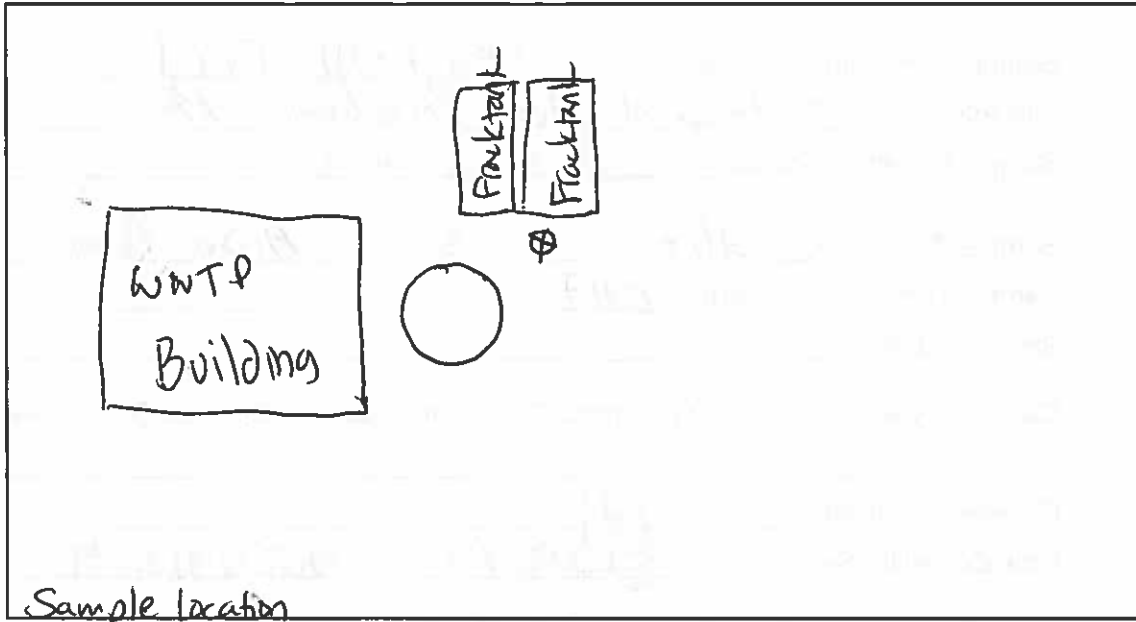
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: light rain

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Sample was collected on a tripod at a height of approximately 3 feet. location was north east of tank

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI8-AI-17-09
 Site Address: 6641/642 Trailer (Supervision offices for North Railroad Terminal)
 Sample Canister Location: Lunch/Meeting room
 Sample Date: 3/9/17 Sampler: KC
 Sample Time: Start: 759 Stop: 1610
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):
Eutech Silonite
 Canister Serial No.: 16690
 Flow Controller Serial No.: 01077
 Were "Instructions to Occupants Building" followed?
☒ Yes ☐ No

B) Sampling Information

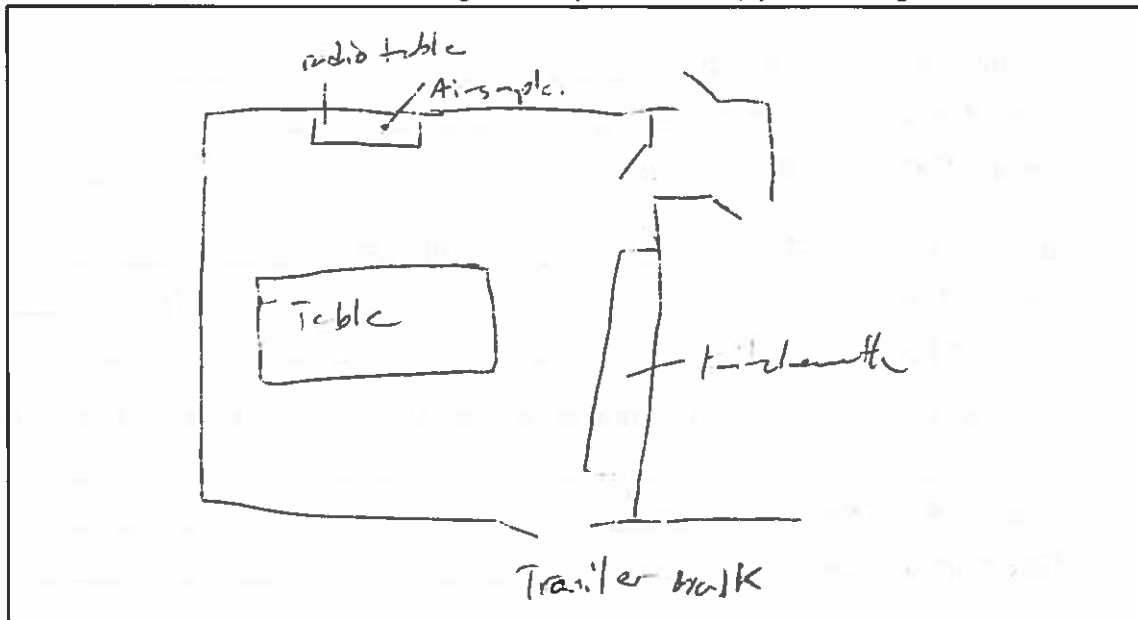
	<u>Start</u>		<u>Stop</u>	
	<u>Ambient</u>	<u>Interior</u>	<u>Ambient</u>	<u>Interior</u>
Temperature	<u>50°F</u>	<u>75.3°F</u>	<u>67°F</u>	<u>80.2°F</u>
Barometric Pressure	<u>30.15 in Hg</u>		<u>30.07 in Hg</u>	
Canister Pressure Gauge Reading:	<u>Start</u>		<u>Stop</u>	
	<u>-30.0 in Hg</u>		<u>5.5 in Hg</u>	
Time:	<u>759</u>		<u>1610</u>	
PID Reading:	<u>353 ppb</u>		<u>605 ppb</u>	
Basement Depth (ft below grade):	<u>-</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: _____

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

ked Frazier stated that I did not require a work permit to place an air sampler in either Bldg 6641 or 6642.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: A018-AI-17-0910

Site Address: 6641/6642 Trail NYRT Blackhouse

Sample Canister Location: Central office area

Sample Date: 3/9/17 Sampler: KL

Sample Time: Start: 8¹¹ Stop: 16¹⁷

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify):

Residual To Can

Canister Serial No.: 0153

Flow Controller Serial No.: FL0312

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50°F</u>	<u>76.0°F</u>	<u>67°F</u>	<u>75.5°F</u>

	Start	Stop
Barometric Pressure	<u>30.15 in. Hg</u>	<u>30.07 in. Hg</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in. Hg</u>	<u>-4.0 in. Hg</u>

	Start	Stop
Time:	<u>8¹¹</u>	<u>16¹⁷</u>

	Start	Stop
PID Reading:	<u>369 ppb</u>	<u>192 ppb</u>

Basement Depth (ft below grade): -

Window Marked: Yes/No

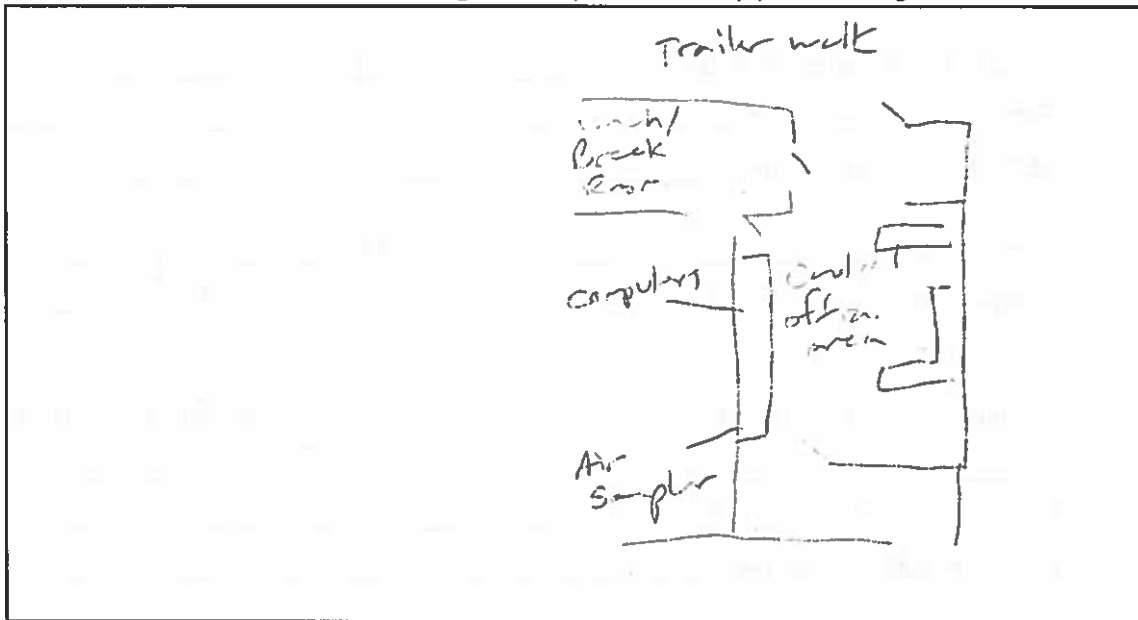
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Reed Frazier pointed out the location last utilized during air sampling, next to a printer. Used same location, on table next to a printer.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI8-AI-17-11

Site Address: Bldg 27 Scale House

Sample Canister Location: common area

Sample Date: 3/9/17 Sampler: KC

Sample Time: Start: 8³⁸ Stop: 16⁴²

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify):

Resek Tb - Can

Canister Serial No.: 0097

Flow Controller Serial No.: FC0047

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50°F</u>	<u>74.3°F</u>	<u>67°F</u>	<u>75.4°F</u>

Barometric Pressure 30.15 in Hg 30.08 in Hg

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30.0 in Hg</u>	<u>-4.0 in Hg</u>
Time:	<u>8³⁸</u>	<u>16⁴²</u>
PID Reading:	<u>198 ppb</u>	<u>41 ppb</u>
Basement Depth (ft below grade):	<u>—</u>	
Window Marked:	<u>Yes/No</u>	

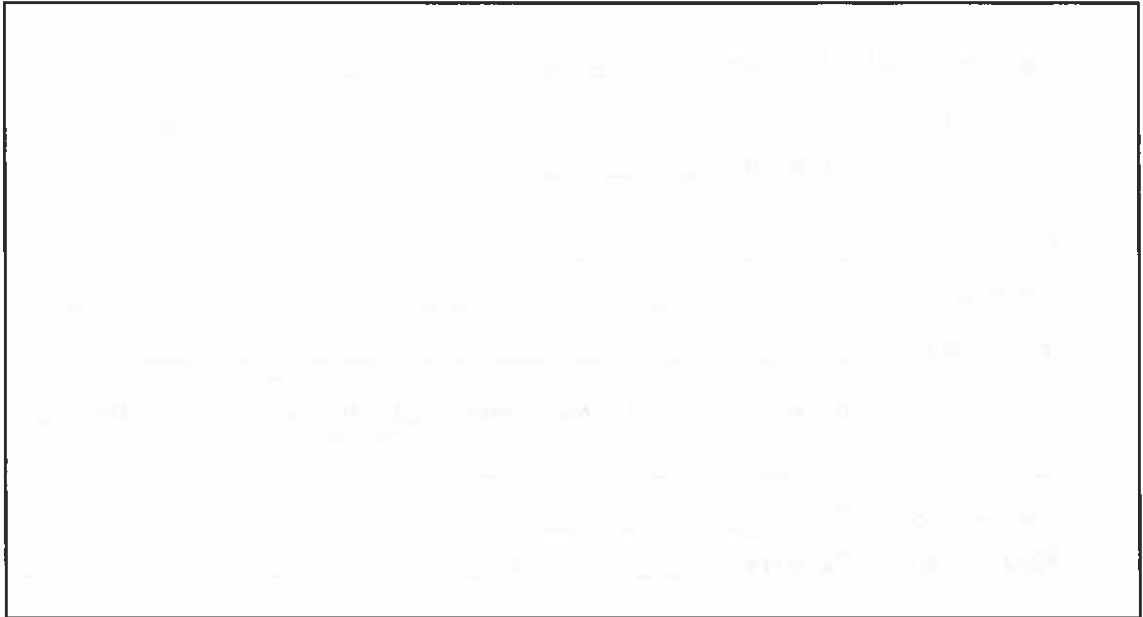
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Spoke with Fred Cartledge, he stated that I did not need
a work permit for placing the air sampler

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI8-AI-17-12

Site Address: New Seale House (AOI 8)

Sample Canister Location: New Seale House

Sample Date: 5/9/17 Sampler: KL

Sample Time: Start: 8:30 Stop: 14:33

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify):

Restek To-Can

Canister Serial No.: 0129

Flow Controller Serial No.: FC1055

Were "Instructions to Occupants Building" followed?

☒ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>50°F</u>	<u>76.8°F</u>	<u>67°F</u>	<u>74.0°F</u>

Barometric Pressure	<u>30.14 in Hg</u>	<u>30.07 in Hg</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-27.0 in Hg</u>	<u>-5.0 in Hg</u>

Time:	<u>8:30</u>	<u>14:33</u>
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PID Reading:	<u>109 ppb</u>	<u>22 ppb</u>
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Basement Depth (ft below grade):	<u>-</u>	
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Window Marked:	<u>Yes/No</u>
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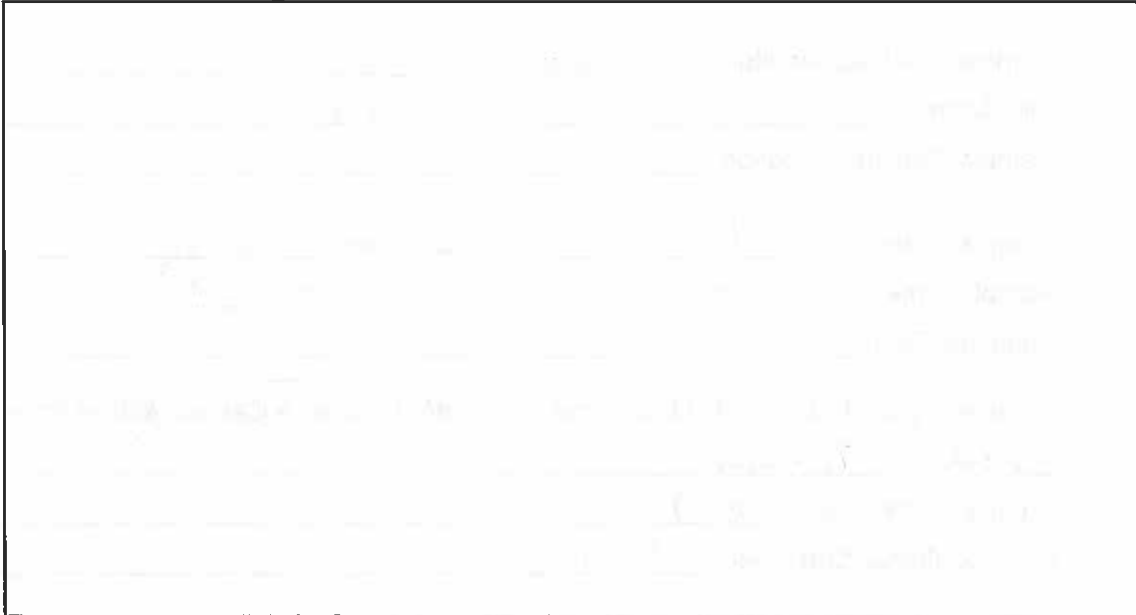
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Tom Michaels, scale house operator, did not require a work permit.

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: A018-AA-17-03
 Site Address: A018
 Sample Canister Location: Ambient air sample near Bldg 27 scale house
 Sample Date: 3/9/17 Sampler: KC
 Sample Time: Start: 846 Stop: 1650
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister/6 L Summa Canister/Other (specify):

 Canister Serial No.: 0137
 Flow Controller Serial No.: FC0278
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

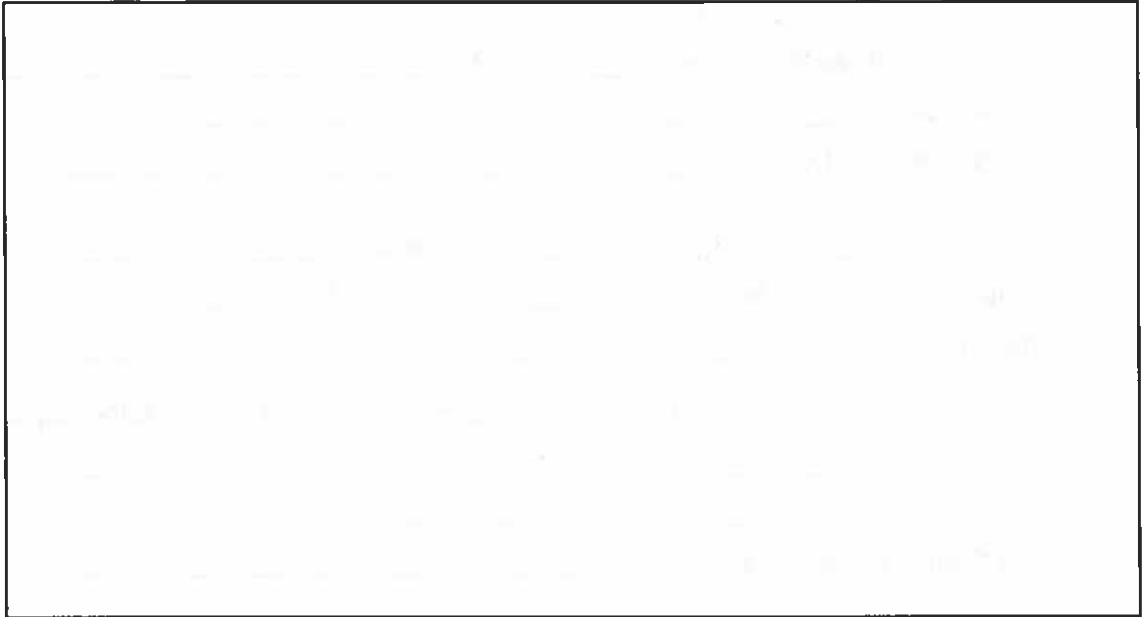
	Start		Stop	
Temperature	Ambient <u>50°F</u>	Interior <u>NK</u> <u>70.1°F</u>	Ambient <u>67°F</u>	Interior <u>68.1°F</u>
Barometric Pressure	<u>30.19 in Hg</u>		<u>30.08 in Hg</u>	
Canister Pressure Gauge Reading:	Start <u>30.0+ Hg</u>		Stop <u>14.0 in Hg</u>	
Time:	<u>846</u>		<u>1650</u>	
PID Reading:	<u>108 ppb</u>		<u>0 ppb</u>	
Basement Depth (ft below grade):	_____		_____	
Window Marked:	Yes/No		_____	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: _____

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI9-AA-17-01

Site Address: _____

Sample Canister Location: AOI9-Outside AMBIENT-

4 amb. can

Sample Date: 3-11-17 Sampler: Donovan Young

Sample Time: Start: 0700 Stop: _____

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 7816

Flow Controller Serial No.: FC0512

Were "Instructions to Occupants Building" followed?

☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>22.3</u>	<u>22.3</u>	<u>28.0</u>	

Barometric Pressure 30.44

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30+</u>	<u>3+</u>

	Start	Stop
Time:	<u>0700</u>	<u>1502</u>

	Start	Stop
PID Reading:	<u>0.00 ppm</u>	<u>0.00 ppm</u>

	Start	Stop
Basement Depth (ft below grade):	<u>-</u>	

	Start	Stop
Window Marked:	<u>Yes/No</u>	

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

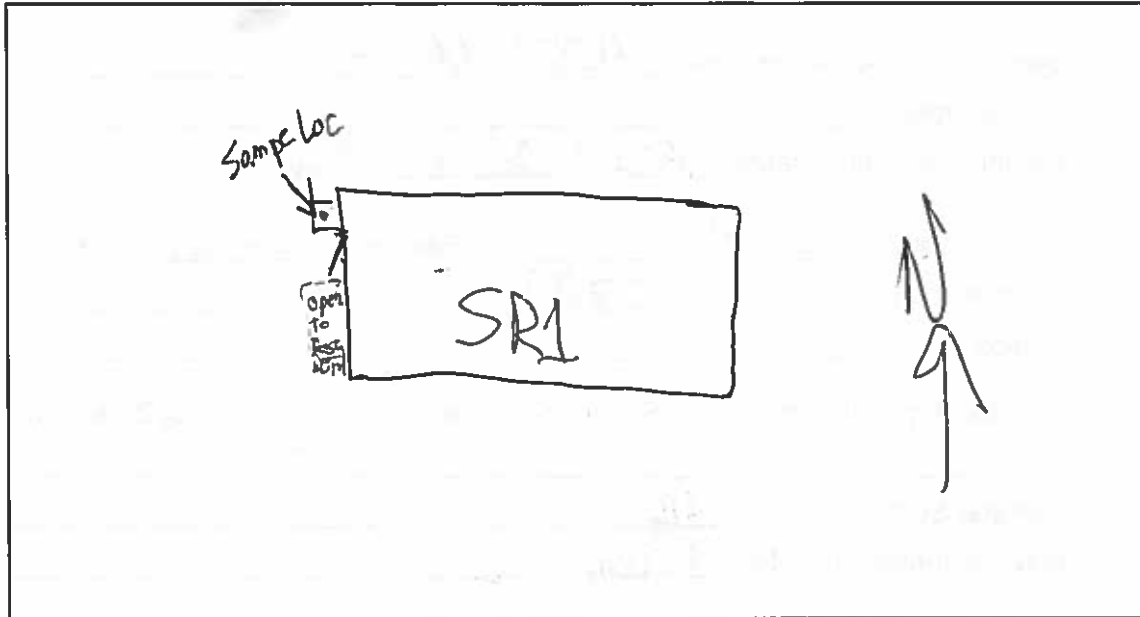
☐ Yes ☒ No

Describe the general weather conditions: Sunny, Clear, Cold

*1527
1093
-30+ 700*

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

OK Schuylkill River Tank Farm Main Pump House -
Northwest Corner next to Control Room Entrance

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI9-AI-17-01

Site Address: _____

Sample Canister Location: AOI9-SR1 Bldg - Control Room

Sample Date: 3-11-17 Sampler: Darvyn Young

Sample Time: Start: 0700 Stop: _____

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 1527

Flow Controller Serial No.: 1093

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>22</u>	<u>61.0</u>	<u>28</u>	<u>77.2</u>

Barometric Pressure	<u>30.46</u>	<u>30.43</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30"</u>	<u>6"</u>

Time:	<u>0700</u>	<u>1500</u>
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PID Reading:	<u>0.00 ppm</u>	<u>0.00 ppm</u>
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Basement Depth (ft below grade):	<u>—</u>
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Window Marked:	<u>Yes/No</u>
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Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

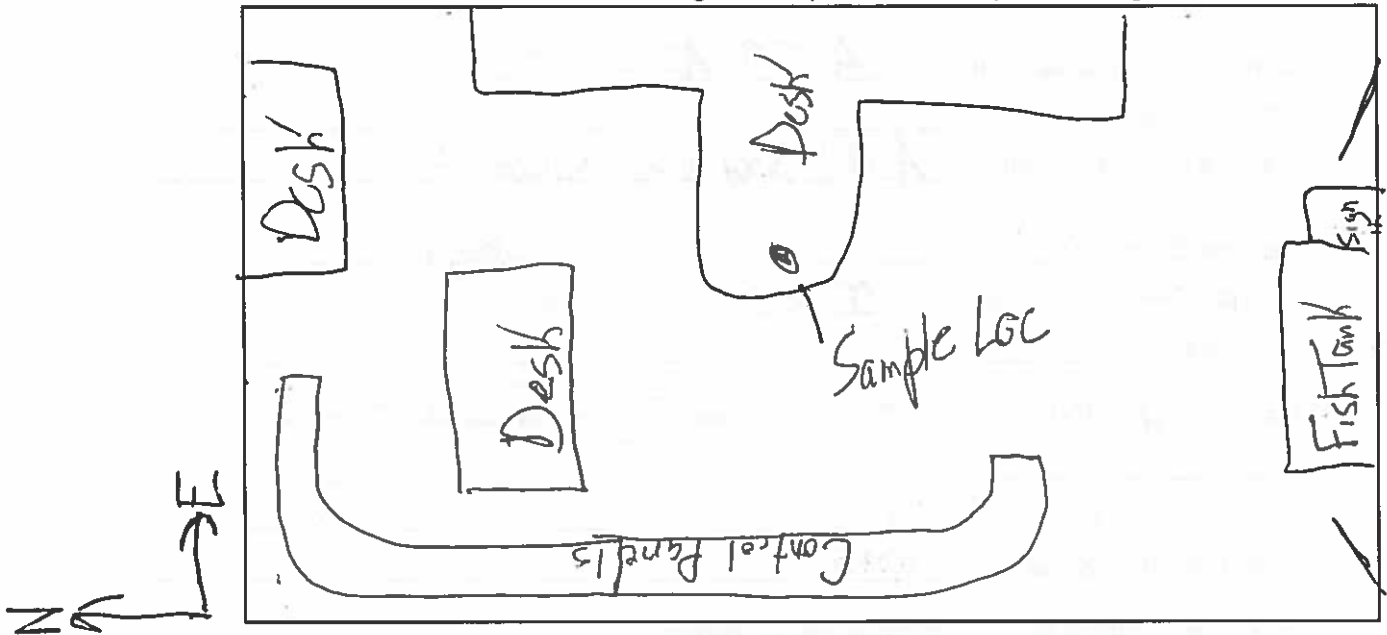
☐ Yes ☒ No

Describe the general weather conditions: Sunny, Clear, Cold

Tim Campbell

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

AOI9-Schuylkill River Tank Farm Pump House (SR1)
Control Room on desk in center of room

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI9-AI-17-02

Site Address: _____

Sample Canister Location: AOI9-~~SR~~ SR14 Bldg - Office *Training*

Sample Date: 3-1-17 Sampler: Donovan Young

Sample Time: Start: 0708 Stop: _____

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 2839

Flow Controller Serial No.: FC0526

Were "Instructions to Occupants Building" followed?

☐ Yes ☒ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>22</u>	<u>72.1</u>	<u>28</u>	<u>71.6</u>

Barometric Pressure	<u>30.45</u>	<u>30.42</u>
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	Start	Stop
Canister Pressure Gauge Reading:	<u>-30</u>	<u>-6</u>
Time:	<u>0708</u>	<u>1508</u>
PID Reading:	<u>0.00 ppm</u>	<u>0.00 ppm</u>
Basement Depth (ft below grade):	<u>-</u>	
Window Marked:	<u>Yes/No</u>	

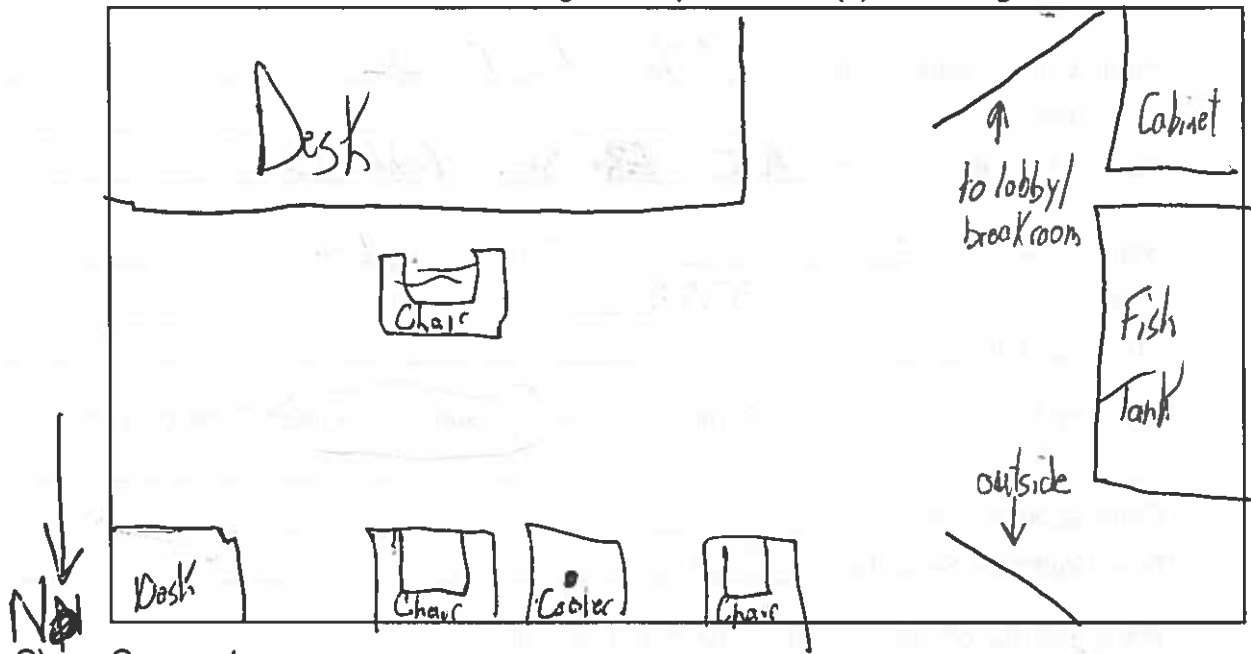
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Sunny, Clear, Cold

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



Comments

AOI9 - SR14 Bldg - Office on North Side of Bldg -
North Wall opposite desk

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI9-AI-17-03
 Site Address: _____
 Sample Canister Location: AOI9 - Gasoline Blending Control Room (SR19 Bldg)
 Sample Date: 3-11-07 Sampler: Donovan Young
 Sample Time: Start: 0717 Stop: 1517
 Shipping Date: _____
 Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
 Canister Serial No.: 766
 Flow Controller Serial No.: FC0363
 Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

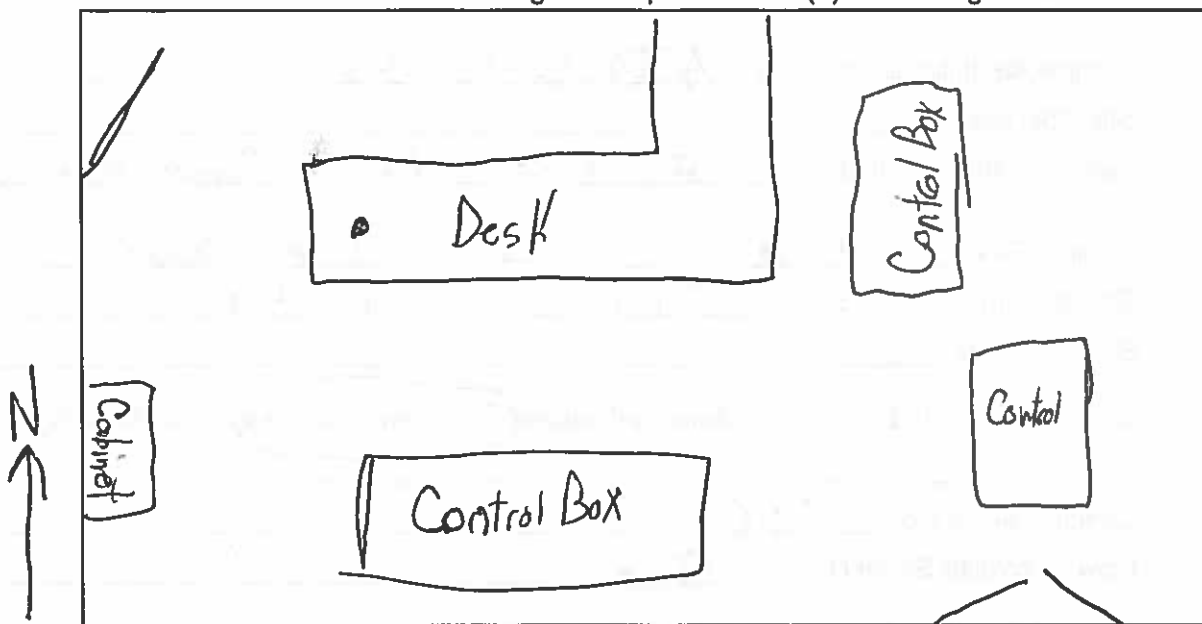
	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>22</u>	<u>15.3</u>	<u>28</u>	<u>73.1</u>
Barometric Pressure	<u>30.44</u>		<u>30.40</u>	
Canister Pressure Gauge Reading:	Start <u>-30+</u>		Stop <u>-8</u>	
Time:	<u>0717</u>		<u>1517</u>	
PID Reading:	<u>500.000ppm</u>		<u>0.00ppm</u>	
Basement Depth (ft below grade):	<u>—</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?
☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cold

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C)

Comments

AOI9 - Gasoline Blending Bldg (SR19) - Control Room
On corner of Desk on NW side of room

Dave Small

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

A) General Information

Sample Identification Number: AOI9-AI-17-04

Site Address: _____

Sample Canister Location: AOI9-SRZ Bldg - Corner Office corner

Sample Date: 3-11-17 Sampler: Donovan Young

Sample Time: Start: 0653 Stop: 1453

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 1640

Flow Controller Serial No.: FC0408

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>2.2</u>	<u>63.8</u>	<u>28</u>	<u>66.4</u>

	Start	Stop
Barometric Pressure	<u>30.14</u>	<u>30.42</u>

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30"</u>	<u>-5</u>

	Start	Stop
Time:	<u>0653</u>	<u>1453</u>

	Start	Stop
PID Reading:	<u>0.050 ppm</u>	<u>0.000 ppm</u>

Basement Depth (ft below grade): -

Window Marked: Yes/No

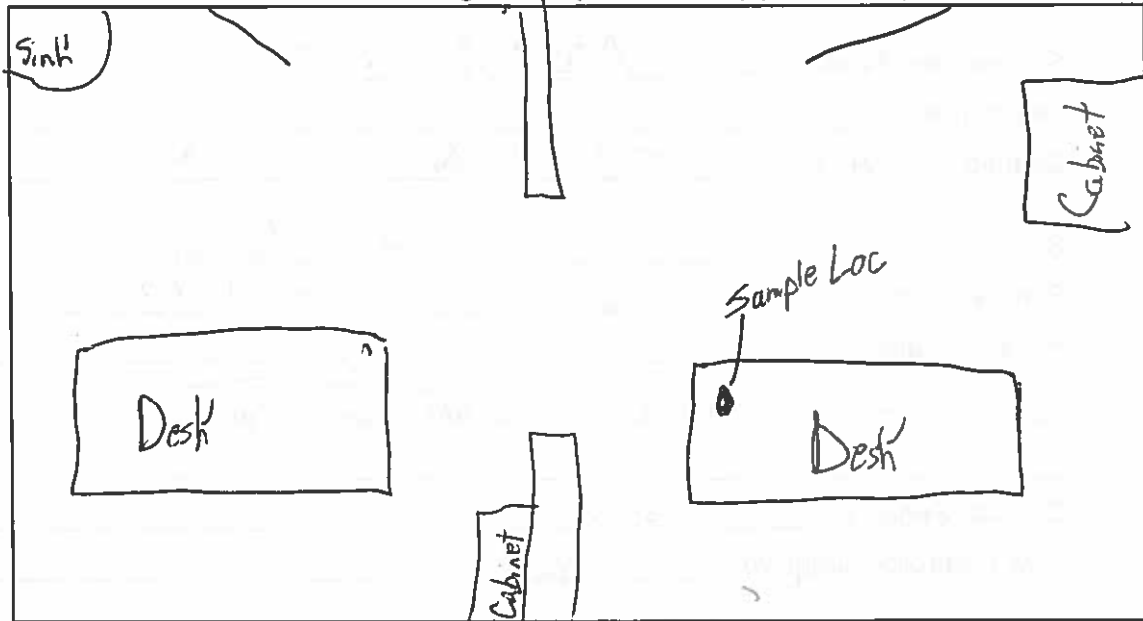
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Clear, Sunny, Cold

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C)

Comments

Inside Corner office of SRZ Bldg - South ~~Par~~ Office
Partition on Desk in center of room

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: ADT9-AI-17-05

Site Address: _____

Sample Canister Location: ADT9-SR9-Loading Office

Sample Date: 3-11-17 Sampler: Dorrian Young

Sample Time: Start: 0634 Stop: 1434

Shipping Date: _____

Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____

Canister Serial No.: 0801

Flow Controller Serial No.: FC0311

Were "Instructions to Occupants Building" followed?

☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>22</u>	<u>70.9</u>	<u>22.8</u>	<u>71.8</u>

Barometric Pressure	<u>30.44</u>	<u>30.46</u>
---------------------	--------------	--------------

	Start	Stop
Canister Pressure Gauge Reading:	<u>-30</u>	<u>-19</u>

Time:	<u>0634</u>	<u>1434</u>
-------	-------------	-------------

PID Reading:	<u>0.0</u>	<u>0.00</u>
--------------	------------	-------------

Basement Depth (ft below grade):

Window Marked: Yes/No

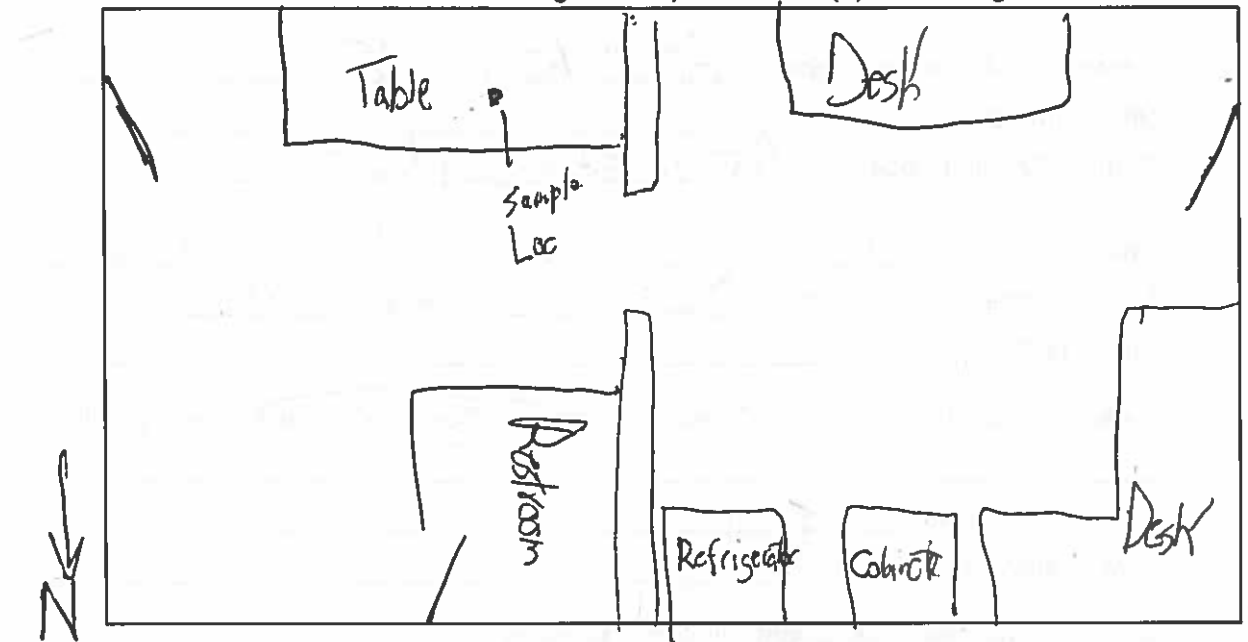
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

☐ Yes ☒ No

Describe the general weather conditions: Sunny, Cold, Clear

Indoor Air Sampling Field Data Sheet
(Form SP-28)

Provide Drawing of Sample Location(s) in Building



C) Comments

AOIS9 Schuykill River Tank Farm Loading Office (SR9)
~~East~~ East Partition of Office on table in SE Corner

Indoor Air Sampling Field Data Sheet
(Form SP-28)

A) General Information

Sample Identification Number: AOI9-AI-17-06
Site Address: _____
Sample Canister Location: AOI9-SR9 Bldg - Loading Office (Duplicate)
Sample Date: 3-11-17 Sampler: Donovan Yang
Sample Time: Start: 0634 Stop: 1434
Shipping Date: _____
Canister Type: 400 mL – 1.0 L Summa Canister 6 L Summa Canister Other (specify): _____
Canister Serial No.: 808
Flow Controller Serial No.: FC1104
Were "Instructions to Occupants Building" followed?
☐ Yes ☐ No

B) Sampling Information

	Start		Stop	
	Ambient	Interior	Ambient	Interior
Temperature	<u>22</u>	<u>70.9</u>	<u>28</u>	<u>71.8</u>
Barometric Pressure	<u>30.44</u>		<u>30.40</u>	
Canister Pressure Gauge Reading:	Start <u>28</u>		Stop <u>-4</u>	
Time:	<u>0634</u>		<u>1434</u>	
PID Reading:	<u>0.00</u>		<u>0.00</u>	
Basement Depth (ft below grade):	<u>→</u>			
Window Marked:	<u>Yes/No</u>			

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?

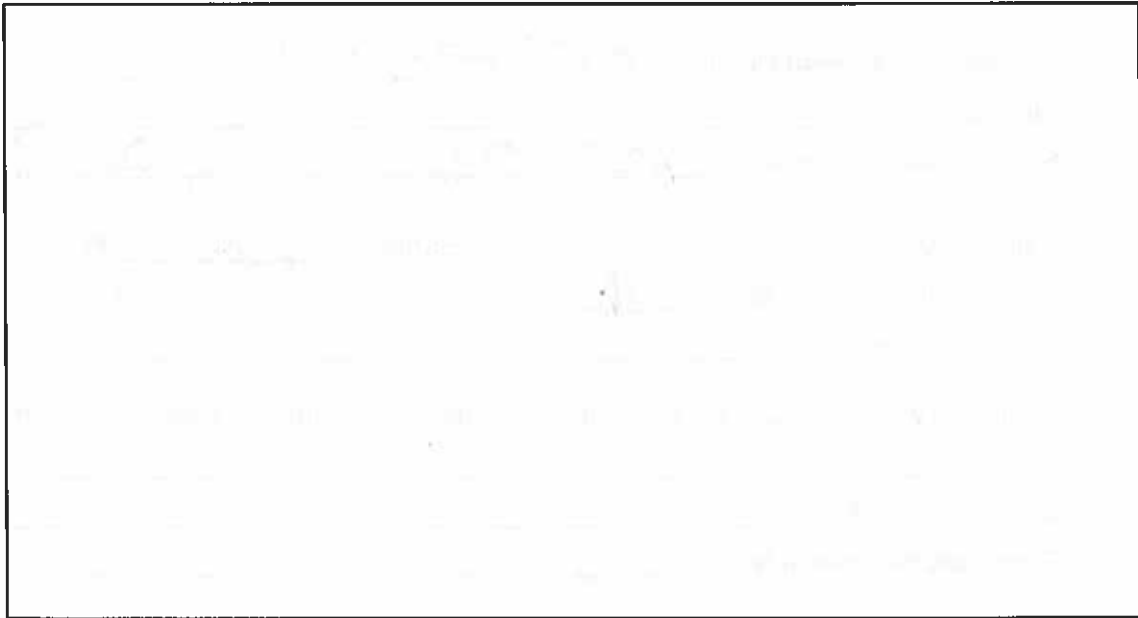
☐ Yes ☐ No

Describe the general weather conditions: Clear, Cold, Sunny

Lincoln Isaac

**Indoor Air Sampling Field Data Sheet
(Form SP-28)**

Provide Drawing of Sample Location(s) in Building



C) Comments

Same as OS

**Building Physical Survey Questionnaire
(Form SP-27)**

Date: 3-10-17 Time: 1530 Project Number: 11109626

Address: 3144 Passyunk Ave, Philadelphia, PA

Building Owner: AES

Occupant Name: AES

Contact Name: _____

Telephone (home): _____

Telephone (work): _____

Cell: _____

How long has owner/tenant/occupant/resident occupied building? _____

Occupation: _____

Number of Occupants _____ Adults: _____ Ages: _____

Children: _____ Ages: _____

Building Construction Characteristics:

Building Use: Residential _____ Commercial/Industrial _____ School/Institutional _____

If property residential, Building Type:

One story _____ Two storey _____ Apartment (# of units) _____

Condominium (# of units) _____ Other _____

If property industrial/commercial, Building Type:

Business type(s): _____

General Description of Building Construction Materials: Brick, Siding, Wood, Stone, Stucco, Metal, Other: _____

Is the building insulated? Y/N _____

How air tight? Tight/Average/Not Tight _____

Year Constructed: _____

Garage: Do you have an attached garage? Yes ☐ No ☐

Has the building been weatherized with any of the following?

Insulation, Storm Windows, Energy-Efficient Windows, Other (specify) _____

What type of basement does the building have?

None	<input type="checkbox"/>	Finished	Unfinished	Depth below reference point (meters)
Partial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Full	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Crawl space	<input type="checkbox"/>	na	na	_____

Number of floors at or above grade: 1

Depth of basement below grade: _____ ft/m

Basement Size: _____ ft²/m²

Building Physical Survey Questionnaire
(Form SP-27)

Foundation construction: Poured concrete ☐ Cinder block ☐ Stone ☐

Any visual evidence of leakage through basement walls or floor: ☐

Floor Construction: Poured concrete ☐ Wood ☐ Earth ☐ Brick ☐ Other: _____

Floor condition (cracks, drains): _____

Condition at floor/wall joint (if visible): _____

Any exterior openings from the basement:

☐ Vents

☐ Fans

☐ Windows

☐ Wall openings

☐ Utility pipe penetrations

☐ Other: _____

Type of ground cover outside of building: grass / concrete / asphalt / other (specify): _____

Sub-slab vapor/moisture barrier in place? Yes / No / Don't know

Type of barrier: _____

Do you have a sump? Yes ☐ No ☐

Where: _____

If yes, sealed ☐ open ☐ NA ☐

If yes, is there water in the sump? Yes ☐ No ☐

Is building serviced with municipal water? Yes ☐ No ☐

Do you have a water well? Yes ☐ No ☐ Don't know ☐

Well location: _____

Do you drink the water obtained from the well? _____

What do you use the well for? _____

Do you have a cistern? Yes ☐ No ☐

If yes, describe its location: _____

Do you have a septic system? Yes ☐ No ☐ If Yes is it still active Yes ☐ No ☐

If yes, describe its location: _____

If yes, describe how septic system is cleaned: _____

Has there ever been a fire in the building? Yes ☐ No ☐

If yes, describe its location and extent: _____

Is there a laundry room located inside the house? Yes ☐ No ☐

If yes, describe its location: _____

Is there a Radon System in the building? Yes ☐ No ☐

**Building Physical Survey Questionnaire
(Form SP-27)**

Heating and Ventilation System(S) Present:

What type of heating system(s) is/are used in the building?

Hot Air Circulation Heat Pump Steam Radiation Wood Stove
Hot Air Radiation Unvented Kerosene heater Electric Baseboard Other (specific)

Where are they located? _____

Is there outside air vent for heating system? _____

What type(s) of fuel(s) are used in this building?

Natural Gas Electric Coal Other (specific)
Fuel Oil Wood Solar

What type of mechanical ventilation systems are present and/or currently operating in the building?

Central Air Conditioning Mechanical Fans Bathroom Ventilation
Fan Kitchen Range Hood Open Windows
Individual Air Conditioning Units Air-to-Air Heat Exchanger Other (specify)

Where are they located? _____

Do you have a fireplace? Yes ☐ No ☐

Does the fireplace have an outside combustion air vent? Yes ☐ No ☐

Sources of Chemical Contaminants

1. When was the last time dry-cleaned clothes were brought into the building?

☐ 0 to 5 days ago ☐ 6 to 10 days ago ☐ More than 10 days ago ☐ Don't dry-clean

Unknown

2. How recently were the carpets installed?

☐ In the last six months ☐ More than six months ago ☒ No Carpet

3. When was the last time the carpet was cleaned?

☐ In the last six months ☐ More than six months ago ☒ Never *N/A*

4. Was there any recent remodeling or painting done in the building?

☐ Yes ☐ No

Details: *Currently Remodeling 6-10-17*

5. Are there any pressed wood products in the building (e.g., hardwood plywood wall paneling, particleboard, fiberboard)? _____

**Building Physical Survey Questionnaire
(Form SP-27)**

6. Are there any new upholstery, drapes, or textiles in the building? No
7. Do you have any spot removers in the building?
☐ Yes ☒ No Details: _____
8. Are there any hobbies include model building, arts and crafts, model railroading, or others that require paints, thinners, or glue undertaken in the building?
☒ Yes ☐ No Details: Maintenance Bldg
9. Do you perform automotive or other vehicle maintenance or repair within the building (e.g., attached garage)?
☒ Yes ☐ No Details: Maintenance Bldg
10. Which of these items are present in the building? (Check all that apply) (provide additional details in Product Inventory at end of document)

Potential VOC Source	Location of Source	Removed 48 hours prior to sampling? (Yes/No/NA)
Paints or paint thinners		
Gas-powered equipment		
Gasoline storage cans		
Cleaning solvents		
Air fresheners		
Oven cleaners		
Carpet/upholstery cleaners		
Hairspray		
Nail polish/polish remover		
Bathroom cleaner		
Appliance cleaner		
Furniture/floor polish		
Moth balls		
Fuel tank		
Wood stove		
Fireplace		
Perfume/colognes		
Hobby supplies (e.g., solvents, paints, lacquers, glues, photographic darkroom chemicals)		
Scented trees, wreaths, potpourri, etc.		
Other		
Other		
Other		
Other		

**Building Physical Survey Questionnaire
(Form SP-27)**

11. Do you have pesticides in the building?

☐ Yes ☐ No ☒ Unsure

12. Do you have any spray insecticides in the building?

☐ Yes ☐ No ☒ Unsure

13. Have you painted any area of the interior of the building in the last 12 months?

☐ Yes ☒ No

If yes, please indicate what paint you used

☐ Enamel ☐ Vinyl ☐ Latex ☐ Other

14. Have you painted the exterior of the building in the last 12 months? ☐ Yes ☒ No

If yes, please indicate what paint you used

☐ Enamel ☐ Vinyl ☐ Latex ☐ Other

15. Where are paint, thinner, pesticides, insecticides stored?

	Paint	Thinner	Pesticides	Insecticides
Garage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storage shed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ I don't store these items in the building

16. Have you purchased one of the following items in the last 12 months?

☒ Rubberized door mat ☒ Computer ☐ Wiring
☐ Plastic shower curtain ☒ Printer ☐ Linoleum
☐ Wood stains or paint

17. Do you have a computer printer in the building?

☒ Yes ☐ No

18. Are there any pets in the building?

☐ Yes ☒ No

If yes, what type? _____

If yes, number: _____

Building Physical Survey Questionnaire
(Form SP-27)

19. Does anyone in the smoke in the building? ☐ Yes ☒ No

20. Questions asked by Occupant that require follow-up.

painting of equipment regularly occurs
use solvents, parts cleaners
CRC, Super solve, oils, use regularly for maintenance
of parts

Signature and Printed Name of Conducting the Survey

Building Physical Survey Questionnaire (Form SP-27)

Product Inventory Form

Make & Model of field instrument used: _____
List specific products found in the building that have the potential to affect indoor air quality.

[illegible]

* Describe the condition of the product containers as Unopened (UO), Used (U), or Deteriorated (D)

**** Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.**

Attachment B Weather Data



Chameleon
SoilGas Monitor

Tool-free sampling for soil
gas wells, vapor intrusion,
shallow probes and surface
studies



Philadelphia, PA 🏠

Philadelphia International

© 4:13 PM EDT on May 23, 2017 (GMT -0400)

Today Forecast

Weather History for KPHL - March, 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Actual: 74° 56° 0.03 in Average: 48° 30° 0.10 in	2 Actual: 62° 38° T in Average: 48° 31° 0.11 in	3 Actual: 40° 29° T in Average: 48° 31° 0.10 in	4 Actual: 36° 21° 0.00 in Average: 49° 31° 0.11 in
5 Actual: 38° 15° 0.00 in Average: 49° 31° 0.10 in	6 Actual: 51° 26° 0.00 in Average: 49° 32° 0.11 in	7 Actual: 67° 42° 0.02 in Average: 50° 32° 0.12 in	8 Actual: 64° 49° 0.01 in Average: 50° 32° 0.12 in	9 Actual: 68° 48° 0.00 in Average: 50° 32° 0.11 in	10 Actual: 50° 28° 1.0 in Average: 51° 33° 0.12 in	11 Actual: 32° 20° 0.00 in Average: 51° 33° 0.11 in
12 Actual: 33° 23° 0.00 in Average: 51° 33° 0.11 in	13 Actual: 42° 21° MM in Average: 50° 34° 0.27 in	14 Actual: 35° 24° 4.8 in Average: 52° 34° 0.12 in	15 Actual: 31° 21° T in Average: 52° 34° 0.13 in	16 Actual: 39° 24° 0.00 in Average: 53° 34° 0.13 in	17 Actual: 45° 27° 0.00 in Average: 53° 35° 0.13 in	18 Actual: 42° 36° 0.01 in Average: 53° 35° 0.13 in
19 Actual: 50° 35° 0.00 in Average: 54° 35° 0.13 in	20 Actual: 54° 34° 0.00 in Average: 54° 35° 0.13 in	21 Actual: 59° 42° 0.02 in Average: 54° 36° 0.14 in	22 Actual: 53° 27° 0.00 in Average: 55° 36° 0.13 in	23 Actual: 45° 24° 0.00 in Average: 55° 36° 0.12 in	24 Actual: 58° 32° 0.00 in Average: 56° 37° 0.14 in	25 Actual: 77° 44° 0.02 in Average: 56° 37° 0.13 in
26 Actual: 45° 41° 0.00 in Average: 56° 37° 0.13 in	27 Actual: 62° 42° 0.09 in Average: 57° 38° 0.14 in	28 Actual: 54° 48° 0.45 in Average: 57° 38° 0.13 in	29 Actual: 62° 45° 0.00 in Average: 57° 38° 0.13 in	30 Actual: 52° 37° 0.11 in Average: 58° 39° 0.13 in	31 Actual: 50° 39° 1.53 in Average: 58° 39° 0.13 in	

Calendar Legend



Sunny
Clear



Mostly Cloudy



Partly Cloudy



Cloudy



Rain



Snow



Hail Flurries



Thunderstorms



Hazy
Fog



Sleet



'?' denotes
'chance of'



Unknown



the lofts at town center

Loft-Style Condos

Sophisticated, urban living in the heart of Mercer County.



Philadelphia, PA 🏠

Philadelphia International

© 4:15 PM EDT on May 23, 2017 (GMT -0400)

Weather History for KPHL - March, 2017

March

6

2017

View

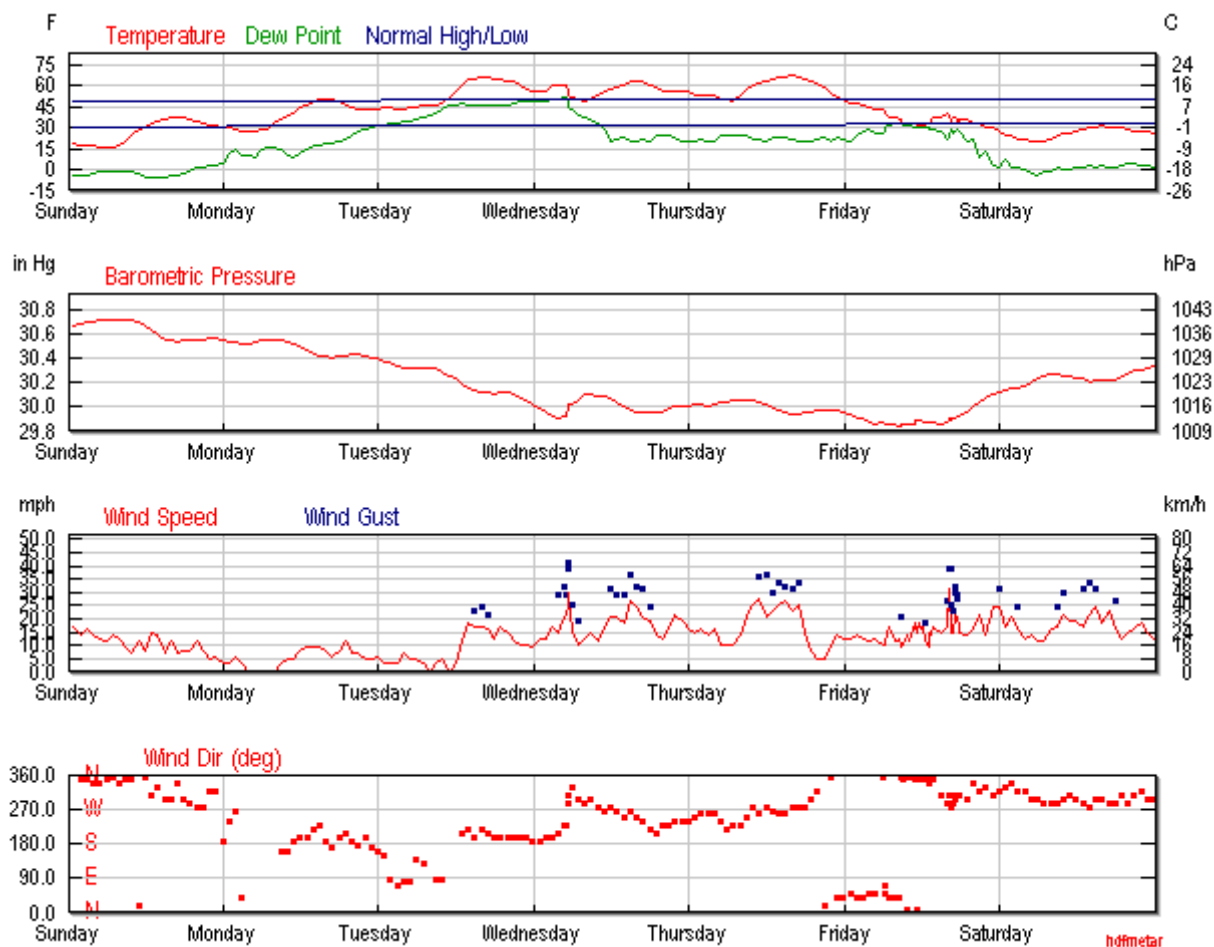
Week of March 5, 2017 through March 11, 2017

Daily	Weekly	Monthly	Custom
-------	--------	---------	--------

	Max	Avg	Min	Sum
Temperature				
Max Temperature	68 °F	53 °F	32 °F	

	Max	Avg	Min	Sum
Mean Temperature	58 °F	43 °F	26 °F	
Min Temperature	49 °F	33 °F	15 °F	
Degree Days				
Heating Degree Days (base 65)	39	22	7	154
Cooling Degree Days (base 65)	0	0	0	0
Growing Degree Days (base 50)	8	3	0	18
Dew Point				
Dew Point	52 °F	20 °F	-6 °F	
Precipitation				
Precipitation	0.30 in	0.05 in	0.00 in	0.33 in
Snowdepth	0.0 in	0.0 in	0.0 in	-
Wind				
Wind	32 mph	13 mph	0 mph	
Gust Wind	42 mph	27 mph	17 mph	
Sea Level Pressure				
Sea Level Pressure	30.73 in	30.21 in	29.84 in	

Weekly Weather History Graph



Search for Another Location

Airport or City:

KPHL

Submit

Trip Planner

Search our weather history database for the weather conditions in past years. The results will help you decide how hot, cold, wet, or windy it might be!

Date:

March

6

Submit

Astronomy

Mar. 06, 2017		Rise	Set	
Actual Time		6:26 AM EST	5:58 PM EST	
Civil Twilight		5:59 AM EST	6:25 PM EST	
Nautical Twilight		5:27 AM EST	6:56 PM EST	
Astronomical Twilight		4:56 AM EST	7:28 PM EST	
Moon		12:07 PM EST (3/6)	1:53 AM EST (3/6)	
Length of Visible Light		12h 26m		
Length of Day		11h 32m		
Waxing Gibbous, 64% of the Moon is Illuminated				
Mar 6	Mar 12	Mar 20	Mar 27	Apr 3
Waxing Gibbous	Full	Last Quarter	New	First Quarter

Daily Weather History & Observations

2017	Temp. (°F)			Dew Point (°F)			Humidity (%)			Sea Level Press. (in)			Visibility (mi)			Wind (mph)			Precip. (in)	Events
Mar	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	low	high	avg	high	sum	
	38	27	15	4	-2	-6	51	34	17	30.73	30.64	30.54	10	10	10	21	10	24	0.00	

2017	Temp. (°F)			Dew Point (°F)			Humidity (%)			Sea Level Press. (in)			Visibility (mi)			Wind (mph)			Precip. (in)	Events
	51	39	26	32	17	8	62	44	25	30.55	30.49	30.40	10	10	10	14	5	22	0.00	
	67	55	42	49	43	32	82	65	48	30.38	30.22	30.03	10	10	10	24	9	31	0.02	Rain
	64	57	49	52	33	20	72	46	19	30.10	30.00	29.91	10	10	5	32	17	42	0.01	Rain
	68	58	48	25	22	20	39	28	17	30.06	30.00	29.94	10	10	10	32	16	41	0.00	
	50	39	28	34	27	2	92	62	31	30.12	29.90	29.84	10	5	0	31	15	40	0.30	Fog , Rain , Snow
	32	26	20	7	2	-4	46	37	28	30.34	30.24	30.14	10	10	10	31	17	39	0.00	

10

Table 8
Summary of Outdoor Worker Air Quality Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Analyte	CAS Number	NIOSH RELs	ACGIH TLVs	Location	Near S-60					Near S-285					Near S-19					Near S-18				
				Sample	AOI3-AA-16-002					AOI3-AA-16-003					AOI3-AA-16-004					AOI3-AA-16-005				
				Date	5/23/2016					5/23/2016					5/23/2016					5/23/2016				
				Collected By	Aquaterra					Aquaterra					Aquaterra					Aquaterra				
				Unit	Result	Q	QL	RL	DF	Result	Q	QL	RL	DF	Result	Q	QL	RL	DF	Result	Q	QL	RL	DF
1,2,4-Trimethylbenzene	95-63-6	125,000	123,000	ug/m3	ND	U	4.0	4	1.61	ND	U	5.9	5.9	2.37	ND	U	4.0	4.0	1.61	ND	U	4.0	4.0	1.61
1,2-Dibromoethane	106-93-4	346	NS	ug/m3	ND	U	6.3	6.3	1.61	ND	U	9.3	9.3	2.37	ND	U	6.3	6.3	1.61	ND	U	6.3	6.3	1.61
1,2-Dichloroethane	107-06-2	4,000	40,500	ug/m3	ND	U	3.3	3.3	1.61	ND	U	4.9	4.9	2.37	ND	U	3.3	3.3	1.61	ND	U	3.3	3.3	1.61
1,3,5-Trimethylbenzene	108-67-8	125,000	123,000	ug/m3	ND	U	1.6	1.6	1.61	ND	U	2.4	2.4	2.37	ND	U	1.6	1.6	1.61	ND	U	1.6	1.6	1.61
Benzene	71-43-2	319	1,600	ug/m3	3.1		2.6	2.6	1.61	ND	U	3.8	3.8	2.37	ND	U	2.6	2.6	1.61	ND	U	2.6	2.6	1.61
Ethylbenzene	100-41-4	435,000	86,800	ug/m3	1.7		1.4	1.4	1.61	2.1		2.1	2.1	2.37	ND	U	1.4	1.4	1.61	1.7		1.4	1.4	1.61
Isopropylbenzene (Cumene)	98-82-8	245,000	246,000	ug/m3	ND	U	4.0	4	1.61	ND	U	5.9	5.9	2.37	ND	U	4.0	4.0	1.61	ND	U	4.0	4.0	1.61
Methyl Tertiary Butyl Ether	1634-04-4	NS	180,000	ug/m3	ND	U	14.7	14.7	1.61	ND	U	21.7	21.7	2.37	ND	U	14.7	14.7	1.61	ND	U	14.7	14.7	1.61
Naphthalene	91-20-3	50,000	52,000	ug/m3	ND	U	8.6	8.6	1.61	ND	U	12.6	12.6	2.37	ND	U	8.6	8.6	1.61	ND	U	8.6	8.6	1.61
Toluene	108-88-3	375,000	75,400	ug/m3	6.5		3.1	3.1	1.61	8.2		4.5	4.5	2.37	3.4		3.1	3.1	1.61	9.4		3.1	3.1	1.61
Total Xylenes	1330-20-7	435000	434000	ug/m3	8.1		4.2	4.2	1.61	10.7		6.3	6.3	2.37	6.2		4.2	4.2	1.61	8.4		4.2	4.2	1.61

Note:

CAS - Chemical Abstract Number

ug/m3 - Micrograms per cubic meter

Q - Qualifier

QL - Quantitation limit

RL - Reporting limit

DF - Dilution factor

ND - Not detected

NS - No standard

NIOSH RELs - National Institute for Occupational Safety and Health Recommended Exposure Limits.

ACGIH TLVs - American Conference of Governmental Industrial Hygienists Threshold Limit Values

NIOSH RELs and ACGIH TLVs from GHD's Air Data Evaluation Letter (Reference No. 11109626), November 9, 2016.

Qualifiers:

U - Compound analyzed but not detected

16

Table 7
Summary of Indoor Air Quality Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Analyte	CAS Number	PADEP VI	1/10th PADEP VI	OSHA PEL TWA	EPA RSL Cancer Risk = 10 ⁻⁵ HQ = 0.1	EPA RSL Cancer Risk = 10 ⁻⁶ HQ = 0.1	NIOSH RELs	ACGIH TLVs	Location	Outdoor Near Central Warehouse					Safeway Trailer					AOI 3 Central Warehouse					Warehouse Near Safety Store				
									Sample	AOI3-AA-16-001					AOI3-AI-16-001					AOI3-AI-16-002					AOI3-AI-16-003				
									Date	3/28/2016					3/22/2016					3/22/2016					3/22/2016				
									Collected By	GHD					GHD					GHD					GHD				
									Unit	Result	Q	MDL	RL	DF	Result	Q	MDL	RL	DF	Result	Q	MDL	RL	DF	Result	Q	MDL	RL	DF
1,2,4-Trimethylbenzene	95-63-6	31	3.1	NS	3.1	3.1	125,000	123,000	ug/m3	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	2.1	J	0.98	4.9	1
1,2-Dibromoethane	106-93-4	0.2	0.02	153,700	0.2	0.02	346	NS	ug/m3	ND	U	1.5	7.7	1	ND	U	1.5	7.7	1	ND	U	1.5	7.7	1	ND	U	1.5	7.7	1
1,2-Dichloroethane	107-06-2	4.7	0.47	202,400	3.1	0.47	4,000	40,500	ug/m3	ND	U	0.81	4.0	1	ND	U	0.81	4.0	1	ND	U	0.81	4.0	1	ND	U	0.81	4.0	1
1,3,5-Trimethylbenzene	108-67-8	31	3.1	NS	NS	NS	125,000	123,000	ug/m3	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1
Benzene	71-43-2	16	1.6	3,190	13	1.6	319	1,600	ug/m3	1.5	J	0.64	3.2	1	2.1	J	0.64	3.2	1	2.4	J	0.64	3.2	1	3.0	J	0.64	3.2	1
Ethylbenzene	100-41-4	49	4.9	435,000	49	4.9	435,000	86,800	ug/m3	ND	U	0.87	4.3	1	ND	U	0.87	4.3	1	ND	U	0.87	4.3	1	6.2		0.87	4.3	1
Isopropyl Benzene (Cumene)	98-82-8	1,800	180	245,000	180	180	245,000	246,000	ug/m3	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1
Methyl Tert-Butyl Ether	1634-04-4	470	47	NS	470	47	NS	180,000	ug/m3	ND	U	0.72	3.6	1	ND	U	0.72	3.6	1	ND	U	0.72	3.6	1	ND	U	0.72	3.6	1
Naphthalene	91-20-3	3.6	0.36	50,000	1.3	0.36	50,000	52,000	ug/m3	ND	U	2.6	5.2	1	ND	U	2.6	5.2	1	ND	U	2.6	5.2	1	ND	U	2.6	5.2	1
Toluene	108-88-3	22,000	2,200	754,000	2,200	2,200	375,000	75,400	ug/m3	4.5		0.75	3.8	1	1.8	J	0.75	3.8	1	3.5	J	0.75	3.8	1	13		0.75	3.8	1
Total Xylenes	1330-20-7	440	44	435,000	44	44	435,000	434,000	ug/m3	4	J	0.87	4.3	1	ND	U	0.87	4.3	1	1	J	0.87	4.3	1	36.3		0.87	4.3	1

Note:
PADEP VI- Pennsylvania Department of Environmental Protection Vapor intrusion Screening Value. Indoor Air Statewide Health Standard Non-Residential Vapor Intrusion Screening Level (January 2017).
OSHA PEL TWA - Occupational Safety and Health Administration Time-Weighted Average Permissible Exposure Limit .
EPA RSL - United States Environmental Protection Agency Industrial Regional Screening Level.
HQ - Hazard Quotient
NIOSH RELs - National Institute for Occupational Safety and Health Recommended Exposure Limits.
ACGIH TLVs - American Conference of Governmental Industrial Hygienists Threshold Limit Value.
The RSL for 1,2,4 and 1,3,5- trimethylbenzene were calculated using the September 2016 final IRIS RfC.
OSHA PELs, NIOSH RELs, and ACGIH TLVs from GHD's Air Data Evaluation Letter (Reference No. 11109626), November 9, 2016.
CAS - Chemical Abstract Registry Number
ug/m3 - Micrograms per cubic meter
Q - Qualifier
MDL - Method detection limit
RL - Reporting limit
DF - Dilution factor
ND - Not detected
NS - No standard

Qualifiers:
U - Compound analyzed but not detected
J - Compound detected below below the reporting limit (the value given is an estimate).

- Exceedances:**
- 10

- Result exceeds PADEP VI
- 10

- Result exceeds 1/10th PADEP VI
- 10

- Result exceeds OSHA PEL TWA
- 10

- Result exceeds EPA RSL (HQ = 0.1, Target Cancer Risk = 10⁻⁵)
- 10

- Result exceeds EPA RSL (HQ = 0.1, Target Cancer Risk = 10⁻⁶)
- 10

- Result exceeds NIOSH REL
- 10

- Result exceeds ACGIH TLVs
- 15

- MDL exceeds standard

Table 7
Summary of Indoor Air Quality Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Analyte	CAS Number	PADEP VI	1/10th PADEP VI	OSHA PEL TWA	EPA RSL Cancer Risk = 10 ⁻⁵ HQ = 0.1	EPA RSL Cancer Risk = 10 ⁻⁶ HQ = 0.1	NIOSH RELs	ACGIH TLVs	Location	Central Warehouse Walled Office					Center of Open Warehouse					Center of Open Warehouse					Central Warehouse Shipping/Receiving				
									Sample	AOI3-AI-16-004					AOI3-AI-16-005					AOI3-AI-16-006					AOI3-AI-16-007				
									Date	3/22/2016					3/22/2016					3/22/2016					3/22/2016				
									Collected By	GHD					GHD					GHD					GHD				
									Unit	Result	Q	MDL	RL	DF	Result	Q	MDL	RL	DF	Result	Q	MDL	RL	DF	Result	Q	MDL	RL	DF
1,2,4-Trimethylbenzene	95-63-6	31	3.1	NS	3.1	3.1	125,000	123,000	ug/m3	1.9	J	0.98	4.9	1	1.8	J	0.98	4.9	1	1.1	J	0.98	4.9	1	1.6	J	0.98	4.9	1
1,2-Dibromoethane	106-93-4	0.2	0.02	153,700	0.2	0.02	346	NS	ug/m3	ND	U	1.5	7.7	1	ND	U	1.5	7.7	1	ND	U	1.5	7.7	1	ND	U	1.5	7.7	1
1,2-Dichloroethane	107-06-2	4.7	0.47	202,400	3.1	0.47	4,000	40,500	ug/m3	ND	U	0.81	4.0	1	ND	U	0.81	4.0	1	ND	U	0.81	4.0	1	ND	U	0.81	4.0	1
1,3,5-Trimethylbenzene	108-67-8	31	3.1	NS	NS	NS	125,000	123,000	ug/m3	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1
Benzene	71-43-2	16	1.6	3,190	13	1.6	319	1,600	ug/m3	3.0	J	0.64	3.2	1	3.7		0.64	3.2	1	3.4		0.64	3.2	1	3.7		0.64	3.2	1
Ethylbenzene	100-41-4	49	4.9	435,000	49	4.9	435,000	86,800	ug/m3	1.0	J	0.87	4.3	1	2.2	J	0.87	4.3	1	ND	U	0.87	4.3	1	0.91	J	0.87	4.3	1
Isopropyl Benzene (Cumene)	98-82-8	1,800	180	245,000	180	180	245,000	246,000	ug/m3	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1	ND	U	0.98	4.9	1
Methyl Tert-Butyl Ether	1634-04-4	470	47	NS	470	47	NS	180,000	ug/m3	ND	U	0.72	3.6	1	0.75	J	0.72	3.6	1	ND	U	0.72	3.6	1	ND	U	0.72	3.6	1
Naphthalene	91-20-3	3.6	0.36	50,000	1.3	0.36	50,000	52,000	ug/m3	ND	U	2.6	5.2	1	ND	U	2.6	5.2	1	ND	U	2.6	5.2	1	ND	U	2.6	5.2	1
Toluene	108-88-3	22,000	2,200	754,000	2,200	2,200	375,000	75,400	ug/m3	22		0.75	3.8	1	13		0.75	3.8	1	24		0.75	3.8	1	13		0.75	3.8	1
Total Xylenes	1330-20-7	440	44	435,000	44	44	435,000	434,000	ug/m3	3	J	0.87	4.3	1	9.2	J	0.87	4.3	1	2	J	0.87	4.3	1	3.8	J	0.87	4.3	1

Note:
PADEP VI- Pennsylvania Department of Environmental Protection Vapor intrusion Screening Value. Indoor Air Statewide Health Standard Non-Residential Vapor Intrusion Screening Level (January 2017).
OSHA PEL TWA - Occupational Safety and Health Administration Time-Weighted Average Permissible Exposure Limit .
EPA RSL - United States Environmental Protection Agency Industrial Regional Screening Level.
HQ - Hazard Quotient
NIOSH RELs - National Institute for Occupational Safety and Health Recommended Exposure Limits.
ACGIH TLVs - American Conference of Governmental Industrial Hygienists Threshold Limit Value.
The RSL for 1,2,4 and 1,3,5- trimethylbenzene were calculated using the September 2016 final IRIS RfC.
OSHA PELs, NIOSH RELs, and ACGIH TLVs from GHD's Air Data Evaluation Letter (Reference No. 11109626), November 9, 2016.
CAS - Chemical Abstract Registry Number
ug/m3 - Micrograms per cubic meter
Q - Qualifier
MDL - Method detection limit
RL - Reporting limit
DF - Dilution factor
ND - Not detected
NS - No standard

Qualifiers:
U - Compound analyzed but not detected
J - Compound detected below below the reporting limit (the value given is an estimate).

- Exceedances:**
- 10

- Result exceeds PADEP VI
- 10

- Result exceeds 1/10th PADEP VI
- 10

- Result exceeds OSHA PEL TWA
- 10

- Result exceeds EPA RSL (HQ = 0.1, Target Cancer Risk = 10⁻⁵)
- 10

- Result exceeds EPA RSL (HQ = 0.1, Target Cancer Risk = 10⁻⁶)
- 10

- Result exceeds NIOSH REL
- 10

- Result exceeds ACGIH TLVs
- 15

- MDL exceeds standard

Table 7
Summary of Indoor Air Quality Sample Analytical Results
AOI 3 Remedial Investigation Report
Philadelphia Energy Solutions Refining Complex
Philadelphia, Pennsylvania

Analyte	CAS Number	PADEP VI	1/10th PADEP VI	OSHA PEL TWA	EPA RSL Cancer Risk = 10 ⁻⁵ HQ = 0.1	EPA RSL Cancer Risk = 10 ⁻⁶ HQ = 0.1	NIOSH RELs	ACGIH TLVs	Location	Tek-Solv Trailer in Southeast Corner of					Main Contractor Processing Trailer				
									Sample	AOI3-AI-16-008					AOI3-AI-16-009				
									Date	3/28/2016					3/29/2016				
									Collected By	GHD					GHD				
									Unit	Result	Q	MDL	RL	DF	Result	Q	MDL	RL	DF
1,2,4-Trimethylbenzene	95-63-6	31	3.1	NS	3.1	3.1	125,000	123,000	ug/m3	ND	U	0.98	4.9	1	1.23		0.237	0.982	1
1,2-Dibromoethane	106-93-4	0.2	0.02	153,700	0.2	0.02	346	NS	ug/m3	ND	U	1.5	7.7	1	ND	U	0.142	1.54	1
1,2-Dichloroethane	107-06-2	4.7	0.47	202,400	3.1	0.47	4,000	40,500	ug/m3	ND	U	0.81	4.0	1	ND	U	0.249	0.81	1
1,3,5-Trimethylbenzene	108-67-8	31	3.1	NS	NS	NS	125,000	123,000	ug/m3	ND	U	0.98	4.9	1	ND	U	0.31	0.982	1
Benzene	71-43-2	16	1.6	3,190	13	1.6	319	1,600	ug/m3	1.8	J	0.64	3.2	1	5.25		0.147	0.639	1
Ethylbenzene	100-41-4	49	4.9	435,000	49	4.9	435,000	86,800	ug/m3	ND	U	0.87	4.3	1	ND	U	0.219	0.867	1
Isopropyl Benzene (Cumene)	98-82-8	1,800	180	245,000	180	180	245,000	246,000	ug/m3	ND	U	0.98	4.9	1	1.13		0.277	0.983	1
Methyl Tert-Butyl Ether	1634-04-4	470	47	NS	470	47	NS	180,000	ug/m3	ND	U	0.72	3.6	1	ND	U	0.182	0.721	1
Naphthalene	91-20-3	3.6	0.36	50,000	1.3	0.36	50,000	52,000	ug/m3	ND	U	2.6	5.2	1	ND	U	0.806	3.3	1
Toluene	108-88-3	22,000	2,200	754,000	2,200	2,200	375,000	75,400	ug/m3	4.0		0.75	3.8	1	4.79		0.188	0.753	1
Total Xylenes	1330-20-7	440	44	435,000	44	44	435,000	434,000	ug/m3	3.9	J	0.87	4.3	1	2	U	0.41	1.73	1

Note:
PADEP VI- Pennsylvania Department of Environmental Protection Vapor intrusion Screening Value. Indoor Air Statewide Health Standard Non-Residential Vapor Intrusion Screening Level (January 2017).
OSHA PEL TWA - Occupational Safety and Health Administration Time-Weighted Average Permissible Exposure Limit .
EPA RSL - United States Environmental Protection Agency Industrial Regional Screening Level.
HQ - Hazard Quotient
NIOSH RELs - National Institute for Occupational Safety and Health Recommended Exposure Limits.
ACGIH TLVs - American Conference of Governmental Industrial Hygienists Threshold Limit Value.
The RSL for 1,2,4 and 1,3,5- trimethylbenzene were calculated using the September 2016 final IRIS RfC.
OSHA PELs, NIOSH RELs, and ACGIH TLVs from GHD's Air Data Evaluation Letter (Reference No. 11109626), November 9, 2016.
CAS - Chemical Abstract Registry Number
ug/m3 - Micrograms per cubic meter
Q - Qualifier
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ND - Not detected
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Qualifiers:
U - Compound analyzed but not detected
J - Compound detected below below the reporting limit (the value given is an estimate).

- Exceedances:**
- 10

 - Result exceeds PADEP VI
 - 10

 - Result exceeds 1/10th PADEP VI
 - 10

 - Result exceeds OSHA PEL TWA
 - 10

 - Result exceeds EPA RSL (HQ = 0.1, Target Cancer Risk = 10⁻⁵)
 - 10

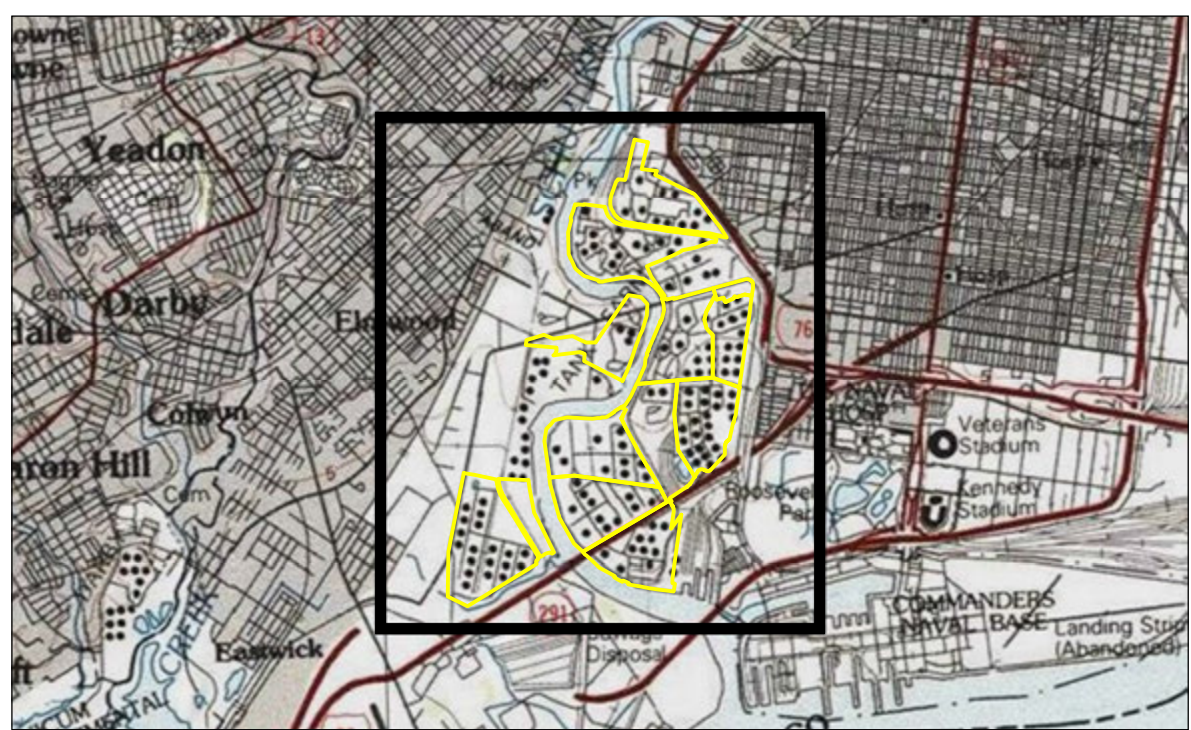
 - Result exceeds EPA RSL (HQ = 0.1, Target Cancer Risk = 10⁻⁶)
 - 10

 - Result exceeds NIOSH REL
 - 10

 - Result exceeds ACGIH TLVs
 - 15

 - MDL exceeds standard

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Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec
3. Contours denote corrected groundwater elevation in feet. Depth to groundwater was measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
5. Water-levels in the cuffed AOI 9 are influenced by and reflective of year-round pumping from the Mingo Creek Flood Control Basin. The City of Philadelphia Water Department controls the water elevation in that basin between elevations 10 and 11 feet NAVD 88. As such, true water-table conditions in the AOI 9 area are unclear and contours (dashed) are presented as interpreted by Stantec at the time of well gauging.
6. Gauging conducted under pumping conditions.
7. Contour Interval = 1 foot
8. Aerial & Topo Copyright © 2013 National Geographic Society, Inc. Image courtesy of USGS Earthstar Geographics. © 2014 Microsoft Corporation. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

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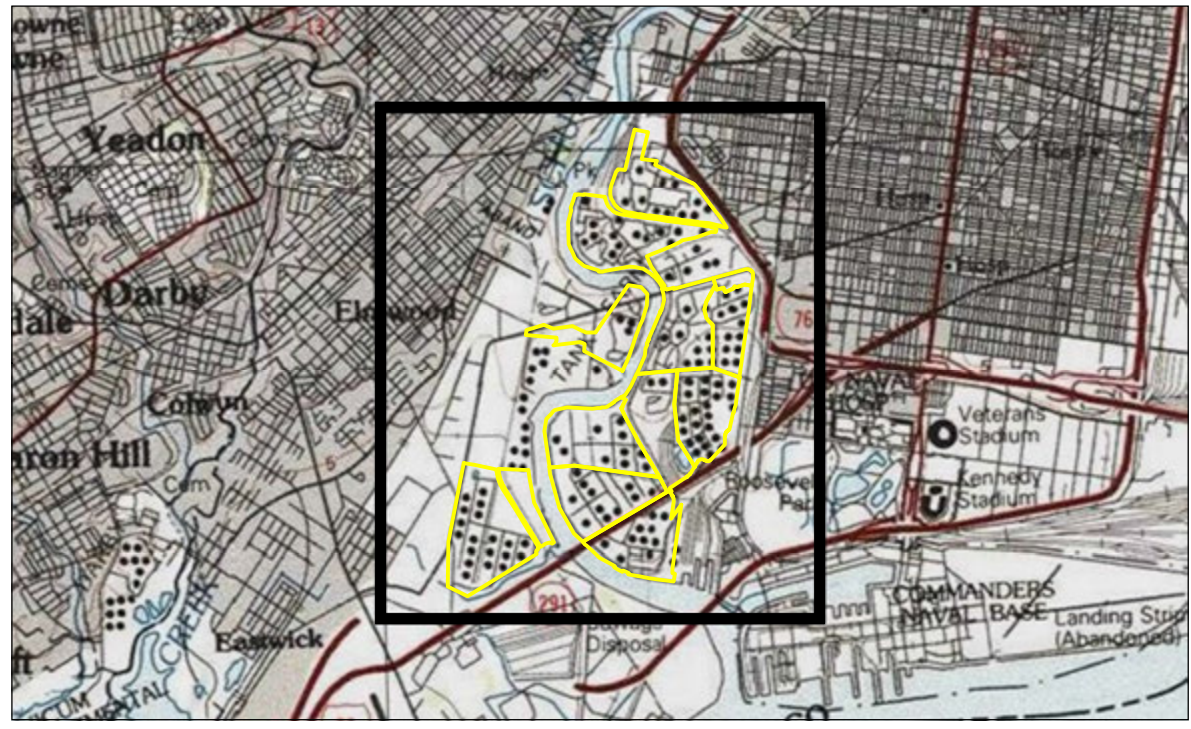
- Legend**
- ◆ WATER TABLE MONITORING WELL
 - ◆ RECOVERY WELL
 - ◆ DAMAGED MONITORING WELL
 - ◆ DESTROYED MONITORING WELL
 - ▲ UNABLE TO LOCATE WELL
 - PIEZOMETER
 - GROUNDWATER ELEVATION CONTOUR (FEET NAVD 88)
 - AOI 9 WATER-LEVEL ELEVATION (1 FOOT INTERVAL)
 - POLLOCK STREET HORIZONTAL WELL
 - SEWER LINE
 - AREA OF INTEREST (AOI)
 - GROUNDWATER ELEVATION (FEET NAVD 88)
 - 2.04 NOT MEASURED OR GROUNDWATER ELEVATION NOT CALCULATED DUE TO LACK OF SURVEYED REFERENCE ELEVATION
 - NM NOT MEASURED OR GROUNDWATER ELEVATION NOT CALCULATED DUE TO LACK OF SURVEYED REFERENCE ELEVATION
 - WELLS NOT USED FOR GROUNDWATER CONTOURING (FEET NAVD 88)

0 400 800 Feet
1:4,800 (At original document size of 36x48)



Figure No. **4**
Title
**WATER-TABLE
GROUNDWATER ELEVATION MAP
MAY 2016**
Client/Project
EVERGREEN RESOURCES MANAGEMENT OPERATIONS
PHILADELPHIA REFINERY COMPLEX
3144 PASSYUNK AVENUE
PHILADELPHIA, PA 19145
Project Location
City of Philadelphia,
Pennsylvania
Prepared by GWC on 7/11/2016
Technical Review by ASK on 7/14/2016
Independent Review by ANP on 7/14/2016





Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec
3. Callouts denote corrected groundwater elevation in feet. Depth to groundwater was measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
5. Determination of whether wells in AOI 9 are screened across the water table or in the lower aquifer are ongoing. Lower aquifer contours are not shown in this AOI.
6. Contour Interval = 1 foot
7. Aerial & Topo Copyright © 2013 National Geographic Society, Inc. Used by permission.
8. Image courtesy of USGS Earthstar Geographics. 30 © 2016 Microsoft Corporation. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Legend

- ◆ LOWER AQUIFER MONITORING WELL
- ⌵ DESTROYED MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (FEET NAVD 88)
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- AREA OF INTEREST (AOI)
- 5.74 GROUNDWATER ELEVATION (FEET NAVD 88)
- NM NOT MEASURED OR GROUNDWATER ELEVATION NOT CALCULATED DUE TO LACK OF SURVEYED REFERENCE ELEVATION
- ⌵ WELL NOT USED FOR GROUNDWATER CONTOURING (FEET NAVD 88)

0 400 800 Feet
1:4,800 (At original document size of 36x48)



Figure No.
5
Title
**LOWER AQUIFER
GROUNDWATER ELEVATION MAP
MAY 2016**

Client/Project
EVERGREEN RESOURCES MANAGEMENT OPERATIONS
PHILADELPHIA REFINERY COMPLEX
3144 PASSYUNK AVENUE
PHILADELPHIA, PA 19145

Project Location
City of Philadelphia,
Pennsylvania

213402429
Prepared by GWC on 7/11/2016
Technical Review by ADK on 7/14/2016
Independent Review by JED on 7/18/2016



18



Legend

- Perched Aquifer Monitoring Well Groundwater Sample with Exceedance between 2015 - 2016
- Unconfined Aquifer Monitoring Well Groundwater Sample with Exceedance between 2015 - 2016
- Lower Aquifer Monitoring Well Groundwater Sample with Exceedance between 2015 - 2016
- Perched Aquifer Monitoring Well Groundwater Sample with No Exceedance between 2015 - 2016
- Unconfined Aquifer Monitoring Well Groundwater Sample with No Exceedance between 2015 - 2016
- Lower Aquifer Monitoring Well Groundwater Sample with No Exceedance between 2015 - 2016
- Well Abandoned/Destroyed/Unable to
- Perched Aquifer Monitoring
- Unconfined Aquifer Monitoring
- Lower Aquifer Monitoring
- Unconfined Aquifer Recovery
- Tank Closed in Place
- Tank in Service

LNAPL Types

- Mixes of Light/Middle Distillate
- Middle Distillate
- Heavy Distillate
- Area of Interest (AOI) Boundary

Result Exceeds PADEP Non-Residential Used Aquifer MSC TDS<2500 mg/L

- Notes:
- Aerial imagery provided by Nearmap.com as is dated 07/29/15.
 - Area of Interest boundaries referenced from 2011 ALTA/ACSM Land Title Survey, prepared for Sunoco Inc. (R&S).
 - LNAPL presence based on December 2015 groundwater gauging.
 - All groundwater results are displayed in micrograms per liter(µg/L).
 - mg/L = Milligrams per liter.
 - µg/L = Micrograms per liter.
 - PADEP = Pennsylvania Department of Environmental Protection.
 - CAS Number = Chemical Abstract Service Number.
 - MSCs = Medium Specific Concentration.
 - TDS = Total Dissolved Solids.

Figure 14B: Summary of Lower Aquifer Groundwater Sample Exceedances AOI-3 Remedial Investigation Report PES Philadelphia Refining Complex Philadelphia, Pennsylvania



Philadelphia Refining Operations
A Series of Evergreen Resources
Group, LLC.
2 Righter Parkway, Suite 200
Wilmington, DE 19803

0 75 150 300
Feet

SCALE: 1" = 150'
DATE: February 11, 2017
DWN BY: MMH
CDD BY: ED
JOB: 2151002