

December 8, 2022

Ms. Jennifer Dorman
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
1027 West St. Paul Avenue
Milwaukee, WI 53233

Project # 40441

Subject: **Vapor Mitigation System Pilot Testing for Buildings 1B-NW, 1B-NE, 2A, 2B, 2C, and 3A Community Within the Corridor Limited Partnership – East Block
2748 N. 32nd Street, Milwaukee, WI 53210
BRRTS #: 02-41-263675, FID #: 241025400**

Dear Ms. Dorman:

On behalf of the Community Within the Corridor Limited Partnership, K. Singh & Associates, Inc. (KSingh) is pleased to submit the results of the Pilot Testing of the Vapor Mitigation System for buildings 1B-NW, 1B-NE, 2A, 2B, 2C, and 3A for east block of the Community Within the Corridor project.

Project Background

The Community Within the Corridor Limited Partnership is proposing to redevelop the property into a mix of affordable housing, commercial spaces, and other amenities. The property has been rezoned to Industrial Mix to facilitate development of the project. No demolition of the buildings is planned. The building interiors will be renovated and reconfigured. A ramp will be constructed to utilize the basement as a parking garage. Paved areas will be milled and paved or have pavement removed, regraded, and then restored with asphalt.

As part of the installation process for the sub-slab vapor mitigation system, pilot testing was performed from 9/22/2022 through 9/26/2022 in Buildings 1B-NW, 1B-NE, 2A, 2B, 2C, and 3A, as shown on Figure 1. The buildings make up the northern half of the East Block of the Community Within the Corridor project. All buildings are connected, with one vapor mitigation system designed to create vacuum in the sub-slab environment in order to mitigate the potential for vapor intrusion to the buildings and reduce the volume of contamination.

The pilot testing program was designed to determine whether the system was able to provide vacuum through the entire relevant building footprint, as well as whether mass reduction is taking place in the sub-slab environment. The program consisted of sub-slab vacuum measurements, as well as exhaust sampling and measurements.

Sub-slab Depressurization System Vacuum Measurements

Twenty-three locations were chosen to take measurements to get an accurate model of sub-slab depressurization from each suction point. A handheld hammer drill was used to install vapor pins beneath the slab of the structure. A digital manometer was utilized to take measurements of vacuum below the slab after the vapor points passed a water dam test.

A vacuum reading of 0.004 inches of water was utilized to determine whether the system was adequately operating. Recorded vacuum measurements ranged from 0.006 to 0.680 inches of water, all of which are greater than the minimum required vacuum measurement. Locations furthest from the blower appeared to have the lowest recorded vacuum measurements, indicating that steps to increase flow at the extremities of the system may need to be taken.

The locations and results of June 2022 sub-slab depressurization measurements are depicted on Figure 1 and summarized in Table 1.

Exhaust Sampling

Sampling of the exhaust point was performed four times during the pilot testing program in order to determine whether mass reduction is taking place in the sub-slab. Vapor extraction utilities within buildings 1B-NW, 1B-NE, 2A, 2B, 2C, and 3A were connected to a 10-horsepower FPZ K09-MS Regenerative Blower located within the basement of building 3A. The vacuum blower was connected to the exhaust point in building 3A, as shown in Figure 1. As part of pilot testing, 1.4L Summa canisters provided by Synergy Environmental Lab, Inc. (Synergy) were utilized to gather air quality data from the exhaust point. Four samples were collected between September 22, 2022 and September 26, 2022. Samples were gathered for fifteen minutes via vapor lines connected to a port on the vacuum blower while it was operational. System tightness was confirmed with shut in testing, and sample lines were purged between each sample. Upon completion of sampling, canisters were submitted to Synergy for analysis of TO-15 parameters.

Test results are summarized on Table 2 and included in Attachment B. Results from Synergy document concentrations of Benzene, cis-1,2-Dichloroethene (cis-DCE), trans-1,2-Dichloroethene (trans-DCE), Tetrachloroethene (PCE), Trichloroethene (TCE), and Vinyl Chloride in exhaust samples. TCE and Vinyl Chloride were discovered in exhaust samples at concentrations greater than the Residential Indoor Air VAL. Based on the concentrations of Benzene, cis-DCE, trans-DCE, PCE, TCE, and Vinyl Chloride in the exhaust, some mass reduction is taking place in the sub-slab.

In addition, vacuum, PID, and temperature readings were taken several times each day during pilot testing. Vacuum (inch H₂O) and temperature (Fahrenheit) were observed by gauges on the vacuum pump at steady readings of approximately 10–12-inches of H₂O and 60–64° Fahrenheit, respectively, during pilot testing. Photoionization detector (PID) readings were taken from a port in the vacuum blower and observed between 24.3 and 41.4 ppm. Technical documents for FPZ MS Series Regenerative Blowers indicate that based on the model number and vacuum produced, a flow rate of approximately 460 CFM is estimated.

The results of the September 2022 pilot test sampling are summarized on Table 2 and readings taken from the vacuum blower during pilot testing are summarized on Table 3.

Conclusions and Recommendations

The following conclusions were reached based on the sampling.

- Based on the results of sub-slab vacuum measurements, the vapor mitigation system installed on the subject site creates more than the minimum required vacuum of 0.004 inches of water beneath the building slab for buildings 1B-NW, 1B-NE, 2A, 2B, 2C, and 3A.
- Exhaust point emissions sampling indicates that Benzene, cis-DCE, trans-DCE, PCE, TCE, and Vinyl Chloride are still present in the sub-slab and that mass reduction is taking place.
- Based on the vacuum blower utilized for pilot testing, 10-horsepower blowers are recommended in order to

create sufficient sub-slab vacuum. Technical documents for FPZ Regenerative Blowers indicate that the 10-horsepower K-09 series blower has a power requirement of 208-230 volts and 24.3-22.4 amps.

- As part of final system installation, valves are recommended to be installed in order to control vacuum to various zones of the system for buildings 1B-NW, 1B-NE, 2A, 2B, 2C, and 3A.
- A commissioning plan will be submitted for the project which will include passive air sampling and regular measurements of vacuum beneath the slab.
- If inadequate vacuum is demonstrated during commissioning options for correcting the performance will include a) adjusting the valves to pull less air from areas with adequate vacuum, b) installing a larger blower, or c) both installing a larger blower and adjusting the valves to improve performance.

Please contact us if you have any questions or seek clarification regarding this information.

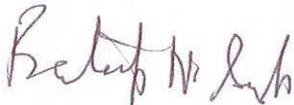
Sincerely,
K. SINGH & ASSOCIATES, INC.



Justin P. Bush
Staff Geologist



Robert T. Reineke, P.E.
Project Manager



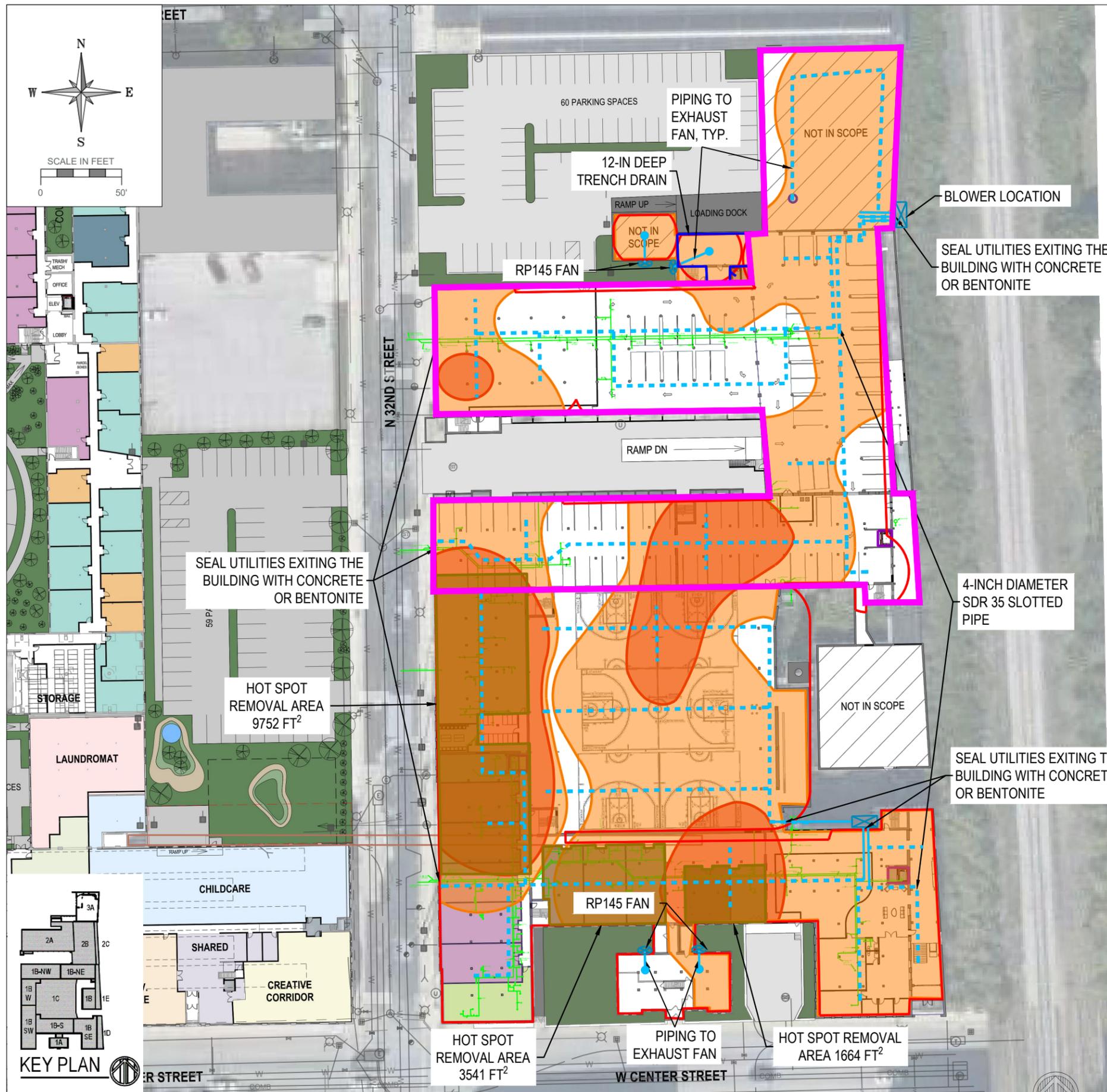
Pratap N. Singh, Ph.D., P.E.
Principal Engineer

cc: Shane LaFave / Roers Companies
Que El-Amin / Scott Crawford, Inc.

Attachments:

Figure 1	Sub-slab Depressurization System and VSRL Exceedances
Figure 2	Sub-slab Depressurization System and Vacuum Measurement Results
Table 1	Sub-slab Depressurization Results
Table 2	Exhaust Fan Sampling Results
Table 3	Pilot Test Outlet Measurements

FIGURE



LEGEND

- Sub-Slab Sampling Locations (51)
- ⊕ Previous Boring and Temporary Well Locations
- Known Elevator Shaft
- 1 - Bedroom Apartment
- 2 - Bedroom Apartment
- 3 - Bedroom Apartment
- 4 - Bedroom Apartment
- Studio Apartment
- WI Residential VRSL Exceedance Extents
- WI Large Commercial / Industrial VRSL Exceedance Extents
- Hot Spot Removal Area
- Slotted Horizontal Extraction Piping
- Solid Horizontal Extraction Piping
- Extraction Points
- Extraction Point Zone of Influence
- ⊗ Potential Blower Locations
- ⊗ Vapor Mitigation Fan
- Zone of Influence
- 12-Inch Trench Drain
- Underground Plumbing
- Trench System Extents
- ISO-PRESSURE LINE (0.004 inches vacuum)

NOTES:
1. SAMPLING LOCATIONS AND VAPOR EXTRACTION POINTS ARE APPROXIMATE

CONSULTANT

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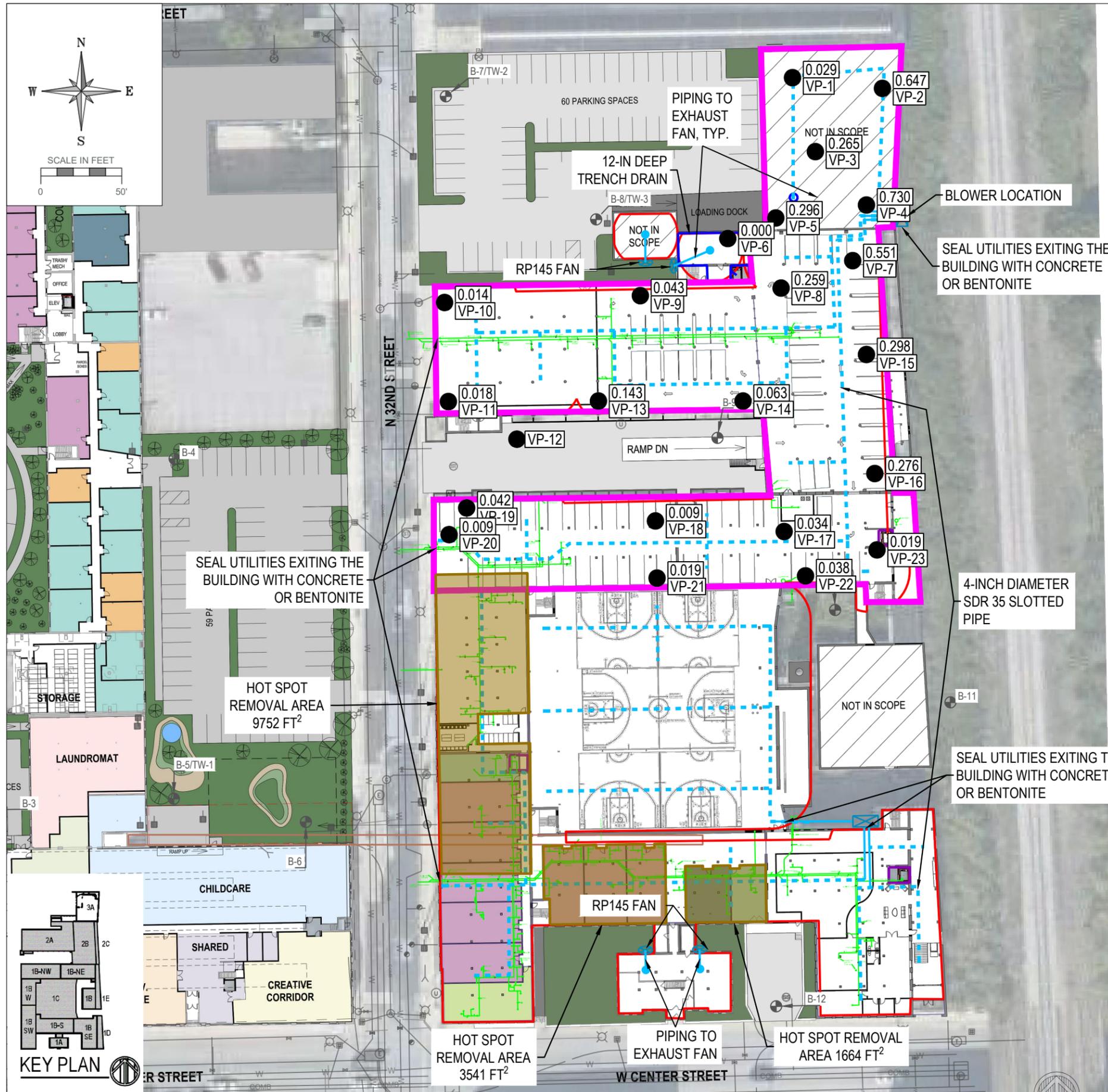
PROJECT TITLE: COMMUNITY WITHIN THE CORRIDOR
2748 N 32ND STREET
MILWAUKEE, WI 53210
PROJECT NUMBER: 40441

CLIENT:
COMMUNITY WITHIN THE CORRIDOR LIMITED
PARTNERSHIP

REVISIONS	DATE	DESCRIPTION
DRAWN BY JDS	DATE 11/23/2022	
CHECKED BY RR	DATE 11/23/2022	
SHEET TITLE		

VAPOR MITIGATION DESIGN LAYOUT
AND HOTSPOT AREAS

FIGURE 1



LEGEND

- Sub-Slab Sampling Locations (51)
- ⊕ Previous Boring and Temporary Well Locations
- Known Elevator Shaft
- 1 - Bedroom Apartment
- 2 - Bedroom Apartment
- 3 - Bedroom Apartment
- 4 - Bedroom Apartment
- Studio Apartment
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- ⊗ Vapor Mitigation Fan
- Zone of Influence
- 12-Inch Trench Drain
- Underground Plumbing Trench System Extents
- ISO-PRESSURE LINE (0.004 inches vacuum)
- # IN H2O VP-#

NOTES:
1. SAMPLING LOCATIONS AND VAPOR EXTRACTION POINTS ARE APPROXIMATE

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VAPOR MITIGATION DESIGN LAYOUT AND VACUUM LOCATIONS AND RESULTS

FIGURE 2

TABLE

TABLE 1 - SUB-SLAB DEPRESSURIZATION RESULTS
COMMUNITY WITHIN THE CORRIDOR - EAST BLOCK
2748 N. 32nd STREET, MILWAUKEE, WI
PROJECT NUMBER: 40441

Date	9/22/2023	9/23/2022	9/26/2022	9/26/2022	9/26/2022
Sample Location	Reading (inches H2O)				
VP-1	---	---	---	0.029	---
VP-2	---	---	---	0.647	---
VP-3	---	---	---	0.265	---
VP-4	---	---	---	0.730	---
VP-5	---	---	---	0.296	---
VP-6	---	0.008	0.000	0.000	0.000
VP-7	---	1.017	0.955	0.551	---
VP-8	---	0.271	0.255	0.259	---
VP-9	---	0.044	0.041	0.043	---
VP-10	0.011	0.015	0.016	0.014	---
VP-11	0.024	0.011	0.013	0.004	0.018
VP-12	NA	NA	NA	NA	NA
VP-13	0.062	0.051	0.147	0.143	---
VP-14	---	0.068	0.063	0.063	---
VP-15	---	0.301	0.293	0.298	---
VP-16	---	0.286	0.261	0.276	---
VP-17	---	0.036	0.036	0.034	---
VP-18	---	0.007	0.019	0.009	---
VP-19	---	0.006	0.005	0.042	---
VP-20	---	0.014	0.009	0.005	0.009
VP-21	---	0.017	0.025	0.019	---
VP-22	---	0.038	0.040	0.038	---
VP-23	---	0.015	0.021	0.019	---

TABLE 2 - EXHAUST POINT SAMPLING RESULTS
COMMUNITY WITHIN THE CORRIDOR - EAST BLOCK
MILWAUKEE, WI
PROJECT NUMBER: 40441A

CHEMICAL (ug/m ³)	SUB-SLAB VAPOR VRSL			EP-1	EP-2	EP-3	EP-4
	AF = 0.03	AF=0.03	AF = 0.01	PILOT TEST	PILOT TEST	PILOT TEST	PILOT TEST
	RESIDENTIAL	SMALL COMMERCIAL	LARGE COMMERCIAL / INDUSTRIAL	9/22/2022	9/22/2022	9/23/2022	9/26/2022
				ug/m ³	ug/m ³	ug/m ³	ug/m ³
1,1,1-Trichloroethane	170,000	730,000	2,200,000	31.2	< 0.249	< 0.249	1.96
1,1,2,2-Tetrachloroethane	1.6	7	21	< 0.325	< 0.325	< 0.325	< 0.325
1,1,2-Trichloroethane	0.7	2.9	8.8	< 0.258	< 0.258	< 0.258	< 0.258
1,1-Dichloroethane	600	2,600	7,700	188	< 0.187	< 0.187	10.3
1,1-Dichloroethene	7,000	29,000	88,000	< 0.21	< 0.21	< 0.21	< 0.21
1,2,4-Trichlorobenzene	700	2933	8,800	< 0.657	< 0.657	< 0.657	< 0.657
1,2,4-Trimethylbenzene	2,100	8,700	26,000	6.9	1.28	1.47	7.2
1,2-Dichlorobenzene	700	2933	8,800	< 0.235	< 0.235	< 0.235	< 0.235
1,2-Dichloroethane	36	160	470	< 0.24	< 0.24	< 0.24	< 0.24
1,2-Dichloropropane	14	60	180	< 0.28	< 0.28	< 0.28	< 0.28
1,2-Dichlorotetrafluoroethane	---	---	---	< 0.446	< 0.446	< 0.446	< 0.446
1,3,5-Trimethylbenzene	2,100	8,700	26,000	2.5	0.39 J	0.49 J	2.06
1,3-Butadiene	---	---	---	< 0.143	< 0.143	< 0.143	< 0.143
1,3-Dichlorobenzene	---	---	---	< 0.302	< 0.302	< 0.302	< 0.302
1,4-Dichlorobenzene	8	37	110	< 0.302	< 0.302	< 0.302	< 0.302
1,4-Dioxane	18	83.3	250	< 0.157	< 0.157	< 0.157	< 0.157
2-Hexanone	---	---	---	< 0.222	< 0.222	< 0.222	< 0.222
4-Ethyltoluene	---	---	---	1.57	0.294 J	0.34 J	1.42
Acetone	106,667	466,667	1,400,000	256	27.2	610	440
Benzene	120	530	1,600	26.4	0.73	0.8	6.6
Benzyl Chloride	1.9	8	25	< 0.209	< 0.209	< 0.209	< 0.209
Bromodichloromethane	2.53	11	33	< 0.374	< 0.374	< 0.374	< 0.374
Bromoform	86.6	367	1,100	< 0.414	< 0.414	< 0.414	< 0.414
Bromomethane	17.3	73	220	< 0.2	< 0.2	< 0.2	< 0.2
Carbon Disulfide	2,433	10,333	31,000	30.6	0.62	0.44 J	15.3
Carbon Tetrachloride	156	667	2,000	6.5	0.82 J	0.76 J	4.7
Chlorobenzene	173	733	2,200	< 0.251	< 0.251	< 0.251	< 0.251
Chloroethane	33,333	146,667	440,000	46	< 0.159	< 0.159	1.79
Chloroform	3,100	13,000	39,000	< 0.3	< 0.3	< 0.3	0.54 J
Chloromethane	3,100	13,000	39,000	1.42 J	0.95 J	0.91 J	2.5 J
cis-1,2-Dichloroethene	---	---	---	52	0.32 J	< 0.197	1.55
cis-1,3-Dichloropropene	---	---	---	< 0.234	< 0.234	< 0.234	< 0.234
Cyclohexane	3,333	14,667	44,000	205	1.89	0.59 J	22.8
Dibromochloromethane	---	---	---	< 0.376	< 0.37	< 0.376	< 0.376
Dichlorodifluoromethane	3,300	14,667	44,000	5.5	3.3	3.07	3.9
EDB (1,2-Dibromoethane)	0.157	0.67	2	< 0.342	< 0.342	< 0.342	< 0.342
Ethanol	---	---	---	690	14.3	9.8	16
Ethyl Acetate	---	---	---	< 0.176	< 0.176	< 0.176	2.52
Ethylbenzene	370	1,600	4,900	7.3	0.69	10.1	10.6
Heptane	---	---	---	91	0.74 J	0.53 J	26.3
Hexachlorobutadiene	4.3	19	56	< 0.489	< 0.489	< 0.489	< 0.489
Hexane	1,400	6,000	18,000	2560	17.5	4.6	130
Isopropyl Alcohol	---	---	---	25.7	1.97	3.2	10.5
m&p-Xylene	3,300	15,000	44,000	31	2.69	41	41
Methyl ethyl ketone (MEK)	17,333	73,333	220,000	231	7.8	6	89
Methyl isobutyl ketone (MIBK)	10,333	43,333	130,000	4.1	< 0.168	0.49 J	2.62
Methyl Methacrylate	---	---	---	< 0.217	< 0.217	< 0.217	1.92
Methyl tert-butyl ether (MTBE)	3,700	16,000	47,000	< 0.16	< 0.16	< 0.16	< 0.16
Methylene chloride	21,000	87,000	260,000	17.5	< 15	< 15	20.3
Naphthalene	28	6,000	360	< 0.675	0.73 J	0.84 J	0.78 J
o-Xylene	3,300	15,000	44,000	12.2	1.13	13.2	15.3
Propene	---	---	---	43	1.34	1.36	18.7
Styrene	3,333	14,667	44,000	29.4	1.49	0.6	25.8
Tetrachloroethene (PCE)	1,400	6,000	18,000	5.3	< 0.278	0.41 J	2.58
Tetrahydrofuran	7,000	29,333	88,000	198	15.6	3.6	23.6
Toluene	170,000	730,000	2,200,000	45	2.26	4.4	39
trans-1,2-Dichloroethene	---	---	---	30.7	< 0.231	0.87	1.31
trans-1,3-Dichloropropene	---	---	---	< 0.198	< 0.198	< 0.198	< 0.198
Trichloroethene (TCE)	70	290	880	115	0.8	< 0.237	6.3
Trichlorofluoromethane	---	---	---	3.2	1.91	1.8	1.91
Trichlorotrifluoroethane	---	---	---	27.4	1.46	1.07 J	1.84
Vinyl acetate	700	2933	8,800	< 0.203	< 0.203	< 0.203	< 0.203
Vinyl Chloride	57	930	2,800	62	0.36 J	< 0.148	2.53

Comments

All results in micrograms per cubic meter (ug/m³)

"J" Flag = Analyte detected between Limit of Detection and Limit of Quantitation

"10" Code = Linear Range of Calibration Curve Exceeded

VRSL = Vapor Risk Screening Levels

Indicates detection is above Residential VRSLs

Indicates detection is above Small Commercial VRSLs

Indicates detection is above Large Commercial / Industrial VRSLs

Table 3 - Pilot Test Outlet Measurements
CWC East Block
2748 N. 32nd Street, Milwaukee, WI 53210

Day	Time	Vacuum (inch H ₂ O)	Flow (cfm)	PID (ppm)	Temperature (Fahrenheit)
9/22/2022	1:00	10-12	460	24.3	63
9/22/2022	2:00	10-12	460	36.5	64
9/23/2022	11:00	10-12	460	35.5	61
9/23/2022	1:30	10-12	460	41.4	61
9/26/2022	10:30	10-12	460	34.9	61
9/26/2022	12:30	10-12	460	32.6	60
9/26/2022	1:30	10-12	460	33.6	61
9/26/2022	2:30	10-12	460	38.9	60

ATTACHMENTS

ATTACHMENT A

Vapor Sampling Test Results

Synergy Environmental Lab, LLC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

ROBERT REINEKE
K SINGH & ASSOCIATES
3636 N. 124TH STREET
MILWAUKEE, WI 53222

Report Date 12-Oct-22

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507A
Sample ID EP-1
Sample Matrix Air
Sample Date 9/22/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	256	ug/m3	7.475	23.75	25	TO-15		10/12/2022	CJR	1
Benzene	26.4	ug/m3	0.136	0.433	1	TO-15		9/30/2022	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		9/30/2022	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		9/30/2022	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		9/30/2022	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		9/30/2022	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		9/30/2022	CJR	1
Carbon Disulfide	30.6	ug/m3	0.138	0.44	1	TO-15		9/30/2022	CJR	1
Carbon Tetrachloride	6.5	ug/m3	0.307	0.978	1	TO-15		9/30/2022	CJR	1
Chlorobenzene	< 0.251	ug/m3	0.251	0.798	1	TO-15		9/30/2022	CJR	1
Chloroethane	46	ug/m3	0.159	0.507	1	TO-15		9/30/2022	CJR	1
Chloroform	< 0.3	ug/m3	0.3	0.953	1	TO-15		9/30/2022	CJR	1
Chloromethane	1.42 "J"	ug/m3	0.831	2.64	1	TO-15		9/30/2022	CJR	1
Cyclohexane	205	ug/m3	5.3	16.85	25	TO-15		10/12/2022	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		9/30/2022	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		9/30/2022	CJR	1
Dichlorodifluoromethane	5.5	ug/m3	0.263	0.836	1	TO-15		9/30/2022	CJR	1
1,2-Dichloroethane	< 0.24	ug/m3	0.24	0.763	1	TO-15		9/30/2022	CJR	1
1,1-Dichloroethane	188	ug/m3	4.675	14.9	25	TO-15		10/12/2022	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		9/30/2022	CJR	1
cis-1,2-Dichloroethene	52	ug/m3	0.197	0.626	1	TO-15		9/30/2022	CJR	1
trans-1,2-Dichloroethene	30.7	ug/m3	0.231	0.734	1	TO-15		9/30/2022	CJR	1
1,2-Dichloropropane	< 0.28	ug/m3	0.28	0.89	1	TO-15		9/30/2022	CJR	1

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507A
Sample ID EP-1
Sample Matrix Air
Sample Date 9/22/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		9/30/2022	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorotetrafluoroethane	< 0.446	ug/m3	0.446	1.42	1	TO-15		9/30/2022	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		9/30/2022	CJR	1
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		9/30/2022	CJR	1
Ethanol	690	ug/m3	3.8	12.05	25	TO-15		10/12/2022	CJR	1
Ethyl Acetate	< 0.176	ug/m3	0.176	0.559	1	TO-15		9/30/2022	CJR	1
Ethylbenzene	7.3	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
4-Ethyltoluene	1.57	ug/m3	0.214	0.681	1	TO-15		9/30/2022	CJR	1
Heptane	91	ug/m3	0.265	0.845	1	TO-15		9/30/2022	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		9/30/2022	CJR	1
Hexane	2560	ug/m3	5.875	18.7	25	TO-15		10/12/2022	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		9/30/2022	CJR	1
Isopropyl Alcohol	25.7	ug/m3	0.109	0.347	1	TO-15		9/30/2022	CJR	1
Methyl ethyl ketone (MEK)	231	ug/m3	4.45	14.175	25	TO-15		10/12/2022	CJR	1
Methyl isobutyl ketone (MIBK)	4.1	ug/m3	0.168	0.536	1	TO-15		9/30/2022	CJR	1
Methyl Methacrylate	< 0.217	ug/m3	0.217	0.69	1	TO-15		9/30/2022	CJR	1
Methylene chloride	17.5	ug/m3	0.159	0.506	1	TO-15		9/30/2022	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.16	ug/m3	0.16	0.509	1	TO-15		9/30/2022	CJR	1
Naphthalene	< 0.675	ug/m3	0.675	2.15	1	TO-15		9/30/2022	CJR	1
Propene	43	ug/m3	0.079	0.251	1	TO-15		9/30/2022	CJR	1
Styrene	29.4	ug/m3	0.181	0.577	1	TO-15		9/30/2022	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		9/30/2022	CJR	1
Tetrachloroethene	5.3	ug/m3	0.278	0.884	1	TO-15		9/30/2022	CJR	1
Tetrahydrofuran	198	ug/m3	3.275	10.425	25	TO-15		10/12/2022	CJR	1
Toluene	45	ug/m3	0.184	0.585	1	TO-15		9/30/2022	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		9/30/2022	CJR	1
1,1,1-Trichloroethane	31.2	ug/m3	0.249	0.793	1	TO-15		9/30/2022	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		9/30/2022	CJR	1
Trichloroethene (TCE)	115	ug/m3	0.237	0.754	1	TO-15		9/30/2022	CJR	1
Trichlorofluoromethane	3.2	ug/m3	0.337	1.07	1	TO-15		9/30/2022	CJR	1
Trichlorotrifluoroethane	27.4	ug/m3	0.402	1.28	1	TO-15		9/30/2022	CJR	1
1,2,4-Trimethylbenzene	6.9	ug/m3	0.283	0.899	1	TO-15		9/30/2022	CJR	1
1,3,5-Trimethylbenzene	2.5	ug/m3	0.232	0.739	1	TO-15		9/30/2022	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
Vinyl Chloride	62	ug/m3	0.148	0.472	1	TO-15		9/30/2022	CJR	1
m&p-Xylene	31	ug/m3	0.377	1.2	1	TO-15		9/30/2022	CJR	1
o-Xylene	12.2	ug/m3	0.218	0.695	1	TO-15		9/30/2022	CJR	1

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507B
Sample ID EP-2
Sample Matrix Air
Sample Date 9/22/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	27.2	ug/m3	0.299	0.95	1	TO-15		9/30/2022	CJR	1
Benzene	0.73	ug/m3	0.136	0.433	1	TO-15		9/30/2022	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		9/30/2022	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		9/30/2022	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		9/30/2022	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		9/30/2022	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		9/30/2022	CJR	1
Carbon Disulfide	0.62	ug/m3	0.138	0.44	1	TO-15		9/30/2022	CJR	1
Carbon Tetrachloride	0.82 "J"	ug/m3	0.307	0.978	1	TO-15		9/30/2022	CJR	1
Chlorobenzene	< 0.251	ug/m3	0.251	0.798	1	TO-15		9/30/2022	CJR	1
Chloroethane	< 0.159	ug/m3	0.159	0.507	1	TO-15		9/30/2022	CJR	1
Chloroform	< 0.3	ug/m3	0.3	0.953	1	TO-15		9/30/2022	CJR	1
Chloromethane	0.95 "J"	ug/m3	0.831	2.64	1	TO-15		9/30/2022	CJR	1
Cyclohexane	1.89	ug/m3	0.212	0.674	1	TO-15		9/30/2022	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		9/30/2022	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		9/30/2022	CJR	1
Dichlorodifluoromethane	3.3	ug/m3	0.263	0.836	1	TO-15		9/30/2022	CJR	1
1,2-Dichloroethane	< 0.24	ug/m3	0.24	0.763	1	TO-15		9/30/2022	CJR	1
1,1-Dichloroethane	< 0.187	ug/m3	0.187	0.596	1	TO-15		9/30/2022	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		9/30/2022	CJR	1
cis-1,2-Dichloroethene	0.32 "J"	ug/m3	0.197	0.626	1	TO-15		9/30/2022	CJR	1
trans-1,2-Dichloroethene	< 0.231	ug/m3	0.231	0.734	1	TO-15		9/30/2022	CJR	1
1,2-Dichloropropane	< 0.28	ug/m3	0.28	0.89	1	TO-15		9/30/2022	CJR	1
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		9/30/2022	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorotetrafluoroethane	< 0.446	ug/m3	0.446	1.42	1	TO-15		9/30/2022	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		9/30/2022	CJR	1
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		9/30/2022	CJR	1
Ethanol	14.3	ug/m3	0.152	0.482	1	TO-15		9/30/2022	CJR	1
Ethyl Acetate	< 0.176	ug/m3	0.176	0.559	1	TO-15		9/30/2022	CJR	1
Ethylbenzene	0.69	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
4-Ethyltoluene	0.294 "J"	ug/m3	0.214	0.681	1	TO-15		9/30/2022	CJR	1
Heptane	0.74 "J"	ug/m3	0.265	0.845	1	TO-15		9/30/2022	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		9/30/2022	CJR	1
Hexane	17.5	ug/m3	0.235	0.748	1	TO-15		9/30/2022	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		9/30/2022	CJR	1
Isopropyl Alcohol	1.97	ug/m3	0.109	0.347	1	TO-15		9/30/2022	CJR	1
Methyl ethyl ketone (MEK)	7.8	ug/m3	0.178	0.567	1	TO-15		9/30/2022	CJR	1
Methyl isobutyl ketone (MIBK)	< 0.168	ug/m3	0.168	0.536	1	TO-15		9/30/2022	CJR	1
Methyl Methacrylate	< 0.217	ug/m3	0.217	0.69	1	TO-15		9/30/2022	CJR	1
Methylene chloride	< 15	ug/m3	0.159	0.506	1	TO-15		9/30/2022	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.16	ug/m3	0.16	0.509	1	TO-15		9/30/2022	CJR	1

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507B
Sample ID EP-2
Sample Matrix Air
Sample Date 9/22/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Naphthalene	0.73 "J"	ug/m3	0.675	2.15	1	TO-15		9/30/2022	CJR	1
Propene	1.34	ug/m3	0.079	0.251	1	TO-15		9/30/2022	CJR	1
Styrene	1.49	ug/m3	0.181	0.577	1	TO-15		9/30/2022	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		9/30/2022	CJR	1
Tetrachloroethene	< 0.278	ug/m3	0.278	0.884	1	TO-15		9/30/2022	CJR	1
Tetrahydrofuran	15.6	ug/m3	0.131	0.417	1	TO-15		9/30/2022	CJR	1
Toluene	2.26	ug/m3	0.184	0.585	1	TO-15		9/30/2022	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		9/30/2022	CJR	1
1,1,1-Trichloroethane	< 0.249	ug/m3	0.249	0.793	1	TO-15		9/30/2022	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		9/30/2022	CJR	1
Trichloroethene (TCE)	0.80	ug/m3	0.237	0.754	1	TO-15		9/30/2022	CJR	1
Trichlorofluoromethane	1.91	ug/m3	0.337	1.07	1	TO-15		9/30/2022	CJR	1
Trichlorotrifluoroethane	1.46	ug/m3	0.402	1.28	1	TO-15		9/30/2022	CJR	1
1,2,4-Trimethylbenzene	1.28	ug/m3	0.283	0.899	1	TO-15		9/30/2022	CJR	1
1,3,5-Trimethylbenzene	0.39 "J"	ug/m3	0.232	0.739	1	TO-15		9/30/2022	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
Vinyl Chloride	0.36 "J"	ug/m3	0.148	0.472	1	TO-15		9/30/2022	CJR	1
m&p-Xylene	2.69	ug/m3	0.377	1.2	1	TO-15		9/30/2022	CJR	1
o-Xylene	1.13	ug/m3	0.218	0.695	1	TO-15		9/30/2022	CJR	1

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507C
Sample ID EP-3
Sample Matrix Air
Sample Date 9/23/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	610	ug/m3	0.299	0.95	1	TO-15		9/30/2022	CJR	10
Benzene	0.80	ug/m3	0.136	0.433	1	TO-15		9/30/2022	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		9/30/2022	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		9/30/2022	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		9/30/2022	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		9/30/2022	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		9/30/2022	CJR	1
Carbon Disulfide	0.44 "J"	ug/m3	0.138	0.44	1	TO-15		9/30/2022	CJR	1
Carbon Tetrachloride	0.76 "J"	ug/m3	0.307	0.978	1	TO-15		9/30/2022	CJR	1
Chlorobenzene	< 0.251	ug/m3	0.251	0.798	1	TO-15		9/30/2022	CJR	1
Chloroethane	< 0.159	ug/m3	0.159	0.507	1	TO-15		9/30/2022	CJR	1
Chloroform	< 0.3	ug/m3	0.3	0.953	1	TO-15		9/30/2022	CJR	1
Chloromethane	0.91 "J"	ug/m3	0.831	2.64	1	TO-15		9/30/2022	CJR	1
Cyclohexane	0.59 "J"	ug/m3	0.212	0.674	1	TO-15		9/30/2022	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		9/30/2022	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		9/30/2022	CJR	1
Dichlorodifluoromethane	3.07	ug/m3	0.263	0.836	1	TO-15		9/30/2022	CJR	1
1,2-Dichloroethane	< 0.24	ug/m3	0.24	0.763	1	TO-15		9/30/2022	CJR	1
1,1-Dichloroethane	< 0.187	ug/m3	0.187	0.596	1	TO-15		9/30/2022	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		9/30/2022	CJR	1
cis-1,2-Dichloroethene	< 0.197	ug/m3	0.197	0.626	1	TO-15		9/30/2022	CJR	1
trans-1,2-Dichloroethene	0.87	ug/m3	0.231	0.734	1	TO-15		9/30/2022	CJR	1
1,2-Dichloropropane	< 0.28	ug/m3	0.28	0.89	1	TO-15		9/30/2022	CJR	1
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		9/30/2022	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorotetrafluoroethane	< 0.446	ug/m3	0.446	1.42	1	TO-15		9/30/2022	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		9/30/2022	CJR	1
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		9/30/2022	CJR	1
Ethanol	9.8	ug/m3	0.152	0.482	1	TO-15		9/30/2022	CJR	1
Ethyl Acetate	< 0.176	ug/m3	0.176	0.559	1	TO-15		9/30/2022	CJR	1
Ethylbenzene	10.1	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
4-Ethyltoluene	0.34 "J"	ug/m3	0.214	0.681	1	TO-15		9/30/2022	CJR	1
Heptane	0.53 "J"	ug/m3	0.265	0.845	1	TO-15		9/30/2022	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		9/30/2022	CJR	1
Hexane	4.6	ug/m3	0.235	0.748	1	TO-15		9/30/2022	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		9/30/2022	CJR	1
Isopropyl Alcohol	3.2	ug/m3	0.109	0.347	1	TO-15		9/30/2022	CJR	1
Methyl ethyl ketone (MEK)	6.0	ug/m3	0.178	0.567	1	TO-15		9/30/2022	CJR	1
Methyl isobutyl ketone (MIBK)	0.49 "J"	ug/m3	0.168	0.536	1	TO-15		9/30/2022	CJR	1
Methyl Methacrylate	< 0.217	ug/m3	0.217	0.69	1	TO-15		9/30/2022	CJR	1
Methylene chloride	< 15	ug/m3	0.159	0.506	1	TO-15		9/30/2022	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.16	ug/m3	0.16	0.509	1	TO-15		9/30/2022	CJR	1

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507C
Sample ID EP-3
Sample Matrix Air
Sample Date 9/23/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Naphthalene	0.84 "J"	ug/m3	0.675	2.15	1	TO-15		9/30/2022	CJR	1
Propene	1.36	ug/m3	0.079	0.251	1	TO-15		9/30/2022	CJR	1
Styrene	0.60	ug/m3	0.181	0.577	1	TO-15		9/30/2022	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		9/30/2022	CJR	1
Tetrachloroethene	0.41 "J"	ug/m3	0.278	0.884	1	TO-15		9/30/2022	CJR	1
Tetrahydrofuran	3.6	ug/m3	0.131	0.417	1	TO-15		9/30/2022	CJR	1
Toluene	4.4	ug/m3	0.184	0.585	1	TO-15		9/30/2022	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		9/30/2022	CJR	1
1,1,1-Trichloroethane	< 0.249	ug/m3	0.249	0.793	1	TO-15		9/30/2022	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		9/30/2022	CJR	1
Trichloroethene (TCE)	< 0.237	ug/m3	0.237	0.754	1	TO-15		9/30/2022	CJR	1
Trichlorofluoromethane	1.8	ug/m3	0.337	1.07	1	TO-15		9/30/2022	CJR	1
Trichlorotrifluoroethane	1.07 "J"	ug/m3	0.402	1.28	1	TO-15		9/30/2022	CJR	1
1,2,4-Trimethylbenzene	1.47	ug/m3	0.283	0.899	1	TO-15		9/30/2022	CJR	1
1,3,5-Trimethylbenzene	0.49 "J"	ug/m3	0.232	0.739	1	TO-15		9/30/2022	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
Vinyl Chloride	< 0.148	ug/m3	0.148	0.472	1	TO-15		9/30/2022	CJR	1
m&p-Xylene	41	ug/m3	0.377	1.2	1	TO-15		9/30/2022	CJR	1
o-Xylene	13.2	ug/m3	0.218	0.695	1	TO-15		9/30/2022	CJR	1

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507D
Sample ID EP-4
Sample Matrix Air
Sample Date 9/26/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	440	ug/m3	2.99	9.5	10	TO-15		9/30/2022	CJR	1
Benzene	6.6	ug/m3	0.136	0.433	1	TO-15		9/30/2022	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		9/30/2022	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		9/30/2022	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		9/30/2022	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		9/30/2022	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		9/30/2022	CJR	1
Carbon Disulfide	15.3	ug/m3	0.138	0.44	1	TO-15		9/30/2022	CJR	1
Carbon Tetrachloride	4.7	ug/m3	0.307	0.978	1	TO-15		9/30/2022	CJR	1
Chlorobenzene	< 0.251	ug/m3	0.251	0.798	1	TO-15		9/30/2022	CJR	1
Chloroethane	1.79	ug/m3	0.159	0.507	1	TO-15		9/30/2022	CJR	1
Chloroform	0.54 "J"	ug/m3	0.3	0.953	1	TO-15		9/30/2022	CJR	1
Chloromethane	2.5 "J"	ug/m3	0.831	2.64	1	TO-15		9/30/2022	CJR	1
Cyclohexane	22.8	ug/m3	0.212	0.674	1	TO-15		9/30/2022	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		9/30/2022	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		9/30/2022	CJR	1
Dichlorodifluoromethane	3.9	ug/m3	0.263	0.836	1	TO-15		9/30/2022	CJR	1
1,2-Dichloroethane	< 0.24	ug/m3	0.24	0.763	1	TO-15		9/30/2022	CJR	1
1,1-Dichloroethane	10.3	ug/m3	0.187	0.596	1	TO-15		9/30/2022	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		9/30/2022	CJR	1
cis-1,2-Dichloroethene	1.55	ug/m3	0.197	0.626	1	TO-15		9/30/2022	CJR	1
trans-1,2-Dichloroethene	1.31	ug/m3	0.231	0.734	1	TO-15		9/30/2022	CJR	1
1,2-Dichloropropane	< 0.28	ug/m3	0.28	0.89	1	TO-15		9/30/2022	CJR	1
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		9/30/2022	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		9/30/2022	CJR	1
1,2-Dichlorotetrafluoroethane	< 0.446	ug/m3	0.446	1.42	1	TO-15		9/30/2022	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		9/30/2022	CJR	1
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		9/30/2022	CJR	1
Ethanol	16	ug/m3	0.152	0.482	1	TO-15		9/30/2022	CJR	1
Ethyl Acetate	2.52	ug/m3	0.176	0.559	1	TO-15		9/30/2022	CJR	1
Ethylbenzene	10.6	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
4-Ethyltoluene	1.42	ug/m3	0.214	0.681	1	TO-15		9/30/2022	CJR	1
Heptane	26.3	ug/m3	0.265	0.845	1	TO-15		9/30/2022	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		9/30/2022	CJR	1
Hexane	130	ug/m3	0.235	0.748	1	TO-15		9/30/2022	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		9/30/2022	CJR	1
Isopropyl Alcohol	10.5	ug/m3	0.109	0.347	1	TO-15		9/30/2022	CJR	1
Methyl ethyl ketone (MEK)	89	ug/m3	0.178	0.567	1	TO-15		9/30/2022	CJR	1
Methyl isobutyl ketone (MIBK)	2.62	ug/m3	0.168	0.536	1	TO-15		9/30/2022	CJR	1
Methyl Methacrylate	1.92	ug/m3	0.217	0.69	1	TO-15		9/30/2022	CJR	1
Methylene chloride	20.3	ug/m3	0.159	0.506	1	TO-15		9/30/2022	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.16	ug/m3	0.16	0.509	1	TO-15		9/30/2022	CJR	1

Project Name CWC EAST BLOCK PILOT SCALE
Project # 40441

Invoice # E41507

Lab Code 5041507D
Sample ID EP-4
Sample Matrix Air
Sample Date 9/26/2022

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Naphthalene	0.78 "J"	ug/m3	0.675	2.15	1	TO-15		9/30/2022	CJR	1
Propene	18.7	ug/m3	0.079	0.251	1	TO-15		9/30/2022	CJR	1
Styrene	25.8	ug/m3	0.181	0.577	1	TO-15		9/30/2022	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		9/30/2022	CJR	1
Tetrachloroethene	2.58	ug/m3	0.278	0.884	1	TO-15		9/30/2022	CJR	1
Tetrahydrofuran	23.6	ug/m3	0.131	0.417	1	TO-15		9/30/2022	CJR	1
Toluene	39	ug/m3	0.184	0.585	1	TO-15		9/30/2022	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		9/30/2022	CJR	1
1,1,1-Trichloroethane	1.96	ug/m3	0.249	0.793	1	TO-15		9/30/2022	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		9/30/2022	CJR	1
Trichloroethene (TCE)	6.3	ug/m3	0.237	0.754	1	TO-15		9/30/2022	CJR	1
Trichlorofluoromethane	1.91	ug/m3	0.337	1.07	1	TO-15		9/30/2022	CJR	1
Trichlorotrifluoroethane	1.84	ug/m3	0.402	1.28	1	TO-15		9/30/2022	CJR	1
1,2,4-Trimethylbenzene	7.2	ug/m3	0.283	0.899	1	TO-15		9/30/2022	CJR	1
1,3,5-Trimethylbenzene	2.06	ug/m3	0.232	0.739	1	TO-15		9/30/2022	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		9/30/2022	CJR	1
Vinyl Chloride	2.53	ug/m3	0.148	0.472	1	TO-15		9/30/2022	CJR	1
m&p-Xylene	41	ug/m3	0.377	1.2	1	TO-15		9/30/2022	CJR	1
o-Xylene	15.3	ug/m3	0.218	0.695	1	TO-15		9/30/2022	CJR	1

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

Code	Comment
1	Laboratory QC within limits.
10	Linear range of calibration curve exceeded.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature