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December 18, 2023

Mr. Christopher Saber
Regional Project Manager – PADEP
Northwest Regional Office
230 Chestnut Street
Meadville, PA 16335

Re: Proposed Phase II Monitoring Well Locations – Final
Erie Coke Site (GTAC7-6-181)

Dear Mr. Saber:

From our conversations and correspondences, OBG | Baker Environmental Solutions Joint Venture (OBG | Baker) is pleased to provide the Pennsylvania Department of Environmental Protection (PADEP or Department) this final version of the Phase II Letter Report that provides soil and groundwater grab sample summary tables collected for analysis from the Phase II Site Investigation being completed at the Department's Erie Coke Site located in Erie, PA. In addition, site figures are attached that exhibit the soil and groundwater grab sample locations as well as the proposed groundwater monitoring wells for this second phase of the investigation. The data tables of analyte detections and criteria exceedances (Tables 1 and 2) were used to aid in determining the proposed number and locations of the Phase II monitoring wells.

At project onset, this letter report was to summarize <u>all</u> soil and groundwater grab data and provide a list of proposed monitoring wells for this phase of the investigation. However, when it became evident that not all the soil and groundwater grab data would be received from the analytical laboratory within standard turnaround times and evaluated prior to mobilization for the upcoming well installations, it was agreed between OBG | Baker and the Department that the letter report would be completed as a multiple draft document.

The first draft of the letter report contained soil and groundwater grab data from the inception of the drilling activities in late September 2023 through data received through mid-November 2023. The second draft ('Draft-Final') included all the data from the first draft of the letter report and the remaining analytical data received since submittal of the first draft. Once comments were received from the Department on the Draft-Final and incorporated, the letter report included herein is being resubmitted to the Department as 'Final'.

Consistent with previous investigation activities, shallow monitoring wells were installed at an approximate depth of 16-18 feet below ground surface (bgs) to straddle the encountered water table, and the deep monitoring wells were set at the soil/bedrock interface, typically 22-25 feet bgs. Each well was constructed with a 10-foot long well screen and follow the installation methodologies in the Phase II Site Investigation Work Plan.

Table 1 provides a summary of analyte detections ('hits' tables) for the soil samples, Table 2 provides a summary of the groundwater grab analyte detections, and Table 3 summarizes quality control samples. Figures 1 through 4 provide the site location and features for reference. Figure 5 provides a figure number layout of all applicable figures for this report. The various previously proposed well locations are shown on Figures 6 through 16, as

applicable. Figure 17 has been developed to provide a generalized overview of the tank farm area where there is some overlap onto other site figures. Figure 18 provides a sitewide view of all proposed Phase II monitoring wells.

A summary of the wells that were proposed, and the considerations for their chosen locations, are provided below:

LAMPE MARINA AREA (FIGURE 6)

MW-12

- Field conditions confirmed as good place for monitoring groundwater quality.
- Location chosen due to extremely high field screening readings with a photoionization detector (PID) and obvious contamination through staining and odor.
- Location also chosen to provide monitoring of groundwater quality in this area where no other wells are present.
- The Department and OBG | Baker determined that groundwater grab results from this area would not change the stance of a need for a well in this area.

MW-14

- Proposed adjacent to boring SB-101A.
- Well would serve as sentinel at the northern site boundary to monitor benzene, toluene, xylenes and Semi-Volatile Organic Compound (SVOC) - primarily Polycyclic Aromatic Hydrocarbon [PAH] movement to the north towards the Lampe Marina.
- Elevated benzene, toluene, and xylenes may be associated with the light oil byproduct from the cooling of the coke oven gas.
- Location chosen to define northern limits of plume identified in borings SB-101 through SB-104 in the Lampe Marina area.

MW-15

- Proposed adjacent to boring GWG-100.
- Location proposed as GWG-100 exhibited one of the highest groundwater benzene concentrations (grab or well) in the entire non-operational area of the facility to the north.

MW-16

- Proposed adjacent to boring SB-107/GWG-102.
- Proposed to monitor the benzene and PAH plume movement to the north and off site toward the Lampe Marina.
- Location chosen to monitor between the benzene levels in the northern and southern parts of the Lampe Marina Area. Although there are other criteria exceedances, benzene is the driver for this well location.

MW-28

- Proposed adjacent to boring SB-109/GWG-101.
- Location requested by the Department and agreed to by OBG | Baker as it provides coverage.
- Location will provide better evaluation of groundwater flow direction in the area.
- Soil exhibited high benzene levels and the groundwater grab exhibited high benzene and PAHs.

INDUSTRIAL NORTH AREA (FIGURE 7)

MW-13

- Field conditions confirmed near SB-121 was a good place for monitoring groundwater quality.
- Location chosen due to unique waste encountered (white waste, fibrous waste, etc.) and obvious contamination through staining and odor.
- Chosen location corroborated by the high benzene, toluene, and ethylbenzene concentrations in the soil samples from boring SB-121.

MW-17

- Proposed adjacent to boring SB-115/GWG-106.
- Strategic monitoring point of groundwater quality flowing onto the site between the Port Access Road (and nearby intermittent stream – not on figure) and the operational areas of the facility.
- Location requested by the Department.
- Location will aid in evaluating the elevated benzene levels in groundwater grab sample GWG-106 and the significantly higher benzene levels further east toward Lake Erie.

MW-37

- Proposed adjacent to SB-119/GWG104 location.
- Strategic monitoring point of groundwater quality near the lakeshore.
- Aid in monitoring the groundwater benzene impact throughout the area as it approaches Lake Erie.
- Location requested by the Department and agreed to by OBG | Baker.

INDUSTRIAL SOUTH AREA – NORTHWEST REGION (FIGURE 8)

MW-18

- Proposed adjacent to boring SB-134 / GWG-110.
- Strategic monitoring point of groundwater quality flowing onto the site between the Port Access Road (and nearby intermittent stream – not on figure) and the operational areas of the facility.
- Location requested by the Department.
- Unique sulfur odor (coke oven gas byproduct) contributed to identifying this as a proposed groundwater monitoring location.

INDUSTRIAL SOUTH AREA – NORTHCENTRAL REGION (FIGURE 9)

MW-19S and MW-19D

- Proposed adjacent to boring SB-148/GWG-121.
- Strategic monitoring point for groundwater quality between the upgradient tank farm and Lake Erie.
- Location chosen as being most impacted between borings SB-137, SB-148, and SB-149.
- Well nest will aid in evaluation of naphthalene encountered near the water table (approx. 10 feet below grade) and the deeper, black coal tar encountered above bedrock (approx. 20 feet below grade).
- Monitoring location for presence and potential movement of Non-Aqueous Phase Liquid (NAPL) between the tank farm and Lake Erie.

MW-20

- Proposed adjacent to boring SB-139/GWG-119.
- Location chosen as high benzene levels (101,000 micrograms per kilogram [ug/kg]) were present in soil above the water table but were modestly above criteria in the groundwater grab sample.
- Strategic location to monitor potential benzene plume movement near the tank farm.
- No nested/deeper well proposed at this location as no contamination was observed at depth near bedrock.

INDUSTRIAL SOUTH AREA – NORTHEAST REGION (FIGURE 10)

MW-21

- Proposed adjacent to boring SB-159/GWG-124.
- Location chosen as groundwater grab sample exhibited elevated benzene and PAHs near Lake Erie.
- Strategic location to monitoring breadth of contaminant plume toward the eastern shoreline.
- No deeper well proposed at this location as no notable contamination was observed at depth in SB-159.

MW-22S and MW-22D

- Proposed adjacent to boring SB-136/GWG-120.
- Location chosen as groundwater grab sample exhibited high benzene and naphthalene concentrations.
- Strategic monitoring point between tank farm and Lake Erie.
- Well nest will aid in evaluation of shallow groundwater quality and encountered deeper coal tar contamination above bedrock (27.5 feet bgs).

MW-23

- Proposed adjacent to boring SB-163/GWG-123.
- Location chosen as boring exhibited most elevated benzene concentration (1,430 ug/kg) in soil along the northern access road and north of the tank farm.
- Elevated benzene and PAHs exhibited in both the soil and groundwater grab samples.
- No deeper well proposed at this location as no notable contamination was observed at depth in SB-163.

INDUSTRIAL SOUTH AREA – WEST REGION (FIGURE 11)

MW-24

- Proposed adjacent to boring SB-140/GWG-114.
- Location chosen as SB-140 was notably more impacted than associated boring SB-141 further south.
- Groundwater grab GWG-114 exhibited elevated benzene concentrations making it a strategic location for monitoring groundwater quality as it approaches the site operational areas from the western boundary.

MW-25

- Proposed adjacent to boring SB-146/GWG-111.
- Strategic monitoring point of groundwater quality flowing onto the site between the Port Access Road (and nearby intermittent stream – not on figure) and the operational areas of the facility.
- Location requested by the Department.
- Unique sulfur odor (coke oven gas byproduct) contributed to identifying this as a proposed groundwater monitoring location.

INDUSTRIAL SOUTH AREA – CENTRAL REGION (FIGURE 12)

MW-36S and MW-36D

- Proposed adjacent to boring SB-175/GWG-142.
- Location chosen as groundwater grab GWG-142 exhibited one of the highest benzene concentrations in groundwater across the site (18,000 micrograms per liter [ug/L]).
- Strategic monitoring point for delineation between lack of NAPL upgradient and four feet of DNAPL down gradient in SB-151/GWG-137.
- Well nest will aid in evaluation of shallow groundwater with benzene and coal tar odor and deeper coal tar contamination impacting native soil above bedrock (23 feet bgs).

MW-29

- Proposed adjacent to boring SB-171/GWG-141.
- Location chosen as groundwater grab GWG-141 exhibited one of the highest benzene concentrations in groundwater across the site (13,100 ug/L).
- Possible Aboveground Storage Tank (AST) area historically for byproducts of the coking process.
- Groundwater grab sample exhibited some of the highest toluene, ethylbenzene, and total xylenes concentrations across the site which could be associated with a historical leaking fuel source (e.g., gasoline) in the area.
- A deeper well (well nest) is not proposed at this location due to lack of contamination exhibited at depth in SB-171.

MW-35S and MW-35D

- Proposed shallow and deep well nest east of boring SB-150/GWG-132.
- Location chosen as a strategic monitoring location for the delineation and monitoring of the tank farm NAPL to the west (four feet of DNAPL in nearby MW-9D to the east).

INDUSTRIAL SOUTH AREA – EAST REGION (FIGURE 13)

MW-30

- Proposed approximately 100 feet east of boring SB-168/GWG-127.
- Location chosen for delineation of benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations exhibited in groundwater grab samples to the west.
- Strategic location to aid in determining if the benzene impact (associated with the NAPL) to the west is associated with the benzene plume to the east (i.e., are there one or two benzene plumes in this area).
- Well nest not proposed at this location due to lack of contamination exhibited at depth in borings SB-168 and SB-171 to the west.

MW-31

- Proposed adjacent to boring SB-167/GWG-128.
- Location chosen as boring exhibited not only the highest tetrachloroethene (PCE) concentration on site in soil but also was the third highest benzene concentration detected in groundwater (16,100 ug/L).
- Well will aid in delineating Volatile Organic Compound (VOC) impacted wells with and without NAPL to the east.
- Well nest not proposed at this location due to lack of contamination exhibited at depth in boring SB-167.

MW-32

- Proposed adjacent to boring SB-165/GWG-129.
- Location chosen as groundwater grab sample exhibited a benzene concentration (14.4 ug/L) above criteria (5 ug/L).
- Well will aid in delineating and monitoring the benzene impact in groundwater at the farthest point east investigated on site.
- Well nest not proposed at this location due to lack of contamination exhibited at depth in boring SB-165.

MW-33

- Proposed adjacent to boring SB-147.
- Location chosen as both benzene and select PAHs exhibited elevated concentrations above criteria.
- Two different soil samples from SB-147 exhibited separate criteria exceedances with the shallow soil sample (6.6 feet bgs) exceeding criteria for benzene, and the deeper soil sample (11.5 feet bgs) exceeding criteria for multiple PAHs.

- Well will aid in delineating and monitoring the potential benzene and PAH impact in this area of the site where little data exists.

INDUSTRIAL SOUTH AREA – SOUTHWEST REGION (FIGURE 14)

No wells are proposed in this area/region.

INDUSTRIAL SOUTH AREA – SOUTHCENTRAL REGION (FIGURE 15)

No wells are proposed in this area/region.

INDUSTRIAL SOUTH AREA – SOUTHEAST REGION (FIGURE 16)

No wells are proposed in this area/region.

TANK FARM AREA (FIGURE 17)

As noted above, there is overlap between some of the figures and discussions presented above and the tank farm figure.

MW-26S and MW-26D

- Proposed shallow/deep well nest adjacent to borings SB-176/GWG-143.
- Location chosen as the groundwater grab boring exhibited both Light NAPL (LNAPL) and Dense NAPL (DNAPL).
- LNAPL thickness measured at 0.1 feet in boring GWG-143 (most of any boring on site to date).
- Boring also exhibited the most DNAPL measured on site (approximately 9.5 feet of DNAPL).
- Deep well may be more strategic as a DNAPL thickness measurement point than used for groundwater quality monitoring in the future.
- Strategic monitoring location for complete vertical profile of aquifer with the boring exhibiting both shallow solvent contamination and deeper coal tar contamination.
- Although there is no impermeable/containment zone in the overburden (e.g., clay), the proposed shallow well will attempt to monitor the shallow solvent impact, and the deeper well will attempt to monitor the coal tar impact and/or DNAPL thickness.

MW-27S and MW-27D

- Proposed shallow/deep well nest adjacent to borings SB-151/GWG-137.
- Location chosen as the groundwater grab boring also exhibited the second greatest thickness of DNAPL (approximately four feet thick) observed in all wells or groundwater grab borings sitewide.

MW-34S and MW-34D

- Proposed shallow/deep well nest adjacent to boring SB-156/GWG-134.

- Location chosen as a strategic monitoring location for the delineation and monitoring of the tank farm NAPL to the east.
- Significantly elevated benzene and PAH concentrations above criteria supports the need for monitoring in this area.

MW-38D

- Proposed deep well directly north of the tank farm between borings 22-SB01 and 23-SB01.
- Location chosen as a strategic monitoring point for delineation of DNAPL measured in wells directly upgradient of the proposed well.
- Shallow well/nest not warranted at this location as no evidence of LNAPL in shallow groundwater near the water table.

OBG | Baker appreciates the opportunity to continue working with the Department on this interesting project. Please feel free to call me at (724) 457-8910 (cell) or email me at Ckupfer@mbakerintl.com if you have any questions or need further information.

Sincerely,

OBG | BAKER ENVIRONMENTAL SOLUTIONS JOINT VENTURE

Christopher H. Kupfer, P.G.
Project Manager
attachments

TABLES

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	MW-9S-11.5	MW-10D-12	MW-12-10	SB-101-11	SB-101-11D	SB-101A-7.5	SB-102-12	SB-103-10	SB-104-8	SB-104-11	SB-104/GWG-12	SB-105-9	SB-105-9D	SB-106-5.5
Sample ID			MW-9S-11.5	MW-10D-12	MW-12-10	SB-101-11	SB-101-11D	SB-101A-7.5	SB-102-12	SB-103-10	SB-104-8	SB-104-11	SB-104/GWG-12	SB-105-9	SB-105-9D	SB-106-5.5
Date			10/30/2023	10/30/2023	9/27/2023	9/25/2023	9/25/2023	9/27/2023	9/26/2023	9/26/2023	9/26/2023	9/26/2023	9/28/2023	9/27/2023	9/27/2023	9/28/2023
Depth Range (ft bgs)			11.5	12.0	10.0	11.0	11.0	7.5	12.0	10.0	8.0	11.0	12.0	9.0	9.0	5.5
Volatile Organic Compounds (µg/kg) [3]																
1,2,4-Trichlorobenzene	27,000	27,000	694 U	611 U	3080 U	2450 U	2810 U	4.6 U	3550 U	118 U	7940 U	5190 U	2740 U	3290 U	2790 U	12.2 U
1,2-Dichlorobenzene	60,000	60,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
1,3-Dichlorobenzene	61,000	61,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
1,4-Dichlorobenzene	10,000	10,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	**29.6** J	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
2-Butanone	400,000	400,000	3470 U	3050 U	15400 U	12200 U	14100 U	**8.2** J	17800 U	592 U	39700 U	25900 U	13700 U	16400 U	14000 U	**34.4**
Acetone	3,100,000	8,800,000	3470 U	3050 U	15400 U	12200 U	14100 U	**46.1**	17800 U	592 U	39700 U	25900 U	13700 U	16400 U	14000 U	**135**
Benzene	500	500	**307** J	**283** J	**233000**	**1330000**	**2340000**	**183**	**3640000**	**1050**	**83100**	2590 U	**5000000**	**533000**	**256000**	4.9 U
Bromodichloromethane	8,000	8,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
Bromomethane	1,000	1,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
Carbon Disulfide	150,000	620,000	347 U	305 U	1540 U	1220 U	1410 U	**3.2**	**429** J	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	**6.6**
Chlorobenzene	10,000	10,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
Chloroform	8,000	8,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
cis-1,2-Dichloroethene	7,000	7,000	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
Cyclohexane	1,700,000	6,900,000	347 U	305 U	**932** J	**2320**	**3090**	**1.5** J	**7850**	**25.7** J	3970 U	**1560** J	**5540**	**1950**	**936** J	4.9 U
Ethylbenzene	70,000	70,000	347 U	305 U	**6470**	**18800**	**25500**	**11.8**	**62600**	**24.8** J	3970 U	**11400**	**43000**	**26900**	**13600**	4.9 U
Isopropylbenzene	600,000	2,500,000	347 U	305 U	1540 U	**2010**	**2540**	1.9 U	**5070**	59.2 U	3970 U	2590 U	**3180**	1640 U	1400 U	4.9 U
Methyl acetate	3,500,000	9,700,000	694 U	611 U	3080 U	2450 U	2810 U	1.9 U	3550 U	**84.1** J	7940 U	5190 U	2740 U	3290 U	2790 U	4.9 U
Methyl cyclohexane	NE	NE	347 U	305 U	**5720**	**8480**	**11700**	**0.91** J	**30700**	**157**	**3540** J	**5130**	**20200**	**8350**	**4280**	4.9 U
Methylene Chloride	500	500	347 U	305 U	1540 U	1220 U	1410 U	**0.86** J	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	**2.6** J
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	**639** J	611 U	**93100**	**320000**	**426000**	**4**	**859000**	**241**	**43000**	**194000**	**472000**	**316000**	**164000**	9.8 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	**266** J	305 U	**26100**	**104000**	**137000**	**1.1** J	**249000**	**74.7**	**14700**	**57500**	**130000**	**106000**	**57100**	4.9 U
Styrene	24,000	24,000	347 U	305 U	**1640**	**18600**	**24100**	1.9 U	**11500**	59.2 U	**5240**	**10600**	**26300**	**36200**	**21500**	4.9 U
Tetrachloroethene	500	500	347 U	305 U	1540 U	1220 U	1410 U	1.9 U	1780 U	59.2 U	3970 U	2590 U	1370 U	1640 U	1400 U	4.9 U
Toluene	100,000	100,000	**341** J	**108** J	**123000**	**700000**	**1140000**	**2**	**2290000**	**543**	**61500**	**497000**	**1390000**	**364000**	**220000**	4.9 U
Total Xylenes	1,000,000	1,000,000	**905** J	916 U	**119000**	**424000**	**564000**	**5.1** J	**1110000**	**315**	**57600**	**252000**	**602000**	**422000**	**221000**	14.6 U
Semi-Volatile Organic Compounds (µg/kg) [6]																
1,2,4,5-Tetrachlorobenzene	4,600	13,000	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
2,4-Dichlorophenol	2,000	2,000	184 U	226 U	231 U	2240 U	2260 U	218 U	2110 U	226 U	2230 U	2180 U	2510 U	225 U	2250 U	356 U
2,4-Dimethylphenol	69,000	190,000	184 U	226 U	**11100**	**57100**	**44400**	218 U	**47200**	**54.4** J	**8900**	**43700**	**49700**	**9490**	**89300**	356 U
2,4-Dinitrophenol	6,900	19,000	368 U	452 U	461 U	4480 U	4530 U	436 U	**5620**	451 U	4460 U	**2110** J	5020 U	450 U	4490 U	713 U
2,6-Dinitrotoluene	43	180	92 U	113 U	115 U	1120 U	**18200**	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
2-Chloronaphthalene	6,000,000	17,000,000	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
2-Methylnaphthalene	25,000	100,000	**1820**	**145**	**61700**	**596000**	**524000**	**172**	**483000**	**668**	**325000**	**499000**	**598000**	**358000**	**1080000**	**232**
2-Nitroaniline	11	44	184 U	226 U	231 U	2240 U	2260 U	218 U	2110 U	226 U	2230 U	2180 U	2510 U	225 U	2250 U	356 U
3-Nitroaniline	NE	NE	184 U	226 U	231 U	2240 U	2260 U	218 U	2110 U	226 U	2230 U	2180 U	2510 U	225 U	2250 U	356 U
4-Chloroaniline	420	1,800	184 U	226 U	231 U	2240 U	2260 U	218 U	2110 U	226 U	2230 U	2180 U	2510 U	225 U	2250 U	356 U
4-Nitrophenol	6,000	6,000	184 U	226 U	231 U	2240 U	2260 U	218 U	2110 U	226 U	2230 U	2180 U	2510 U	225 U	2250 U	356 U
Acenaphthene	2,600,000	4,700,000	**1050**	**77.9**	**10100**	**61000**	**52200**	**6270**	**56600**	**3130**	**35400**	**49100**	**198000**	**35700**	**116000**	**126**
Acenaphthylene	2,400,000	6,600,000	**3710**	**6260**	**195000**	**772000**	**1090000**	**1790**	**646000**	**2830**	**595000**	**744000**	**832000**	**365000**	**1170000**	**419**
Acetophenone	350,000	970,000	**24.8** J	**169**	**1760**	1120 U	**5920**	**32.8** J	**13300**	**77** J	**2730**	**8420**	**9950**	113 U	1120 U	178 U
Anthracene	350,000	350,000	**8710**	**2060**	**168000**	**672000**	**677000**	**2150**	**520000**	**1620**	**475000**	**622000**	**692000**	**317000**	**927000**	**248**
Benzaldehyde	NE	NE	184 U	226 U	231 U	2240 U	2260 U	218 U	2110 U	226 U	2230 U	2180 U	2510 U	225 U	2250 U	**158** J
Benzo(a)anthracene	6,100	340,000	**9090**	**1650**	**56500**	**541000**	**501000**	**1280**	**404000**	**2890**	**351000**	**439000**	**483000**	**228000**	**551000**	**683**
Benzo(a)pyrene	4,200	46,000	**7580**	**7880**	**50400**	**468000**	**435000**	**1130**	**346000**	**5480**	**306000**	**389000**	**446000**	**192000**	**576000**	**912**
Benzo(b)fluoranthene	3,500	170,000	**6300**	**8920**	**36500**	**402000**	**324000**	**853**	**257000**	**3600**	**237000**	**301000**	**632000**	**141000**	**461000**	**645**
Benzo(g,h,i)perylene	180,000	180,000	**3100**	**14100**	**21600**	**194000**	**178000**	**485**	**136000**	**1230**	**128000**	**156000**	**341000**	**64200**	**226000**	**893**

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	MW-9S-11.5	MW-10D-12	MW-12-10	SB-101-11	SB-101-11D	SB-101A-7.5	SB-102-12	SB-103-10	SB-104-8	SB-104-11	SB-104/GWG-12	SB-105-9	SB-105-9D	SB-106-5.5
Sample ID			MW-9S-11.5	MW-10D-12	MW-12-10	SB-101-11	SB-101-11D	SB-101A-7.5	SB-102-12	SB-103-10	SB-104-8	SB-104-11	SB-104/GWG-12	SB-105-9	SB-105-9D	SB-106-5.5
Date			10/30/2023	10/30/2023	9/27/2023	9/25/2023	9/25/2023	9/27/2023	9/26/2023	9/26/2023	9/26/2023	9/26/2023	9/28/2023	9/27/2023	9/27/2023	9/28/2023
Depth Range (ft bgs)			11.5	12.0	10.0	11.0	11.0	7.5	12.0	10.0	8.0	11.0	12.0	9.0	9.0	5.5
Benzo(k)fluoranthene	3,500	610,000	6160	5470	36100	331000	351000	837	288000	3530	252000	303000	517000	141000	404000	606
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)																
Biphenyl	370	1,500	907	37.1 J	14000	141000	129000	160	110000	121	82600	121000	259000	50500	225000	30.4 J
bis(2-Chloroethoxy)methane	10,000	29,000	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
bis(2-Chloroisopropyl)ether	30,000	30,000	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	92 U	113 U	424	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
Butylbenzylphthalate	2,900,000	10,000,000	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
Caprolactam	NE	NE	184 U	226 U	231 U	2240 U	2260 U	218 U	2110 U	226 U	2230 U	2180 U	2510 U	225 U	2250 U	356 U
Carbazole	21,000	89,000	4130	317	35500	339000	309000	3100	245000	710	219000	265000	535000	126000	450000	115 J
Chrysene	35,000	230,000	8620	2180	51900	538000	471000	1240	349000	3070	333000	435000	410000	210000	647000	703
Dibenzo(a,h)anthracene	1,000	270,000	966	2380	6440	59000	49700	112	42400	3400	37200	41900	56000	18900	66300	152
Dibenzofuran	90,000	250,000	4760	127	51700	501000	457000	3780	397000	524	311000	419000	453000	220000	568000	114 J
Diethylphthalate	2,800,000	7,800,000	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
Dimethylphthalate	NE	NE	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
Di-n-Butylphthalate	1,400,000	4,000,000	35.7 J	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
Fluoranthene	3,200,000	3,200,000	25100	981	404000	1790000	2490000	4530	1710000	7720	1580000	1580000	1530000	633000	1700000	1170
Fluorene	2,800,000	3,800,000	10200	56.4 U	198000	692000	998000	4990	735000	1170	500000	659000	736000	352000	912000	167
Hexachlorobenzene	960	960	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
Hexachlorobutadiene	10,000	42,000	92 U	113 U	115 U	1120 U	1130 U	109 U	1060 U	113 U	1110 U	1090 U	1250 U	113 U	1120 U	178 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	3380	11200	25300	234000	213000	684	167000	1340	152000	5140	399000	97300	265000	862
m&p-Cresol [7]	17,000 [8]	49,000 [8]	67.7 J	113 J	28200	100000	80400	218 U	103000	187 J	16200	91900	62900	20600	100000	61.9 J
Naphthalene	13,000	25,000	7790	1110	668000	5270000 E	8520000	4660	6730000	1430	5650000	6470000	7600000	4730000	57500000	445
o-Cresol	170,000	490,000	38.1 J	40.3 J	11100	42400	33400	218 U	40000	226 U	6440	38900	26100	225 U	52200	356 U
Phenanthrene	10,000,000	10,000,000	34700	435	595000	2420000	3350000	3190	2390000	5530	2280000	2200000	2280000	955000	2560000	897
Phenol	200,000	200,000	184 U	226 U	20700	80700	64800	218 U	103000	226 U	16700	78800	50700	14500	66800	356 U
Pyrene	2,200,000	2,200,000	19100	1490	303000	976000	1440000	3250	990000	5530	932000	854000	1050000	526000	1130000	1020
PCBs (mg/kg) [9]																
Aroclor-1254	4.4	380	---	---	0.79 U	0.72 U	0.37 U	0.039 U	0.4 U	0.1	4 U	0.76 U	0.042 U	0.043 U	0.42 U	0.063 U
Aroclor-1260	9.3	630	---	---	0.41 J	0.25 J	0.27 J	0.039 U	0.35 J	0.042 U	4 U	0.76 U	0.042 U	0.043 U	0.42 U	0.063 U
Aroclor-1268	NE	NE	---	---	0.79 U	0.72 U	0.37 U	0.039 U	0.4 U	0.042 U	31.6	0.76 U	0.042 U	0.043 U	0.42 U	0.063 U
Total Polychlorinated Biphenyl	9.3	9.8	---	---	0.41 J	0.72 U	0.27 J	0.039 U	0.35 J	0.1	31.6	0.76 U	0.042 U	0.043 U	0.42 U	0.063 U
Metals (mg/kg)																
Aluminum	190,000 [10]	190,000 [10]	72600	12100	7070	7470	6580	9730	7260	5980	7680	6570	3790	4860	1920	17400
Antimony	27	27	4.6 J	11.6 U	3.9 J	4.4 U	3.8 U	2.2 U	4.5 U	2.2 U	4.7 U	2.2 U	2.4 U	2.6 U	2.5 U	2.2 J
Arsenic	12	29	10.9	35.2	24.7	22.2	21.3	18.9	81.9	11.3	21.2	16.4	12.8	12.3	8.1	9.2
Barium	8,200	8,200	453	636	183	139	127	69.3	148	129	161	53.4	60.1	81	33.3	147
Beryllium	320	320	15.4	5.8 U	1.4 J	1.7 J	1.5 J	0.53 J	1.7 J	0.58 J	1.8 J	0.62 J	0.92 J	0.98 J	0.42 J	2.8
Cadmium	38	38	0.91 J	2.2 J	9.2	2.4	2.3	0.63	3.6	6.4	2.1	0.97	1.2	1.2	0.79	0.5 J
Calcium	NE	NE	262000	21500	71600	25900	19400	17700	24100	3790	28800	18100	12500	15000	4400	53000
Chromium	37 [11]	190 [11]	7.5	32.3	65.7	50.5	35.4	15.2	53.3	21.4	32.4	40.1	20.1	29.9	17.2	8.7
Cobalt	45	130	5.3 U	5.8 U	2.2 U	2.2 U	1.9 U	3.4	2.3 U	4.1	2.3 U	1.1 U	1.2 U	1.3 U	1.2 U	2.8
Copper	7,200	43,000	6.2 J	51.5	272	88.1	91.5	25.6	142	84.8	100	35	52.3	56.6	25.6	18.1
Iron	150,000	190,000	7230	119000	81000	64500	62400	27600	95900	18500	68000	38300	40800	36200	13000	13200
Lead	450	450	14.8	81.4	730	277	285	14.8	185	184	376	67.2	240	104	181	26.1
Magnesium	NE	NE	47400	2850	6470	4960	4040	9630	3210	2950	10700	5550	4730	1690	628	13300
Manganese	2,000	2,000	2190	1990	5170	4120	4130	464	4330	166	4100	786	1910	1960	633	810

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	MW-9S-11.5	MW-10D-12	MW-12-10	SB-101-11	SB-101-11D	SB-101A-7.5	SB-102-12	SB-103-10	SB-104-8	SB-104-11	SB-104/GWG-12	SB-105-9	SB-105-9D	SB-106-5.5
Sample ID			MW-9S-11.5	MW-10D-12	MW-12-10	SB-101-11	SB-101-11D	SB-101A-7.5	SB-102-12	SB-103-10	SB-104-8	SB-104-11	SB-104/GWG-12	SB-105-9	SB-105-9D	SB-106-5.5
Date			10/30/2023	10/30/2023	9/27/2023	9/25/2023	9/25/2023	9/27/2023	9/26/2023	9/26/2023	9/26/2023	9/26/2023	9/28/2023	9/27/2023	9/27/2023	9/28/2023
Depth Range (ft bgs)			11.5	12.0	10.0	11.0	11.0	7.5	12.0	10.0	8.0	11.0	12.0	9.0	9.0	5.5
Metals (mg/kg) (cont.)																
Mercury	10	10	**0.11**	**0.073**	**0.54**	**0.5**	**0.88**	**0.027** J	**1.3**	**0.4**	**0.3**	**0.81**	**0.95**	**1.4**	**9.9**	**0.3**
Nickel	650	650	10.7 U	**19.1**	**61.2**	**29.1**	**28.6**	**23.9**	**51.7**	**26.4**	**20.4**	**27.8**	**14.7**	**18.4**	**6.2**	**14**
Potassium	NE	NE	**2110**	**2820**	**1070**	**1130**	**1150**	**1730**	**1040**	**723**	**856**	**1210**	**444**	**1010**	**505**	**1450**
Selenium	26	26	**25.3** J	**11.3** J	11.1 U	11.1 U	9.6 U	5.5 U	11.4 U	**2.5** J	11.7 U	5.4 U	6.1 U	6.5 U	6.2 U	**4.1** J
Silver	84	84	2.7 U	2.9 U	1.1 U	1.1 U	**2.1**	0.55 U	1.1 U	**0.74**	**3.6**	0.54 U	0.61 U	0.65 U	0.62 U	0.93 U
Sodium	NE	NE	**746**	**655**	**507**	**427**	**431**	**125**	**437**	**107**	**374**	**179**	**274**	**254**	**191**	**347**
Thallium	2.2	14	16 U	**10.1** J	**2.9** J	**4** J	**3.1** J	**3.4**	**7**	**2.7** J	**4.7** J	**4.2**	**3.5** J	**2.4** J	**2** J	5.6 U
Vanadium	1,100	49,000	**7.6**	**46.8**	**23.3**	**31.8**	**36.8**	**17.8**	**32.9**	**9.7**	**37.5**	**15.8**	**19.6**	**27.7**	**10.3**	**7.3**
Zinc	12,000	12,000	**9.6** J	**1750**	**885**	**281**	**296**	**86.1**	**299**	**294**	**307**	**93.7**	**159**	**446**	**117**	**92.3**

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PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-107/GWG-6	SB-107-9	SB-108-7	SB-108-7D	SB-109-6	SB-110/GWG-7	SB-110-8	SB-111-7.5	SB-112-7	SB-113-6	SB-113-12.5	SB-114-13	SB-115-10
Sample ID			SB-107/GWG-6	SB-107-9	SB-108-7	SB-108-7D	SB-109-6	SB-110/GWG-7	SB-110-8	SB-111-7.5	SB-112-7	SB-113-6	SB-113-12.5	SB-114-13	SB-115-10
Date			9/29/2023	9/29/2023	10/2/2023	10/2/2023	9/28/2023	9/29/2023	9/29/2023	10/2/2023	10/3/2023	10/4/2023	10/4/2023	10/4/2023	10/4/2023
Depth Range (ft bgs)			6.0	9.0	7.0	7.0	6.0	7.0	8.0	7.5	7.0	6.0	12.5	13.0	10.0
Volatile Organic Compounds (µg/kg) [3]															
1,2,4-Trichlorobenzene	27,000	27,000	5060 U	2370 U	10800 U	11300 U	3870 U	13300 U	6.4 U	6.8 U	7.9 U	2960 U	683 U	702 U	567 U
1,2-Dichlorobenzene	60,000	60,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	**1.9** J	1480 U	341 U	351 U	284 U
1,3-Dichlorobenzene	61,000	61,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	**1.3** J	**1480** J	341 U	351 U	284 U
1,4-Dichlorobenzene	10,000	10,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	**3.5**	1480 U	341 U	351 U	284 U
2-Butanone	400,000	400,000	25300 U	11800 U	54200 U	56600 U	19400 U	66700 U	12.8 U	13.6 U	**130**	14800 U	3410 U	3510 U	2840 U
Acetone	3,100,000	8,800,000	25300 U	11800 U	54200 U	56600 U	19400 U	66700 U	**18.7**	13.6 U	**463**	**14800**	3410 U	3510 U	2840 U
Benzene	500	500	**70200**	**2030000**	5420 U	5660 U	**6790**	**6530** J	**3030**	**25.6**	**28.1**	1480 U	341 U	351 U	284 U
Bromodichloromethane	8,000	8,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
Bromomethane	1,000	1,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	3.2 U	**1480** J	341 U	351 U	284 U
Carbon Disulfide	150,000	620,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	**2.3** J	2.7 U	**5.4**	1480 U	341 U	**83.4** J	284 U
Chlorobenzene	10,000	10,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
Chloroform	8,000	8,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
cis-1,2-Dichloroethene	7,000	7,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	3.2 U	**1480** J	341 U	351 U	284 U
Cyclohexane	1,700,000	6,900,000	2530 U	**1830**	5420 U	5660 U	1940 U	6670 U	**34.9**	2.7 U	3.2 U	**1480** J	341 U	351 U	284 U
Ethylbenzene	70,000	70,000	**2500** J	**41900**	5420 U	5660 U	1940 U	**2590** J	**187**	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
Isopropylbenzene	600,000	2,500,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	**21.4**	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
Methyl acetate	3,500,000	9,700,000	5060 U	2370 U	10800 U	11300 U	3870 U	13300 U	2.6 U	2.7 U	3.2 U	2960 U	**390** J	**330** J	567 U
Methyl cyclohexane	NE	NE	2530 U	**9520**	5420 U	5660 U	1940 U	**3680** J	**78.9**	2.7 U	3.2 U	1480 U	**126** J	351 U	284 U
Methylene Chloride	500	500	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	**1.9** J	**1480** J	341 U	351 U	284 U
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	**21100**	**462000**	10800 U	11300 U	**2120** J	**4360** J	**672**	5.4 U	6.3 U	2960 U	683 U	702 U	567 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	**5550**	**130000**	5420 U	5660 U	1940 U	**2560** J	**205**	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
Styrene	24,000	24,000	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	**8.4**	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
Tetrachloroethene	500	500	2530 U	1180 U	5420 U	5660 U	1940 U	6670 U	2.6 U	2.7 U	3.2 U	1480 U	341 U	351 U	284 U
Toluene	100,000	100,000	**33400**	**852000**	5420 U	5660 U	**3200**	6670 U	**1450**	2.7 U	**4.8**	**790**	**452**	**110** J	284 U
Total Xylenes	1,000,000	1,000,000	**26600**	**592000**	16300 U	17000 U	**2620** J	**6920** J	**877**	8.2 U	9.5 U	**4440**	1020 U	1050 U	851 U
Semi-Volatile Organic Compounds (µg/kg) [6]															
1,2,4,5-Tetrachlorobenzene	4,600	13,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	414 U	469 U	384 U
2,4-Dichlorophenol	2,000	2,000	5710 U	224 U	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
2,4-Dimethylphenol	69,000	190,000	5710 U	**348**	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
2,4-Dinitrophenol	6,900	19,000	11400 U	447 U	9020 U	8380 U	413 U	4310 U	4100 U	3980 U	597 U	1780 U	1660 U	1880 U	1530 U
2,6-Dinitrotoluene	43	180	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	414 U	469 U	384 U
2-Chloronaphthalene	6,000,000	17,000,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	414 U	469 U	384 U
2-Methylnaphthalene	25,000	100,000	**6200**	**7010**	**39400**	**34400**	**175**	**20200**	**2150**	**943** J	**71.9** J	**882**	**455**	**325** J	384 U
2-Nitroaniline	11	44	5710 U	224 U	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
3-Nitroaniline	NE	NE	5710 U	224 U	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
4-Chloroaniline	420	1,800	5710 U	224 U	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	**608** J	828 U	938 U	767 U
4-Nitrophenol	6,000	6,000	5710 U	224 U	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
Acenaphthene	2,600,000	4,700,000	**28500**	**21100**	**40300**	**36600**	**333**	**21700**	**1360**	**625**	**203**	**293**	**1200**	**417**	192 U
Acenaphthylene	2,400,000	6,600,000	**28500**	**12600**	**29900**	**26600**	**868**	**25900**	**1510**	**3800**	**45.2** J	222 U	**216**	**274**	192 U
Acetophenone	350,000	970,000	2850 U	**295**	2250 U	2090 U	103 U	1080 U	1020 U	994 U	**46.7** J	**252** J	**70.6** J	**174** J	384 U
Anthracene	350,000	350,000	**92300**	**24000**	**79700**	**80200**	**178**	**61600**	**2790**	**10000**	**229**	**458**	**2130**	**1450**	**193**
Benzaldehyde	NE	NE	5710 U	224 U	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	**61.4** J	888 U	828 U	938 U	767 U
Benzo(a)anthracene	6,100	340,000	**64000**	**33000**	**75800**	**69200**	**301**	**45400**	**2380**	**14400**	**647**	**846**	**3370**	**1980**	**662**
Benzo(a)pyrene	4,200	46,000	**55300**	**31200**	**69500**	**62700**	**395**	**37500**	**2140**	**11900**	**842**	**871**	**3300**	235 U	**990**
Benzo(b)fluoranthene	3,500	170,000	**41400**	**28000**	**47300**	**44600**	**348**	**32000**	**1790**	**10100**	**699**	**920**	**2830**	235 U	**768**
Benzo(g,h,i)perylene	180,000	180,000	**20500**	**16400**	**30600**	**25300**	**1610**	**17500**	**1090**	**5810**	**619**	**654**	**2010**	**1650**	**848**

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-107/GWG-6	SB-107-9	SB-108-7	SB-108-7D	SB-109-6	SB-110/GWG-7	SB-110-8	SB-111-7.5	SB-112-7	SB-113-6	SB-113-12.5	SB-114-13	SB-115-10
Sample ID			SB-107/GWG-6	SB-107-9	SB-108-7	SB-108-7D	SB-109-6	SB-110/GWG-7	SB-110-8	SB-111-7.5	SB-112-7	SB-113-6	SB-113-12.5	SB-114-13	SB-115-10
Date			9/29/2023	9/29/2023	10/2/2023	10/2/2023	9/28/2023	9/29/2023	9/29/2023	10/2/2023	10/3/2023	10/4/2023	10/4/2023	10/4/2023	10/4/2023
Depth Range (ft bgs)			6.0	9.0	7.0	7.0	6.0	7.0	8.0	7.5	7.0	6.0	12.5	13.0	10.0
Benzo(k)fluoranthene	3,500	610,000	38400	23000	52900	46500	318	30700	1730	9580	616	772	2610	235 U	602
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)															
Biphenyl	370	1,500	2420 J	2300	13700	12600	24.7 J	7570	495 J	312 J	149 U	93.4 J	99.4 J	469 U	384 U
bis(2-Chloroethoxy)methane	10,000	29,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	414 U	469 U	384 U
bis(2-Chloroisopropyl)ether	30,000	30,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	414 U	469 U	384 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	3550	2950	43300	10300	384 U
Butylbenzylphthalate	2,900,000	10,000,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	729	7480	469 U	384 U
Caprolactam	NE	NE	5710 U	224 U	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
Carbazole	21,000	89,000	15800	14000	21000	20600	119	28400	1070	1680	81.6 J	307 J	1100	348 J	384 U
Chrysene	35,000	230,000	63900	33000	70700	69100	384	47900	2360	16300	731	913	3250	2160	772
Dibenzo(a,h)anthracene	1,000	270,000	6120	5240	8060	6750	215	5320	282 J	1760	138	188 J	628	533	204
Dibenzofuran	90,000	250,000	22700	13200	56300	50400	127	32300	1650	2020	61.6 J	343 J	806	694	384 U
Diethylphthalate	2,800,000	7,800,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	465	469 U	384 U
Dimethylphthalate	NE	NE	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	135 J	469 U	384 U
Di-n-Butylphthalate	1,400,000	4,000,000	2850 U	43.4 J	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	142 J	420	287 J	384 U
Fluoranthene	3,200,000	3,200,000	172000	89700	250000	237000	607	118000	7150	33100	1630	2090	8470	5730	1310
Fluorene	2,800,000	3,800,000	47000	30700	88700	79100	158	54400	2630	3330	142	495	1230	1720	118 J
Hexachlorobenzene	960	960	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	414 U	469 U	384 U
Hexachlorobutadiene	10,000	42,000	2850 U	112 U	2250 U	2090 U	103 U	1080 U	1020 U	994 U	149 U	444 U	414 U	469 U	384 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	23700	17900	34700	28900	937	19600	1150	6160	631	784	2590	1410	829
m&p-Cresol [7]	17,000 [8]	49,000 [8]	1040 J	462	4510 U	4190 U	40.5 J	469 J	2050 U	1990 U	299 U	286 J	828 U	588 J	767 U
Naphthalene	13,000	25,000	111000	93100	132000	122000	1100	194000	26100	4300	93.8	825	1010	274	192 U
o-Cresol	170,000	490,000	5710 U	247	4510 U	4190 U	207 U	2150 U	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
Phenanthrene	10,000,000	10,000,000	131000	66600	347000	332000	558	162000	8950	24200	482	1540	6870	2280	457
Phenol	200,000	200,000	1260 J	1340	4510 U	4190 U	207 U	660 J	2050 U	1990 U	299 U	888 U	828 U	938 U	767 U
Pyrene	2,200,000	2,200,000	109000	64600	163000	157000	560	75500	4810	23100	1400	1510	5440	3890	1190
PCBs (mg/kg) [9]															
Aroclor-1254	4.4	380	0.046 U	0.039 U	---	---	0.038 U	---	---	---	2.4 U	0.84	2.5	2.1 U	0.035 U
Aroclor-1260	9.3	630	0.046 U	0.78 U	---	---	0.038 U	---	---	---	2.4 U	0.042 U	0.037 U	2.1 U	0.02 J
Aroclor-1268	NE	NE	0.046 U	0.039 U	---	---	0.038 U	---	---	---	2.4 U	0.042 U	0.037 U	2.1 U	0.035 U
Total Polychlorinated Biphenyl	9.3	9.8	0.046 U	0.78 U	---	---	0.038 U	---	---	---	2.4 U	0.84	2.5	2.1 U	0.02 J
Metals (mg/kg)															
Aluminum	190,000 [10]	190,000 [10]	7300	8620	17700	18900	1430	5910	3040	15700	23500	10700	9810	7840	4590
Antimony	27	27	2.3 J	4.7 U	4.7 U	11.4 U	4.7 U	2.3 U	2.2 U	1.3 J	1.8 J	4.8	22.2	3.1	0.76 J
Arsenic	12	29	8	16.9	13.8	30.3	11	11.4	5.2	10.5	13.3	20.9	18.6	18	7.1
Barium	8,200	8,200	104	83.7	210	222	28.6	70.7	26.9	153	140	387	267	182	29.4
Beryllium	320	320	1.6	1.8 J	3.7	4.4 J	2.3 U	0.67 J	1.1 U	3	1.5 U	0.67 J	5.1 U	0.59 J	1 U
Cadmium	38	38	0.71 U	1.2 U	1.2 U	2.9 U	1.2 U	0.59 U	0.55 U	0.5 J	9.1	23.9	8.3	10.7	0.41 J
Calcium	NE	NE	11200	58900	66700	78600	140000	6610	6350	81900	56500	9800	28200	8990	38800
Chromium	37 [11]	190 [11]	7.7	20.3	10.3	22	4.4	11.6	7.6	12.9	114	150	50	81.2	6.7
Cobalt	45	130	2.4	2.4 U	2.4 U	5.7 U	2.3 U	1.2 U	1.1 U	1 U	1.5 U	4.9	3 J	8.4	1.2
Copper	7,200	43,000	34.2	38.7	24.8	31.6	13.3	21.4	7.9	16.3	75.3	758	275	125	19.3
Iron	150,000	190,000	20700	89300	100000	207000	32700	26100	12500	24800	30700	35500	47200	32400	10600
Lead	450	450	60	55.7	5.4	4.3 J	10.4	162	42.1	19.3	422	1280	353	472	37.9
Magnesium	NE	NE	987	11600	14000	16500	18200	961	765	10700	21700	5600	5030	4080	3710
Manganese	2,000	2,000	184	2140	2660	4060	597	1420	284	1800	390	497	654	334	301

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-107/GWG-6	SB-107-9	SB-108-7	SB-108-7D	SB-109-6	SB-110/GWG-7	SB-110-8	SB-111-7.5	SB-112-7	SB-113-6	SB-113-12.5	SB-114-13	SB-115-10
Sample ID			SB-107/GWG-6	SB-107-9	SB-108-7	SB-108-7D	SB-109-6	SB-110/GWG-7	SB-110-8	SB-111-7.5	SB-112-7	SB-113-6	SB-113-12.5	SB-114-13	SB-115-10
Date			9/29/2023	9/29/2023	10/2/2023	10/2/2023	9/28/2023	9/29/2023	9/29/2023	10/2/2023	10/3/2023	10/4/2023	10/4/2023	10/4/2023	10/4/2023
Depth Range (ft bgs)			6.0	9.0	7.0	7.0	6.0	7.0	8.0	7.5	7.0	6.0	12.5	13.0	10.0
Metals (mg/kg) (cont.)															
Mercury	10	10	**0.15**	**0.26**	0.054 U	0.057 U	**0.033** J	**0.18**	**0.056**	**0.077**	**0.18**	**0.38**	**0.4**	**0.43**	**0.058**
Nickel	650	650	**12.7**	**9.9**	**5.6**	**9.1** J	**4.8**	**9.3**	**3.8**	**4.4**	**36.2**	**67.2**	**66.7**	**38.6**	**14**
Potassium	NE	NE	**923**	**1200**	**3270**	**2810**	**512**	**726**	**289**	**1640**	**701**	**1320**	**1370**	**956**	**483**
Selenium	26	26	**3.5** J	11.8 U	11.8 U	28.5 U	**4.6** J	5.9 U	5.5 U	**4.5** J	**5** J	**4.6** J	**16.2** J	**3.4** J	**2** J
Silver	84	84	0.71 U	1.2 U	1.2 U	2.9 U	1.2 U	0.59 U	0.55 U	0.51 U	0.74 U	**4.7**	2.5 U	**1.3**	0.51 U
Sodium	NE	NE	**312**	**345**	**703**	**875**	**334**	**118**	**73.7**	**553**	**119**	**113**	**213** J	**128**	**74**
Thallium	2.2	14	**3** J	**8.9**	**9.5**	**18**	**3.8** J	**4.1**	**1.8** J	3 U	**3.4** J	**3.7** J	15.2 U	**3.2** J	3.1 U
Vanadium	1,100	49,000	**13.6**	**27**	**23.1**	**40.5**	**8.3**	**12.4**	**4.5**	**9.8**	**9.6**	**20.4**	**11.3**	**16.3**	**21**
Zinc	12,000	12,000	**36.3**	**160**	**30.6**	**39.1**	**49.2**	**187**	**62.3**	**51.1**	**198**	**832**	**2770**	**403**	**54.9**

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PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-116-7.5	SB-117-5.5	SB-118-4.5	SB-119-3.5	SB-120-7.5	SB-121-3	SB-121-6.5	SB-121A-7	SB-121B-5	SB-121B-5	SB-121C-7	SB-121C-7	SB-122-7.5
Sample ID			SB-116-7.5	SB-117-5.5	SB-118-4.5	SB-119-3.5	SB-120-7.5	SB-121-3	SB-121-6.5	SB-121A-7	SB-121B-5	SB-121B-5	SB-121C-7	SB-121C-7	SB-122-7.5
Date			10/3/2023	10/3/2023	10/2/2023	10/2/2023	10/3/2023	10/3/2023	10/3/2023	10/12/2023	10/12/2023	10/13/2023	10/12/2023	10/13/2023	10/4/2023
Depth Range (ft bgs)			7.5	5.5	4.5	3.5	7.5	3.0	6.5	7.0	5.0	5.0	7.0	7.0	7.5
Volatile Organic Compounds (µg/kg) [3]															
1,2,4-Trichlorobenzene	27,000	27,000	**0.86** J	8.2 U	11.4 U	10.8 U	10400 U	4120 U	5580 U	4280 U	4480 U	4090 U	2900 U	2580 U	877 U
1,2-Dichlorobenzene	60,000	60,000	**19.6**	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
1,3-Dichlorobenzene	61,000	61,000	**9.8**	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
1,4-Dichlorobenzene	10,000	10,000	**9**	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
2-Butanone	400,000	400,000	**16.4**	16.5 U	22.8 U	21.6 U	52100 U	20600 U	27900 U	21400 U	22400 U	20400 U	14500 U	12900 U	4390 U
Acetone	3,100,000	8,800,000	**81.1**	16.5 U	22.8 U	21.6 U	52100 U	20600 U	27900 U	21400 U	22400 U	20400 U	14500 U	12900 U	4390 U
Benzene	500	500	**33.4**	**7.4**	4.6 U	**18.9**	**6430**	**6990000**	**19400000** E	**113000**	**1070** J	2040 U	1450 U	1290 U	439 U
Bromodichloromethane	8,000	8,000	3.1 U	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
Bromomethane	1,000	1,000	3.1 U	**6.1**	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
Carbon Disulfide	150,000	620,000	**1.8** J	3.3 U	4.6 U	4.3 U	5210 U	**1160** J	**4170**	**1140** J	2240 U	2040 U	1450 U	1290 U	439 U
Chlorobenzene	10,000	10,000	**1.4** J	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
Chloroform	8,000	8,000	3.1 U	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
cis-1,2-Dichloroethene	7,000	7,000	**11.8**	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
Cyclohexane	1,700,000	6,900,000	**1.2** J	3.3 U	4.6 U	**1.1** J	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	**465** J	439 U
Ethylbenzene	70,000	70,000	**16**	3.3 U	4.6 U	4.3 U	5210 U	**113000**	**109000**	2140 U	2240 U	2040 U	1450 U	**838** J	439 U
Isopropylbenzene	600,000	2,500,000	**9.4**	3.3 U	4.6 U	4.3 U	5210 U	**16400**	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
Methyl acetate	3,500,000	9,700,000	3.1 U	3.3 U	4.6 U	4.3 U	10400 U	**5590**	**4480** J	**1100** J	4480 U	4090 U	2900 U	2580 U	877 U
Methyl cyclohexane	NE	NE	**2.9** J	3.3 U	4.6 U	**1.6** J	5210 U	**4240**	**8830**	2140 U	2240 U	2040 U	1450 U	**1130** J	439 U
Methylene Chloride	500	500	**1.3** J	**3.2** J	**1.9** J	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	**43.6**	6.6 U	9.1 U	8.6 U	**4970** J	82300000 U	112000000 U	**153000**	**1680** J	4090 U	2900 U	**4580**	877 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	**20.8**	3.3 U	4.6 U	4.3 U	**2080** J	41200000 U	55800000 U	**18200**	2240 U	2040 U	1450 U	**1670**	439 U
Styrene	24,000	24,000	3.1 U	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
Tetrachloroethene	500	500	3.1 U	3.3 U	4.6 U	4.3 U	5210 U	2060 U	2790 U	2140 U	2240 U	2040 U	1450 U	1290 U	439 U
Toluene	100,000	100,000	**851**	**3.5**	4.6 U	**5.5**	**4680** J	**7700000**	**12300000** E	**106000**	**964** J	2040 U	**367** J	**766** J	439 U
Total Xylenes	1,000,000	1,000,000	**64.5**	9.9 U	13.7 U	13 U	**7050** J	124000000 U	167000000 U	**171000**	**1680** J	6130 U	4340 U	**6260**	1320 U
Semi-Volatile Organic Compounds (µg/kg) [6]															
1,2,4,5-Tetrachlorobenzene	4,600	13,000	492 U	147 U	135 U	**1180**	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
2,4-Dichlorophenol	2,000	2,000	984 U	295 U	269 U	295 U	197 U	5090 U	6520 U	341 U	---	358 U	---	216 U	1360 U
2,4-Dimethylphenol	69,000	190,000	984 U	295 U	**95.6** J	295 U	197 U	**1130** J	**1690** J	**164** J	---	**95.4** J	---	216 U	1360 U
2,4-Dinitrophenol	6,900	19,000	1970 U	590 U	539 U	590 U	394 U	10200 U	13000 U	682 U	---	716 U	---	432 U	2710 U
2,6-Dinitrotoluene	43	180	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
2-Chloronaphthalene	6,000,000	17,000,000	492 U	147 U	**308**	**1870**	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
2-Methylnaphthalene	25,000	100,000	**1060**	**63.9** J	**998**	**229**	98.5 U	**15100**	**6590**	**1330**	---	**16600**	---	**98.7** J	**1230**
2-Nitroaniline	11	44	984 U	295 U	269 U	295 U	197 U	5090 U	6520 U	341 U	---	358 U	---	216 U	1360 U
3-Nitroaniline	NE	NE	984 U	295 U	269 U	295 U	197 U	5090 U	6520 U	341 U	---	358 U	---	216 U	1360 U
4-Chloroaniline	420	1,800	984 U	295 U	269 U	295 U	197 U	5090 U	6520 U	341 U	---	358 U	---	216 U	**1280** J
4-Nitrophenol	6,000	6,000	984 U	295 U	**102** J	295 U	197 U	5090 U	6520 U	341 U	---	358 U	---	216 U	1360 U
Acenaphthene	2,600,000	4,700,000	**928**	73.7 U	**89.9**	73.7 U	49.2 U	**53700**	**69500**	85.2 U	---	**1830**	---	**42.5** J	**203** J
Acenaphthylene	2,400,000	6,600,000	**464**	73.7 U	**844**	**1140**	49.2 U	1270 U	1630 U	**820**	---	**3580**	---	**21.7** J	**709**
Acetophenone	350,000	970,000	**330** J	**255**	**144**	**99.2** J	**128**	**314000**	**281000**	**2910**	---	**140** J	---	**27.3** J	**182** J
Anthracene	350,000	350,000	**2300**	73.7 U	**825**	**325**	49.2 U	**3450**	**2680**	**2670**	---	**19200**	---	**88.4**	**641**
Benzaldehyde	NE	NE	**402** J	**198** J	**177** J	**132** J	197 U	5090 U	6520 U	341 U	---	358 U	---	216 U	1360 U
Benzo(a)anthracene	6,100	340,000	**5060**	73.7 U	**1660**	**603**	**23.6** J	**9150**	**3170**	**4420**	---	**22000**	---	**61.7**	**681**
Benzo(a)pyrene	4,200	46,000	**6290**	73.7 U	**1780**	**578**	49.2 U	**4560**	**2780**	**2390**	---	**8530**	---	**36.9** J	**805**
Benzo(b)fluoranthene	3,500	170,000	**5010**	73.7 U	**1730**	**647**	**21.4** J	**6520**	**3340**	**2940**	---	**7770**	---	**35.4** J	**749**
Benzo(g,h,i)perylene	180,000	180,000	**3430**	73.7 U	**1040**	**395**	49.2 U	**2730**	**1330** J	**1310**	---	**3520**	---	54 U	**927**

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ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-116-7.5	SB-117-5.5	SB-118-4.5	SB-119-3.5	SB-120-7.5	SB-121-3	SB-121-6.5	SB-121A-7	SB-121B-5	SB-121B-5	SB-121C-7	SB-121C-7	SB-122-7.5
Sample ID			SB-116-7.5	SB-117-5.5	SB-118-4.5	SB-119-3.5	SB-120-7.5	SB-121-3	SB-121-6.5	SB-121A-7	SB-121B-5	SB-121B-5	SB-121C-7	SB-121C-7	SB-122-7.5
Date			10/3/2023	10/3/2023	10/2/2023	10/2/2023	10/3/2023	10/3/2023	10/3/2023	10/12/2023	10/12/2023	10/13/2023	10/12/2023	10/13/2023	10/4/2023
Depth Range (ft bgs)			7.5	5.5	4.5	3.5	7.5	3.0	6.5	7.0	5.0	5.0	7.0	7.0	7.5
Benzo(k)fluoranthene	3,500	610,000	4530	73.7 U	1630	500	25.7 J	6730	2170	3050	---	8150	---	35.9 J	809
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)															
Biphenyl	370	1,500	287 J	147 U	227	142 J	98.5 U	4010	1540 J	425	---	1820	---	29.4 J	207 J
bis(2-Chloroethoxy)methane	10,000	29,000	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
bis(2-Chloroisopropyl)ether	30,000	30,000	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	279	---	179 U	---	108 U	678 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	126 J	147 U	29.1 J	147 U	98.5 U	2540 U	3260 U	51.4 J	---	179 U	---	24.1 J	391 J
Butylbenzylphthalate	2,900,000	10,000,000	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
Caprolactam	NE	NE	984 U	295 U	79.7 J	295 U	197 U	5090 U	6520 U	341 U	---	358 U	---	216 U	1360 U
Carbazole	21,000	89,000	877	147 U	427	77.2 J	98.5 U	2540 U	3260 U	194	---	2380	---	73.8 J	201 J
Chrysene	35,000	230,000	5360	73.7 U	1980	781	24.1 J	8780	2940	4580	---	18900	---	58.1	730
Dibenzo(a,h)anthracene	1,000	270,000	1050	73.7 U	327	109	49.2 U	1060 J	1630 U	521	---	1470	---	54 U	339 U
Dibenzofuran	90,000	250,000	779	147 U	559	152	98.5 U	11800	3740	2060	---	18000	---	131	622 J
Diethylphthalate	2,800,000	7,800,000	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
Dimethylphthalate	NE	NE	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
Di-n-Butylphthalate	1,400,000	4,000,000	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	18.4 J	678 U
Fluoranthene	3,200,000	3,200,000	11500	73.7 U	3190	1500	51.9	30900	11000	12300	---	51200	---	196	1750
Fluorene	2,800,000	3,800,000	1070	73.7 U	172	58.4 J	49.2 U	157000	117000	7860	---	27500	---	158	709
Hexachlorobenzene	960	960	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
Hexachlorobutadiene	10,000	42,000	492 U	147 U	135 U	147 U	98.5 U	2540 U	3260 U	170 U	---	179 U	---	108 U	678 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	4200	73.7 U	1170	400	49.2 U	3160	1470 J	1580	---	4230	---	54 U	734
m&p-Cresol [7]	17,000 [8]	49,000 [8]	2870	295 U	378	295 U	197 U	4700 J	4700 J	170 J	---	106 J	---	216 U	1360 U
Naphthalene	13,000	25,000	2280	449	4160	2830	76.2	248000	149000	4170	---	36700	---	553	5980
o-Cresol	170,000	490,000	1040	295 U	146 J	295 U	197 U	2110 J	1520 J	119 J	---	358 U	---	216 U	1360 U
Phenanthrene	10,000,000	10,000,000	6660	73.7 U	3500	1400	49.2 U	50300	15500	8030	---	85100	---	422	2040
Phenol	200,000	200,000	984 U	295 U	353	190 J	197 U	30500	18400	535	---	358 U	---	216 U	1360 U
Pyrene	2,200,000	2,200,000	9080	73.7 U	2560	1240	33.2 J	18600	6550	7890	---	38100	---	137	1230
PCBs (mg/kg) [9]															
Aroclor-1254	4.4	380	0.044 U	0.049 U	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	9.3	630	0.032 J	0.049 U	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	NE	NE	0.044 U	0.049 U	---	---	---	---	---	---	---	---	---	---	---
Total Polychlorinated Biphenyl	9.3	9.8	0.032 J	0.049 U	---	---	---	---	---	---	---	---	---	---	---
Metals (mg/kg)															
Aluminum	190,000 [10]	190,000 [10]	8280	4170	2340	1450	39500	298	614	1020	---	1300	---	41800	13000
Antimony	27	27	3.1	3 U	2.9 U	3.1 U	3.5 J	4.9 U	2.5 J	4	---	6.8 U	---	4.3 U	24.3
Arsenic	12	29	23.2	45.7	10.4	5.7	15.9	8.9	16.6	10.9	---	8.7	---	19.8	24.5
Barium	8,200	8,200	772	57.3	50.6	38.9	395	178	158	285	---	320	---	450	197
Beryllium	320	320	0.52 J	1.8	1.4 U	1.5 U	5.9	2.4 U	3.1 U	1.8 U	---	3.4 U	---	7.6	1.7 J
Cadmium	38	38	6.1	0.25 J	0.72 U	0.76 U	0.59 J	1.2 U	0.88 J	1.2	---	0.96 J	---	2.4	129
Calcium	NE	NE	46100	2650	4200	3330	166000	53500	57800	102000	---	102000	---	173000	14400
Chromium	37 [11]	190 [11]	27.4	8.7	11	5.8	7.9	1.4 J	3.4	54.4	---	2.2 J	---	25.5	133
Cobalt	45	130	1.5	0.66 J	1.2 J	1 J	2.3 U	1 J	3.1 U	0.97 J	---	3.4 U	---	2.2 U	21.9
Copper	7,200	43,000	64.9	29.5	62.4	25.6	5.1	59.3	57.7	86.3	---	17.1	---	19.9	377
Iron	150,000	190,000	30900	51500	16600	5990	46800	3720	2510	20200	---	811	---	55000	27400
Lead	450	450	3520	4.4	52.6	22.9	12.5	304	271	31.4	---	6.8 U	---	14.1	347
Magnesium	NE	NE	6050	276	913	593	28900	31.7	90.2	2210	---	260	---	33800	4580
Manganese	2,000	2,000	503	24	326	275	3240	41.8	49.7	2010	---	80	---	5150	297

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-116-7.5	SB-117-5.5	SB-118-4.5	SB-119-3.5	SB-120-7.5	SB-121-3	SB-121-6.5	SB-121A-7	SB-121B-5	SB-121B-5	SB-121C-7	SB-121C-7	SB-122-7.5
Sample ID			SB-116-7.5	SB-117-5.5	SB-118-4.5	SB-119-3.5	SB-120-7.5	SB-121-3	SB-121-6.5	SB-121A-7	SB-121B-5	SB-121B-5	SB-121C-7	SB-121C-7	SB-122-7.5
Date			10/3/2023	10/3/2023	10/2/2023	10/2/2023	10/3/2023	10/3/2023	10/3/2023	10/12/2023	10/12/2023	10/13/2023	10/12/2023	10/13/2023	10/4/2023
Depth Range (ft bgs)			7.5	5.5	4.5	3.5	7.5	3.0	6.5	7.0	5.0	5.0	7.0	7.0	7.5
Metals (mg/kg) (cont.)															
Mercury	10	10	**0.31**	**0.051** J	**0.12**	**0.061** J	0.054 U	**0.084**	**0.082**	0.091 U	---	**0.031** J	---	0.052 U	**0.53**
Nickel	650	650	**22.2**	**20.5**	**8.7**	**5.1**	**1.8** J	**3.5** J	**5.9** J	**11.5**	---	**5.7** J	---	**14.7**	**478**
Potassium	NE	NE	**1360**	**602**	**397**	**372**	**3580**	**434**	**287**	**420**	---	**242**	---	**3540**	**1250**
Selenium	26	26	**9.2**	7.5 U	7.2 U	7.6 U	**9.5** J	**24.3**	**26.5**	**12.6**	---	**12.8** J	---	**7.2** J	**10.1**
Silver	84	84	**1.3**	0.75 U	0.72 U	0.76 U	1.1 U	1.2 U	1.6 U	0.88 U	---	1.7 U	---	1.1 U	**4.1**
Sodium	NE	NE	**1380**	**97.2**	**182**	**206**	**737**	**1290**	**884**	**268**	---	**149** J	---	**741**	**141**
Thallium	2.2	14	**3.8** J	**6.9**	4.3 U	4.6 U	6.8 U	7.3 U	9.4 U	5.3 U	---	10.3 U	---	6.5 U	**3.4** J
Vanadium	1,100	49,000	**29.1**	**22.5**	**6.1**	**3.5**	**10.2**	**0.85** J	**9.7**	**26.6**	---	3.4 U	---	**22.6**	**26.8**
Zinc	12,000	12,000	**1490**	**24.9**	**82.8**	**36.2**	**22.8**	**5.9**	**9**	**29**	---	**22.2**	---	**40.2**	**1180**

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-123-7	SB-124-8	SB-125-9	SB-126-5	SB-127	SB-128-3	SB-129-8	SB-130-10.5	SB-131-6	SB-131-6D	SB-132-4.5	SB-132-4.5D	SB-133-4	SB-134-4
Sample ID			SB-123-7	SB-124-8	SB-125-9	SB-126-5	SB-127	SB-128-3	SB-129-8	SB-130-10.5	SB-131-6	SB-131-6D	SB-132-4.5	SB-132-4.5D	SB-133-4	SB-134-4
Date			10/10/2023	10/10/2023	10/11/2023	10/12/2023	10/12/2023	10/11/2023	10/10/2023	10/11/2023	10/10/2023	10/10/2023	10/5/2023	10/5/2023	10/5/2023	10/9/2023
Depth Range (ft bgs)			7.0	8.0	9.0	5.0	0.0	3.0	8.0	10.5	6.0	6.0	4.5	4.5	4.0	4.0
Volatile Organic Compounds (µg/kg) [3]																
1,2,4-Trichlorobenzene	27,000	27,000	114 U	133 U	108 U	193 U	544 U	166 U	133 U	184 U	114 U	130 U	122 U	133 U	150 U	116 U
1,2-Dichlorobenzene	60,000	60,000	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
1,3-Dichlorobenzene	61,000	61,000	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
1,4-Dichlorobenzene	10,000	10,000	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
2-Butanone	400,000	400,000	569 U	666 U	542 U	**356** J	2720 U	829 U	666 U	921 U	570 U	648 U	612 U	667 U	751 U	578 U
Acetone	3,100,000	8,800,000	569 U	666 U	542 U	**820** J	2720 U	829 U	666 U	921 U	570 U	648 U	612 U	667 U	751 U	578 U
Benzene	500	500	56.9 U	66.6 U	54.2 U	**405**	272 U	**38.8** J	**161**	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
Bromodichloromethane	8,000	8,000	**38.6** J	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
Bromomethane	1,000	1,000	**26** J	**27.3** J	**22.7** J	96.3 U	272 U	**33.1** J	**26.1** J	**37.8** J	**25.9** J	**27.3** J	**36** J	**43.7** J	**38** J	**30.7** J
Carbon Disulfide	150,000	620,000	56.9 U	66.6 U	**22.1** J	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
Chlorobenzene	10,000	10,000	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
Chloroform	8,000	8,000	**581**	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
cis-1,2-Dichloroethene	7,000	7,000	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
Cyclohexane	1,700,000	6,900,000	56.9 U	66.6 U	**33.1** J	**1330**	272 U	**296**	66.6 U	**37** J	57 U	**205**	**20.1** J	**23.7** J	**39.1** J	57.8 U
Ethylbenzene	70,000	70,000	56.9 U	66.6 U	54.2 U	**132**	272 U	**46.8** J	66.6 U	92.1 U	57 U	**26.5** J	61.2 U	66.7 U	75.1 U	57.8 U
Isopropylbenzene	600,000	2,500,000	56.9 U	66.6 U	54.2 U	**52** J	272 U	**36.8** J	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
Methyl acetate	3,500,000	9,700,000	**35.5** J	133 U	**562**	**454**	544 U	**147** J	133 U	**64** J	**35** J	130 U	**116** J	**121** J	**314**	**74** J
Methyl cyclohexane	NE	NE	**18.8** J	66.6 U	**111**	**3100**	**244** J	**891**	66.6 U	**122**	**48.7** J	**78.9**	**69**	**82.5**	**133**	57.8 U
Methylene Chloride	500	500	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	114 U	133 U	**37.9** J	**1360**	544 U	**271**	133 U	184 U	114 U	130 U	122 U	133 U	**48.2** J	116 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	56.9 U	66.6 U	**25.5** J	**715**	272 U	**195**	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	**30.2** J	57.8 U
Styrene	24,000	24,000	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	61.2 U	66.7 U	75.1 U	57.8 U
Tetrachloroethene	500	500	56.9 U	66.6 U	54.2 U	96.3 U	272 U	82.9 U	66.6 U	92.1 U	57 U	64.8 U	**39.8** J	**57.9** J	75.1 U	57.8 U
Toluene	100,000	100,000	56.9 U	66.6 U	**34.9** J	**668**	**75.9** J	**182**	**16.6** J	**24.8** J	**27.6** J	**43.1** J	**15.3** J	**17.1** J	**90.5**	57.8 U
Total Xylenes	1,000,000	1,000,000	171 U	200 U	**63.4** J	**2070**	815 U	**466**	200 U	276 U	171 U	**49.1** J	183 U	200 U	**78.4** J	174 U
Semi-Volatile Organic Compounds (µg/kg) [6]																
1,2,4,5-Tetrachlorobenzene	4,600	13,000	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	**215**	**60.5** J	105 U	99.4 U	109 U	125 U	107 U
2,4-Dichlorophenol	2,000	2,000	206 U	201 U	191 U	215 U	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	249 U	215 U
2,4-Dimethylphenol	69,000	190,000	206 U	201 U	191 U	215 U	189 U	204 U	241 U	222 U	**122** J	209 U	199 U	219 U	**77.1** J	215 U
2,4-Dinitrophenol	6,900	19,000	413 U	402 U	382 U	429 U	377 U	408 U	483 U	445 U	429 U	418 U	397 U	437 U	498 U	430 U
2,6-Dinitrotoluene	43	180	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	99.4 U	109 U	125 U	107 U
2-Chloronaphthalene	6,000,000	17,000,000	103 U	100 U	95.6 U	**112**	94.4 U	102 U	121 U	**135**	107 U	105 U	99.4 U	109 U	125 U	107 U
2-Methylnaphthalene	25,000	100,000	**46.5** J	100 U	**101**	**9570**	**337**	**717**	121 U	**428**	**54.4** J	**40.4** J	**45.8** J	**49.3** J	**1080**	**34.5** J
2-Nitroaniline	11	44	206 U	201 U	191 U	215 U	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	249 U	215 U
3-Nitroaniline	NE	NE	206 U	201 U	191 U	215 U	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	249 U	215 U
4-Chloroaniline	420	1,800	206 U	201 U	191 U	215 U	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	249 U	215 U
4-Nitrophenol	6,000	6,000	206 U	201 U	191 U	215 U	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	249 U	215 U
Acenaphthene	2,600,000	4,700,000	51.6 U	50.2 U	47.8 U	53.7 U	47.2 U	51 U	60.4 U	**218**	53.6 U	52.3 U	49.7 U	54.6 U	**135**	53.7 U
Acenaphthylene	2,400,000	6,600,000	**33.7** J	50.2 U	47.8 U	53.7 U	**154**	**44.4** J	60.4 U	**1050**	53.6 U	52.3 U	**21.5** J	**37.3** J	**237**	**67.8**
Acetophenone	350,000	970,000	103 U	100 U	95.6 U	107 U	94.4 U	**60.4** J	121 U	**42.1** J	**23.8** J	105 U	99.4 U	109 U	**103** J	107 U
Anthracene	350,000	350,000	**36.6** J	50.2 U	**36.2** J	53.7 U	**105**	**106**	60.4 U	**1660**	53.6 U	52.3 U	**43.6** J	**78.1**	**473**	**94.9**
Benzaldehyde	NE	NE	206 U	201 U	**29.9** J	215 U	189 U	204 U	241 U	222 U	214 U	209 U	**25.3** J	**28.4** J	249 U	**71.1** J
Benzo(a)anthracene	6,100	340,000	**68.3**	50.2 U	**48.7**	**638**	**419**	**267**	60.4 U	**3370**	53.6 U	52.3 U	**165**	**252**	**1090**	**245**
Benzo(a)pyrene	4,200	46,000	**64.9**	50.2 U	47.8 U	**460**	**421**	**249**	60.4 U	55.6 U	53.6 U	52.3 U	**315**	**305**	**1050**	**305**
Benzo(b)fluoranthene	3,500	170,000	**95.6**	50.2 U	**68.7**	**282**	**563**	**303**	60.4 U	55.6 U	53.6 U	52.3 U	**162**	**227**	**1260**	**244**
Benzo(g,h,i)perylene	180,000	180,000	**60.7**	50.2 U	**38.5** J	**178**	**307**	**166**	60.4 U	**1400**	53.6 U	52.3 U	**616**	**389**	**772**	**348**

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-123-7	SB-124-8	SB-125-9	SB-126-5	SB-127	SB-128-3	SB-129-8	SB-130-10.5	SB-131-6	SB-131-6D	SB-132-4.5	SB-132-4.5D	SB-133-4	SB-134-4
Sample ID			SB-123-7	SB-124-8	SB-125-9	SB-126-5	SB-127	SB-128-3	SB-129-8	SB-130-10.5	SB-131-6	SB-131-6D	SB-132-4.5	SB-132-4.5D	SB-133-4	SB-134-4
Date			10/10/2023	10/10/2023	10/11/2023	10/12/2023	10/12/2023	10/11/2023	10/10/2023	10/11/2023	10/10/2023	10/10/2023	10/5/2023	10/5/2023	10/5/2023	10/9/2023
Depth Range (ft bgs)			7.0	8.0	9.0	5.0	0.0	3.0	8.0	10.5	6.0	6.0	4.5	4.5	4.0	4.0
Benzo(k)fluoranthene	3,500	610,000	60.5	50.2 U	48.2	216	430	226	60.4 U	55.6 U	53.6 U	52.3 U	117	221	62.3 U	219
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)																
Biphenyl	370	1,500	46.1 J	100 U	95.6 U	877	41.8 J	87.2 J	121 U	93.6 J	107 U	105 U	99.4 U	109 U	150	107 U
bis(2-Chloroethoxy)methane	10,000	29,000	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	99.4 U	109 U	125 U	107 U
bis(2-Chloroisopropyl)ether	30,000	30,000	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	99.4 U	109 U	125 U	107 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	25.5 J	19.8 J	28.5 J	48.6 J	94.4 U	102 U	121 U	111 U	107 U	105 U	36.9 J	131	125 U	308
Butylbenzylphthalate	2,900,000	10,000,000	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	99.4 U	109 U	125 U	107 U
Caprolactam	NE	NE	206 U	201 U	191 U	215 U	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	200 J	215 U
Carbazole	21,000	89,000	103 U	100 U	95.6 U	256	44.5 J	57.9 J	121 U	374	107 U	105 U	99.4 U	32 J	174	32.8 J
Chrysene	35,000	230,000	90.5	50.2 U	73.3	1030	487	422	60.4 U	3480	18.9 J	52.3 U	246	286	1350	278
Dibenzo(a,h)anthracene	1,000	270,000	51.6 U	50.2 U	19.2 J	96.8	108	51.1	60.4 U	55.6 U	53.6 U	52.3 U	49.7 U	61.8	245	60.9
Dibenzofuran	90,000	250,000	23.1 J	100 U	36.3 J	3030	106	231	121 U	743	22 J	105 U	99.4 U	26.2 J	433	107 U
Diethylphthalate	2,800,000	7,800,000	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	99.4 U	109 U	125 U	107 U
Dimethylphthalate	NE	NE	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	99.4 U	109 U	125 U	107 U
Di-n-Butylphthalate	1,400,000	4,000,000	103 U	100 U	39.6 J	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	28.2 J	38.1 J	170	147
Fluoranthene	3,200,000	3,200,000	117	50.2 U	75.9	635	566	559	60.4 U	12000	33.2 J	19.8 J	271	489	2030	376
Fluorene	2,800,000	3,800,000	18.4 J	50.2 U	47.8 U	53.7 U	22 J	47.3 J	60.4 U	762	53.6 U	52.3 U	49.7 U	28.7 J	227	53.7 U
Hexachlorobenzene	960	960	103 U	100 U	464	665	61 J	381	121 U	111 U	107 U	350	99.4 U	109 U	125 U	107 U
Hexachlorobutadiene	10,000	42,000	103 U	100 U	95.6 U	107 U	94.4 U	102 U	121 U	111 U	107 U	105 U	99.4 U	109 U	125 U	107 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	61.2	50.2 U	35.3 J	61.1	348	146	60.4 U	1500	53.6 U	52.3 U	244	202	786	199
m&p-Cresol [7]	17,000 [8]	49,000 [8]	206 U	201 U	191 U	465	189 U	204 U	241 U	84.7 J	37.3 J	209 U	199 U	219 U	203 J	215 U
Naphthalene	13,000	25,000	175	50.2 U	78	8780	287	439	39.2 J	715	49.6 J	30.1 J	49.6 J	69	1080	32.4 J
o-Cresol	170,000	490,000	206 U	201 U	191 U	263	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	249 U	215 U
Phenanthrene	10,000,000	10,000,000	91.2	50.2 U	90.4	6280	420	887	60.4 U	10500	65.6	34.4 J	144	281	1680	116
Phenol	200,000	200,000	206 U	201 U	191 U	225	189 U	204 U	241 U	222 U	214 U	209 U	199 U	219 U	249 U	215 U
Pyrene	2,200,000	2,200,000	78.8	50.2 U	62.7	921	488	416	60.4 U	6900	19.7 J	52.3 U	368	406	1960	282
PCBs (mg/kg) [9]																
Aroclor-1254	4.4	380	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	9.3	630	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	NE	NE	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Polychlorinated Biphenyl	9.3	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metals (mg/kg)																
Aluminum	190,000 [10]	190,000 [10]	31400	53900	35800	1550	24500	3020	43000	1660	3200	3090	2240	2320	8150	4000
Antimony	27	27	1.8 J	5.7 J	4.1 U	2.5 U	4.1 U	4.4 U	2.4 J	2.3 U	10.7 U	20 U	2 U	2.2 U	5.6	2.5 U
Arsenic	12	29	6	9.7 J	7.5	4.5	11.5	20.3	8	4.3	26.2	45.9	11.4	11.5	33.3	7
Barium	8,200	8,200	191	332	658	23.9	218	86.5	273	35.1	25.6	23.6	45.3	31.4	216	124
Beryllium	320	320	5.8	9.5	4.9	0.43 J	4	2.2 U	8.3	1.2 U	5.4 U	10 U	1 U	1.1 U	0.85 J	1.3 U
Cadmium	38	38	0.4 J	2.8 U	0.59 J	0.62 U	0.85 J	2.1	0.67 J	0.58 U	2.7 U	5 U	0.8	1.1	2	1
Calcium	NE	NE	123000	174000	161000	28700	115000	13800	151000	3360	34900	20400	10700	10900	8340	19600
Chromium	37 [11]	190 [11]	3.5	17.2	6.2	3.8	10.6	34.1	81	6.2	38.9	81.1	8.2	8.9	30.3	10.6
Cobalt	45	130	2.2 U	5.5 U	2 U	1.2 U	2 U	2.2 U	2.4 U	0.98 J	5.4 U	10 U	1.7	1.4	2.3	1.2 J
Copper	7,200	43,000	1.5 J	11 U	7.6	5.3	17	510	17.7	19.4	63.2	92.2	13.6	15.7	160	11.8
Iron	150,000	190,000	3530	3120	12500	6120	38500	77000	5710	7840	174000	276000	12700	13200	36300	9180
Lead	450	450	6.4	9.1 J	13.6	3.4	33.2	167	45.1	6.4	6.8 J	7.2 J	29.7	35.7	412	346
Magnesium	NE	NE	30000	44500	29100	1080	17400	1530	39900	432	3290	2240	1080	1190	3050	1960
Manganese	2,000	2,000	1320	3330	3130	57.6	1850	1740	1930	89.2	3200	5030	246	247	921	131

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-123-7	SB-124-8	SB-125-9	SB-126-5	SB-127	SB-128-3	SB-129-8	SB-130-10.5	SB-131-6	SB-131-6D	SB-132-4.5	SB-132-4.5D	SB-133-4	SB-134-4
Sample ID			SB-123-7	SB-124-8	SB-125-9	SB-126-5	SB-127	SB-128-3	SB-129-8	SB-130-10.5	SB-131-6	SB-131-6D	SB-132-4.5	SB-132-4.5D	SB-133-4	SB-134-4
Date			10/10/2023	10/10/2023	10/11/2023	10/12/2023	10/12/2023	10/11/2023	10/10/2023	10/11/2023	10/10/2023	10/10/2023	10/5/2023	10/5/2023	10/5/2023	10/9/2023
Depth Range (ft bgs)			7.0	8.0	9.0	5.0	0.0	3.0	8.0	10.5	6.0	6.0	4.5	4.5	4.0	4.0
Metals (mg/kg) (cont.)																
Mercury	10	10	0.048 U	0.052 U	0.046 U	**0.029** J	**0.13**	**3**	**0.1**	0.058 U	0.056 U	0.051 U	**0.093**	**0.11**	**0.59**	**0.22**
Nickel	650	650	4.4 U	11 U	**3** J	**4.5**	**8**	**51.4**	**2.1** J	**5.5**	**38.4**	**53.6**	**8.6**	**9.7**	**25.5**	**7.6**
Potassium	NE	NE	**1520**	**4720**	**4110**	**251**	**1740**	**482**	**1950**	**182**	**625**	**680**	**254**	**288**	**816**	**563**
Selenium	26	26	**12.4**	**16** J	**12.1**	**5.1** J	**10.2**	11 U	**13**	5.8 U	26.8 U	50.1 U	5.1 U	5.4 U	**4.2** J	**2.5** J
Silver	84	84	1.1 U	2.8 U	1 U	0.62 U	1 U	1.1 U	1.2 U	0.58 U	2.7 U	5 U	0.51 U	0.54 U	**0.43** J	0.63 U
Sodium	NE	NE	**861**	**1010**	**808**	**132**	**547**	**148**	**1200**	**102**	**410**	**438** J	**54.5**	**66.6**	**203**	**190**
Thallium	2.2	14	6.6 U	16.5 U	6.1 U	3.7 U	6.1 U	**3.8** J	7.2 U	3.5 U	**12.3** J	**18.5** J	3.1 U	**1.4** J	**3.2** J	3.8 U
Vanadium	1,100	49,000	**4.6**	**27.4**	**5**	**4.4**	**13.3**	**20.7**	**5.4**	**4.4**	**37.6**	**73.7**	**7.5**	**8.7**	**19.5**	**6**
Zinc	12,000	12,000	4.4 U	11 U	**10.8**	**6.9**	**119**	**588**	**57.7**	**21**	**18.7**	**19.4** J	**80.9**	**89.2**	**426**	**211**

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-135-4	SB-136-8	SB-137-7	SB-138-6	SB-138-6	SB-139-8	SB-140-2	SB-141-4	SB-142-8	SB-142-8D	SB-143-8	SB-144-8	SB-145-5	SB-146-6
Sample ID			SB-135-4	SB-136-8	SB-137-7	SB-138-6	SB-138-6D	SB-139-8	SB-140-2	SB-141-4	SB-142-8	SB-142-8D	SB-143-8	SB-144-8	SB-145-5	SB-146-6
Date			10/13/2023	10/18/2023	10/17/2023	10/17/2023	10/17/2023	10/18/2023	10/13/2023	10/13/2023	10/24/2023	10/24/2023	10/24/2023	10/23/2023	10/10/2023	10/9/2023
Depth Range (ft bgs)			4.0	8.0	7.0	6.0	6.0	8.0	2.0	4.0	8.0	8.0	8.0	8.0	5.0	6.0
Volatile Organic Compounds (µg/kg) [3]																
1,2,4-Trichlorobenzene	27,000	27,000	881 U	658 U	575 U	522 U	623 U	605 U	708 U	714 U	610 U	553 U	1890 U	515 U	118 U	178 U
1,2-Dichlorobenzene	60,000	60,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
1,3-Dichlorobenzene	61,000	61,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
1,4-Dichlorobenzene	10,000	10,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
2-Butanone	400,000	400,000	4400 U	3290 U	2880 U	2610 U	3120 U	3030 U	3540 U	3570 U	3050 U	2760 U	9430 U	2570 U	592 U	890 U
Acetone	3,100,000	8,800,000	4400 U	3290 U	2880 U	2610 U	3120 U	3030 U	3540 U	3570 U	3050 U	2760 U	9430 U	2570 U	592 U	890 U
Benzene	500	500	440 U	**183** J	**134** J	261 U	312 U	**101000** E	**178000** E	**6410**	**202** J	**696**	**1060**	257 U	59.2 U	89 U
Bromodichloromethane	8,000	8,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
Bromomethane	1,000	1,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	**31.3** J	**35.2** J
Carbon Disulfide	150,000	620,000	440 U	329 U	**69.8** J	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
Chlorobenzene	10,000	10,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
Chloroform	8,000	8,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
cis-1,2-Dichloroethene	7,000	7,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
Cyclohexane	1,700,000	6,900,000	440 U	329 U	288 U	261 U	312 U	**178** J	**122** J	**170** J	305 U	276 U	943 U	257 U	59.2 U	89 U
Ethylbenzene	70,000	70,000	440 U	329 U	288 U	261 U	312 U	**4890**	**4030**	357 U	305 U	276 U	**8900**	257 U	59.2 U	89 U
Isopropylbenzene	600,000	2,500,000	440 U	329 U	288 U	261 U	312 U	**180** J	**106** J	357 U	305 U	**75.6** J	**779** J	257 U	59.2 U	89 U
Methyl acetate	3,500,000	9,700,000	881 U	658 U	**1010**	522 U	623 U	605 U	708 U	714 U	610 U	553 U	1890 U	515 U	**845**	**351**
Methyl cyclohexane	NE	NE	440 U	329 U	**287** J	**90.3** J	312 U	**640**	**408**	**616**	**127** J	**289**	943 U	257 U	**43.5** J	89 U
Methylene Chloride	500	500	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	881 U	**288** J	575 U	522 U	623 U	**28400**	**9310**	714 U	610 U	553 U	**98100**	515 U	118 U	178 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	440 U	329 U	288 U	261 U	312 U	**5460**	**1610**	357 U	305 U	276 U	**37800**	257 U	59.2 U	89 U
Styrene	24,000	24,000	440 U	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
Tetrachloroethene	500	500	**295** J	329 U	288 U	261 U	312 U	303 U	354 U	357 U	305 U	276 U	943 U	257 U	59.2 U	89 U
Toluene	100,000	100,000	440 U	**303** J	**211** J	261 U	312 U	**53700**	**14100**	**261** J	**104** J	**179** J	**2380**	**72.4** J	**18** J	89 U
Total Xylenes	1,000,000	1,000,000	1320 U	**361** J	**216** J	783 U	935 U	**33900**	**10900**	**257** J	915 U	829 U	**136000**	772 U	178 U	267 U
Semi-Volatile Organic Compounds (µg/kg) [6]																
1,2,4,5-Tetrachlorobenzene	4,600	13,000	**31.9** J	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
2,4-Dichlorophenol	2,000	2,000	237 U	691 U	774 U	784 U	847 U	948 U	225 U	236 U	215 U	214 U	226 U	219 U	213 U	318 U
2,4-Dimethylphenol	69,000	190,000	237 U	691 U	774 U	784 U	847 U	948 U	**103** J	236 U	**46** J	214 U	226 U	219 U	213 U	318 U
2,4-Dinitrophenol	6,900	19,000	473 U	1380 U	1550 U	1570 U	1690 U	1900 U	450 U	472 U	431 U	428 U	453 U	439 U	425 U	635 U
2,6-Dinitrotoluene	43	180	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
2-Chloronaphthalene	6,000,000	17,000,000	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
2-Methylnaphthalene	25,000	100,000	**46.9** J	346 U	**106** J	392 U	423 U	**593**	**902**	**319**	**256**	**204**	**172**	110 U	**232**	159 U
2-Nitroaniline	11	44	237 U	691 U	774 U	784 U	847 U	948 U	225 U	236 U	215 U	214 U	226 U	219 U	213 U	318 U
3-Nitroaniline	NE	NE	237 U	691 U	774 U	784 U	847 U	948 U	225 U	236 U	215 U	214 U	226 U	219 U	213 U	318 U
4-Chloroaniline	420	1,800	237 U	691 U	774 U	784 U	847 U	948 U	225 U	236 U	215 U	214 U	226 U	219 U	213 U	318 U
4-Nitrophenol	6,000	6,000	237 U	691 U	774 U	784 U	847 U	948 U	225 U	236 U	215 U	214 U	226 U	219 U	213 U	318 U
Acenaphthene	2,600,000	4,700,000	59.1 U	173 U	194 U	196 U	212 U	237 U	**188**	59 U	53.9 U	53.5 U	56.6 U	54.8 U	**70.8**	79.4 U
Acenaphthylene	2,400,000	6,600,000	59.1 U	173 U	194 U	196 U	212 U	237 U	**280**	**67.3**	**4620** E	**3580**	56.6 U	54.8 U	**264**	79.4 U
Acetophenone	350,000	970,000	**52.3** J	346 U	387 U	392 U	423 U	**258** J	112 U	**38** J	**2350**	**1730**	**339**	110 U	**24.9** J	159 U
Anthracene	350,000	350,000	**28.3** J	173 U	**90.3** J	196 U	212 U	237 U	**932**	**83.6**	**1800**	**1500**	56.6 U	54.8 U	**376**	79.4 U
Benzaldehyde	NE	NE	**141** J	691 U	774 U	784 U	847 U	948 U	225 U	236 U	**339**	**255**	226 U	219 U	**57.4** J	**48.7** J
Benzo(a)anthracene	6,100	340,000	**66.8**	173 U	**184** J	196 U	212 U	**95.7** J	**2250**	**260**	**1130**	**1050**	**75.9**	54.8 U	**1020**	**136**
Benzo(a)pyrene	4,200	46,000	**45** J	173 U	**181** J	196 U	212 U	237 U	**2280**	**256**	**993**	**919**	**64.5**	54.8 U	**1060**	**52.9** J
Benzo(b)fluoranthene	3,500	170,000	**138**	173 U	**213**	196 U	212 U	**135** J	**3100**	**304**	**856**	**883**	**103**	54.8 U	**933**	79.4 U
Benzo(g,h,i)perylene	180,000	180,000	**125**	173 U	**126** J	196 U	212 U	237 U	**1970**	**213**	**2830**	**2320**	**103**	54.8 U	**703**	**37.2** J

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PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-135-4	SB-136-8	SB-137-7	SB-138-6	SB-138-6	SB-139-8	SB-140-2	SB-141-4	SB-142-8	SB-142-8D	SB-143-8	SB-144-8	SB-145-5	SB-146-6
Sample ID			SB-135-4	SB-136-8	SB-137-7	SB-138-6	SB-138-6D	SB-139-8	SB-140-2	SB-141-4	SB-142-8	SB-142-8D	SB-143-8	SB-144-8	SB-145-5	SB-146-6
Date			10/13/2023	10/18/2023	10/17/2023	10/17/2023	10/17/2023	10/18/2023	10/13/2023	10/13/2023	10/24/2023	10/24/2023	10/24/2023	10/23/2023	10/10/2023	10/9/2023
Depth Range (ft bgs)			4.0	8.0	7.0	6.0	6.0	8.0	2.0	4.0	8.0	8.0	8.0	8.0	5.0	6.0
Benzo(k)fluoranthene	3,500	610,000	43.3 J	173 U	188 J	196 U	212 U	237 U	2050	271	966	827	79.4	54.8 U	880	30 J
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)																
Biphenyl	370	1,500	118 U	346 U	387 U	392 U	423 U	82.1 J	136	46.1 J	44.9 J	51.9 J	113 U	110 U	40.4 J	159 U
bis(2-Chloroethoxy)methane	10,000	29,000	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
bis(2-Chloroisopropyl)ether	30,000	30,000	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	32.1 J	159 U
Butylbenzylphthalate	2,900,000	10,000,000	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
Caprolactam	NE	NE	237 U	691 U	774 U	784 U	847 U	948 U	225 U	236 U	215 U	214 U	226 U	219 U	213 U	318 U
Carbazole	21,000	89,000	118 U	346 U	387 U	392 U	423 U	474 U	444	32.5 J	172	140	91.3 J	110 U	132	159 U
Chrysene	35,000	230,000	359	173 U	221	196 U	212 U	274	2880	344	835	790	104	54.8 U	1090	48.3 J
Dibenzo(a,h)anthracene	1,000	270,000	33.3 J	173 U	194 U	196 U	212 U	237 U	648	59.4	194	175	28.1 J	54.8 U	192	79.4 U
Dibenzofuran	90,000	250,000	118 U	346 U	75.9 J	392 U	423 U	192 J	466	126	121	146	78.5 J	110 U	127	159 U
Diethylphthalate	2,800,000	7,800,000	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
Dimethylphthalate	NE	NE	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	110 U	106 U	159 U
Di-n-Butylphthalate	1,400,000	4,000,000	118 U	346 U	387 U	392 U	423 U	474 U	23.7 J	118 U	108 U	107 U	113 U	110 U	38.1 J	159 U
Fluoranthene	3,200,000	3,200,000	134	173 U	332	196 U	212 U	237 U	3680	429	1430	1370	182	54.8 U	2370	79 J
Fluorene	2,800,000	3,800,000	59.1 U	173 U	194 U	196 U	212 U	237 U	372	32.4 J	133	117	7900 E	54.8 U	165	79.4 U
Hexachlorobenzene	960	960	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	108 U	107 U	113 U	90.2 J	106 U	159 U
Hexachlorobutadiene	10,000	42,000	118 U	346 U	387 U	392 U	423 U	474 U	112 U	118 U	120	118	31.2 J	110 U	106 U	159 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	62.5	173 U	135 J	196 U	212 U	237 U	1870	196	762	722	98	54.8 U	724	79.4 U
m&p-Cresol [7]	17,000 [8]	49,000 [8]	237 U	691 U	774 U	784 U	847 U	316 J	102 J	236 U	215 U	214 U	226 U	219 U	213 U	318 U
Naphthalene	13,000	25,000	58.7 J	173 U	139 J	196 U	212 U	293	955	410	1350	547	1180	22.3 J	241	79.4 U
o-Cresol	170,000	490,000	237 U	691 U	774 U	784 U	847 U	948 U	225 U	236 U	215 U	214 U	226 U	219 U	213 U	318 U
Phenanthrene	10,000,000	10,000,000	103	173 U	287	196 U	212 U	637	3230	439	766	786	56.6 U	54.8 U	1260	59.5 J
Phenol	200,000	200,000	237 U	691 U	774 U	784 U	847 U	948 U	244	236 U	215 U	214 U	226 U	219 U	213 U	318 U
Pyrene	2,200,000	2,200,000	59.1 U	173 U	293	196 U	212 U	131 J	3340	339	1340	1240	147	54.8 U	1760	301
PCBs (mg/kg) [9]																
Aroclor-1254	4.4	380	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	9.3	630	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	NE	NE	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Polychlorinated Biphenyl	9.3	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metals (mg/kg)																
Aluminum	190,000 [10]	190,000 [10]	3250	62500	66500	29600	45600	3960	9330	15600	50600	43400	27300	69100	7450	2990
Antimony	27	27	4	10.8 J	4.4 J	1.9 J	5 J	4.8 U	4.1	19.3	4.1 U	4.3 U	4.4 U	10.7 U	1.4 J	2.9 U
Arsenic	12	29	11.7	11.2 J	16.6	9.6	13.1	25.4	26.5	20.6	23.7	22.8	13.7	13.9	13.7	9.3
Barium	8,200	8,200	97.9	344	256	108	154	84.4	151	259	449	532	340	447	148	23.9
Beryllium	320	320	0.8 J	9.9 J	10.6	4.5	6.8	0.84 J	2.4	2.5	6.5	5.6	4.5	11.1	0.63 J	1.4 U
Cadmium	38	38	1.2	5.1 U	2.8 U	1.1 U	2.7 U	1.2 U	4.1	3	1.4	1.6	0.87 J	0.91 J	1.2	0.72 U
Calcium	NE	NE	3180	250000	343000	192000	312000	47700	19700	76500	173000	176000	157000	284000	35200	4010
Chromium	37 [11]	190 [11]	7.3	7.6 J	8.6	2.3	3.6 J	10.3	21.5	15.5	19.9	18.9	17.3	5.2 J	23.1	4.6
Cobalt	45	130	2.2	10.3 U	5.6 U	2.2 U	5.4 U	2.4 U	1.9 U	2.2 U	2.1 U	2.2 U	1.1 J	5.4 U	1 J	2.3
Copper	7,200	43,000	245	20.6 U	17.1	4.4 U	10.9 U	43.3	147	117	15.3	16	33.5	10.7 U	47.5	4.8
Iron	150,000	190,000	30400	6230	16700	6770	6300	106000	69500	59700	46600	43800	24400	6230	25100	8000
Lead	450	450	901	20.6 U	10 J	4.4 U	10.9 U	75.8	285	319	74.4	76.1	1160	13.5	301	7.7
Magnesium	NE	NE	768	52800	47400	30200	39000	3990	3380	10100	30100	35300	19000	43600	4210	1050
Manganese	2,000	2,000	258	2620	2380	1620	2170	1620	1420	2190	2960	2980	1760	2290	353	157

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-135-4	SB-136-8	SB-137-7	SB-138-6	SB-138-6	SB-139-8	SB-140-2	SB-141-4	SB-142-8	SB-142-8D	SB-143-8	SB-144-8	SB-145-5	SB-146-6
Sample ID			SB-135-4	SB-136-8	SB-137-7	SB-138-6	SB-138-6D	SB-139-8	SB-140-2	SB-141-4	SB-142-8	SB-142-8D	SB-143-8	SB-144-8	SB-145-5	SB-146-6
Date			10/13/2023	10/18/2023	10/17/2023	10/17/2023	10/17/2023	10/18/2023	10/13/2023	10/13/2023	10/24/2023	10/24/2023	10/24/2023	10/23/2023	10/10/2023	10/9/2023
Depth Range (ft bgs)			4.0	8.0	7.0	6.0	6.0	8.0	2.0	4.0	8.0	8.0	8.0	8.0	5.0	6.0
Metals (mg/kg) (cont.)																
Mercury	10	10	**0.078**	0.048 U	**0.047** J	0.052 U	0.047 U	**0.078**	**0.95**	**0.13**	**0.41**	**0.27**	**0.73**	0.051 U	**0.23**	0.073 U
Nickel	650	650	**10.9**	20.6 U	**3.8** J	4.4 U	10.9 U	**7**	**23.9**	**15.1**	**8.9**	**8.5**	**13.6**	10.7 U	**15.2**	**7.5**
Potassium	NE	NE	**867**	**2930**	**1660**	**1190**	**1820**	**498**	**464**	**1290**	**3130**	**2370**	**3480**	**1670**	**816**	**394**
Selenium	26	26	**3.7** J	**22.2** J	**27.5** J	**15.2**	**24.3** J	12 U	**3.5** J	10.8 U	**13.4**	**13.3**	**12.2**	**28**	**4.5** J	7.2 U
Silver	84	84	0.57 U	5.1 U	2.8 U	1.1 U	2.7 U	1.2 U	0.96 U	1.1 U	1 U	1.1 U	1.1 U	2.7 U	0.61 U	0.72 U
Sodium	NE	NE	**248**	**908**	**1300**	**675**	**964**	**143**	**159**	**403**	**772**	**621**	**1160**	**1950**	**147**	**110**
Thallium	2.2	14	**2.2** J	30.9 U	16.9 U	6.6 U	16.3 U	7.2 U	**3.3** J	**2.7** J	**4.5** J	**4.1** J	6.5 U	16.1 U	**2.4** J	4.3 U
Vanadium	1,100	49,000	**13.8**	**8** J	**5.2** J	**3.4**	**4.5** J	**15.8**	**20.1**	**15.8**	**17.9**	**16.6**	**15.3**	**6.9**	**13.9**	**8.6**
Zinc	12,000	12,000	**44.2**	20.6 U	**29.6**	4.4 U	10.9 U	**82.3**	**579**	**366**	**476**	**582**	**272**	10.7 U	**303**	**28.5**

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SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-147-6.6	SB-147-11.5	SB-148-10.5	SB-149-10	SB-150-12	SB-151-3	SB-151-5	SB-152-6	SB-152-14.5	SB-153-11.5	SB-154-10.5	SB-155-5	SB-156-12
Sample ID			SB-147-6.6	SB-147-11.5	SB-148-10.5	SB-149-10	SB-150-12	SB-151-3	SB-151-5	SB-152-6	SB-152-14.5	SB-153-11.5	SB-154-10.5	SB-155-5	SB-156-12
Date			10/25/2023	10/25/2023	10/18/2023	10/18/2023	10/26/2023	10/30/2023	10/30/2023	10/30/2023	10/30/2023	10/27/2023	10/27/2023	10/23/2023	10/27/2023
Depth Range (ft bgs)			6.6	11.5	10.0	10.0	12.0	3.0	5.0	6.0	14.5	11.5	10.5	5.0	12.0
Volatile Organic Compounds (µg/kg) [3]															
1,2,4-Trichlorobenzene	27,000	27,000	1820 U	571 U	3110 U	719 U	1860 U	1550 U	959 U	14100 U	419 U	541 U	608 U	623 U	817 U
1,2-Dichlorobenzene	60,000	60,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
1,3-Dichlorobenzene	61,000	61,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
1,4-Dichlorobenzene	10,000	10,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
2-Butanone	400,000	400,000	9110 U	2850 U	15600 U	3600 U	9290 U	7760 U	4790 U	70600 U	2090 U	2700 U	3040 U	3120 U	4080 U
Acetone	3,100,000	8,800,000	9110 U	2850 U	15600 U	3600 U	9290 U	7760 U	4790 U	70600 U	2090 U	2700 U	3040 U	3120 U	4080 U
Benzene	500	500	**1870**	285 U	1560 U	360 U	**23900**	**609** J	479 U	**578000**	**15400**	**2140**	**1620**	312 U	408 U
Bromodichloromethane	8,000	8,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
Bromomethane	1,000	1,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
Carbon Disulfide	150,000	620,000	911 U	**93.2** J	1560 U	360 U	929 U	**279** J	479 U	7060 U	**80.2** J	270 U	304 U	312 U	408 U
Chlorobenzene	10,000	10,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
Chloroform	8,000	8,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
cis-1,2-Dichloroethene	7,000	7,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
Cyclohexane	1,700,000	6,900,000	**276** J	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	**75.1** J	270 U	**96.2** J	312 U	408 U
Ethylbenzene	70,000	70,000	**646** J	285 U	**757** J	**204** J	**5480**	**1490**	479 U	7060 U	**117000** E	270 U	304 U	312 U	408 U
Isopropylbenzene	600,000	2,500,000	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
Methyl acetate	3,500,000	9,700,000	**3940**	**191** J	3110 U	719 U	1860 U	1550 U	959 U	14100 U	419 U	541 U	608 U	623 U	817 U
Methyl cyclohexane	NE	NE	**965**	285 U	**832** J	**108** J	929 U	776 U	479 U	7060 U	**335**	270 U	**379**	312 U	408 U
Methylene Chloride	500	500	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	**6890**	571 U	**1830** J	719 U	**41000**	**4200**	959 U	**106000**	**13500**	**362** J	**161** J	623 U	817 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	**2190**	285 U	**628** J	360 U	**31800**	**1770**	479 U	**34200**	**8600**	**177** J	304 U	312 U	408 U
Styrene	24,000	24,000	**308** J	285 U	1560 U	360 U	929 U	**235** J	479 U	**14200**	**708**	270 U	304 U	312 U	408 U
Tetrachloroethene	500	500	911 U	285 U	1560 U	360 U	929 U	776 U	479 U	7060 U	209 U	270 U	304 U	312 U	408 U
Toluene	100,000	100,000	**1830**	285 U	**741** J	**206** J	**7870**	**824**	479 U	**156000**	**5760**	**144** J	**286** J	312 U	408 U
Total Xylenes	1,000,000	1,000,000	**9080**	856 U	**2460** J	1080 U	**72800**	**5970**	1440 U	**140000**	**22100**	**539** J	**259** J	935 U	1230 U
Semi-Volatile Organic Compounds (µg/kg) [6]															
1,2,4,5-Tetrachlorobenzene	4,600	13,000	97.4 U	107 U	6000 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
2,4-Dichlorophenol	2,000	2,000	195 U	213 U	12000 U	1000 U	4560 U	2270 U	2030 U	2190 U	1980 U	237 U	246 U	213 U	219 U
2,4-Dimethylphenol	69,000	190,000	195 U	213 U	12000 U	1000 U	4560 U	**644** J	2030 U	**91700**	**3030**	237 U	246 U	213 U	219 U
2,4-Dinitrophenol	6,900	19,000	389 U	427 U	1920 U	2010 U	9130 U	4540 U	4070 U	4390 U	3950 U	473 U	492 U	427 U	438 U
2,6-Dinitrotoluene	43	180	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
2-Chloronaphthalene	6,000,000	17,000,000	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
2-Methylnaphthalene	25,000	100,000	**5090**	**104** J	**18900**	**2680**	**522000**	**502000**	**1590**	**1230000**	**78500**	**1050**	**938**	107 U	**50.4** J
2-Nitroaniline	11	44	195 U	213 U	960 U	1000 U	4560 U	**1140** J	2030 U	2190 U	1980 U	237 U	246 U	213 U	219 U
3-Nitroaniline	NE	NE	195 U	213 U	960 U	1000 U	4560 U	2270 U	2030 U	2190 U	1980 U	237 U	246 U	213 U	219 U
4-Chloroaniline	420	1,800	195 U	213 U	12000 U	1000 U	4560 U	2270 U	2030 U	2190 U	1980 U	237 U	246 U	213 U	219 U
4-Nitrophenol	6,000	6,000	195 U	213 U	960 U	1000 U	4560 U	2270 U	2030 U	2190 U	1980 U	237 U	246 U	213 U	219 U
Acenaphthene	2,600,000	4,700,000	**146**	**27.5** J	**758**	**664**	**38700**	**84900**	**667**	**150000**	**15800**	**168**	61.5 U	53.3 U	54.7 U
Acenaphthylene	2,400,000	6,600,000	**752**	**909**	**11500**	**25900**	**133000**	**339000**	**9310**	**745000**	**70100**	**1740**	61.5 U	53.3 U	**80.6**
Acetophenone	350,000	970,000	**111**	**23.4** J	480 U	**1340**	2280 U	1140 U	1020 U	1100 U	989 U	**20.9** J	123 U	107 U	109 U
Anthracene	350,000	350,000	**270**	**1890**	**25800**	**9800**	**399000**	**714000**	**15300**	**1310000**	**157000**	**2390**	**31.3** J	53.3 U	54.7 U
Benzaldehyde	NE	NE	195 U	213 U	960 U	1000 U	4560 U	2270 U	2030 U	2190 U	1980 U	237 U	246 U	213 U	219 U
Benzo(a)anthracene	6,100	340,000	**328**	**8710**	**69700**	**22300**	**399000**	**733000**	**30500**	**1150000**	**157000**	**5400**	**99.2**	53.3 U	**34.7** J
Benzo(a)pyrene	4,200	46,000	**234**	**6670**	**33900**	**27600**	**335000**	**588000**	**25700**	**1050000**	**140000**	**4680**	**87.9**	53.3 U	**185**
Benzo(b)fluoranthene	3,500	170,000	**260**	**6240**	**58700**	**28000**	**288000**	**624000**	**25300**	**828000**	**109000**	**3910**	**99.8**	53.3 U	**199**
Benzo(g,h,i)perylene	180,000	180,000	**120**	**2390**	**28700**	**22800**	**153000**	**332000**	**12800**	**558000**	**69100**	**2330**	**121**	53.3 U	**169**

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PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-147-6.6	SB-147-11.5	SB-148-10.5	SB-149-10	SB-150-12	SB-151-3	SB-151-5	SB-152-6	SB-152-14.5	SB-153-11.5	SB-154-10.5	SB-155-5	SB-156-12
Sample ID			SB-147-6.6	SB-147-11.5	SB-148-10.5	SB-149-10	SB-150-12	SB-151-3	SB-151-5	SB-152-6	SB-152-14.5	SB-153-11.5	SB-154-10.5	SB-155-5	SB-156-12
Date			10/25/2023	10/25/2023	10/18/2023	10/18/2023	10/26/2023	10/30/2023	10/30/2023	10/30/2023	10/30/2023	10/27/2023	10/27/2023	10/23/2023	10/27/2023
Depth Range (ft bgs)			6.6	11.5	10.0	10.0	12.0	3.0	5.0	6.0	14.5	11.5	10.5	5.0	12.0
Benzo(k)fluoranthene	3,500	610,000	248	6710	48200	23900	272000	466000	20000	580000	98200	3750	92.6	53.3 U	154
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)															
Biphenyl	370	1,500	467	34.4 J	3390	692	101000	116000	579 J	373000	30400	481	106 J	107 U	109 U
bis(2-Chloroethoxy)methane	10,000	29,000	97.4 U	107 U	6000 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
bis(2-Chloroisopropyl)ether	30,000	30,000	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
Butylbenzylphthalate	2,900,000	10,000,000	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
Caprolactam	NE	NE	195 U	213 U	12000 U	1000 U	4560 U	2270 U	2030 U	2190 U	1980 U	237 U	246 U	213 U	219 U
Carbazole	21,000	89,000	174	193	21800	3450	157000	440000	3520	726000	96500	1510	370	107 U	33.4 J
Chrysene	35,000	230,000	368	7240	74700	25800	375000	677000	28600	1100000	142000	4690	129	53.3 U	72
Dibenzo(a,h)anthracene	1,000	270,000	49.5	1130	10000	6070	50900	101000	3840	152000	21500	757	26.8 J	53.3 U	44.7 J
Dibenzofuran	90,000	250,000	1020	310	35800	2980	350000	632000	4970	1220000	136000	1950	288	107 U	29.8 J
Diethylphthalate	2,800,000	7,800,000	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
Dimethylphthalate	NE	NE	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
Di-n-Butylphthalate	1,400,000	4,000,000	141	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
Fluoranthene	3,200,000	3,200,000	1180	14500	166000	30200	1010000 E	1470000	77200	3200000	560000	15200	111	53.3 U	29.6 J
Fluorene	2,800,000	3,800,000	1820	143	9300	2080	510000	908000	9650	1580000	197000	1950	61.5 U	53.3 U	54.7 U
Hexachlorobenzene	960	960	97.4 U	107 U	480 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
Hexachlorobutadiene	10,000	42,000	23 J	107 U	6000 U	502 U	2280 U	1140 U	1020 U	1100 U	989 U	118 U	123 U	107 U	109 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	124	3040	31800	23200	167000	360000	14300	614000	73600	2590	99.6	53.3 U	161
m&p-Cresol [7]	17,000 [8]	49,000 [8]	195 U	213 U	308 J	3190	943 J	683 J	2030 U	314000	9380	91.1 J	655	213 U	219 U
Naphthalene	13,000	25,000	12900	164	7500000 E	11600	2650000 E	1650000	5820	8320000	231000	8850	2260	53.3 U	362
o-Cresol	170,000	490,000	195 U	213 U	960 U	1000 U	4560 U	420 J	2030 U	89200	3290	237 U	217 J	213 U	219 U
Phenanthrene	10,000,000	10,000,000	2260	6770	211000	16400	1510000 E	1890000	60600	5370000	794000	15200	486	53.3 U	51.3 J
Phenol	200,000	200,000	195 U	213 U	960 U	6090	4560 U	745 J	2030 U	455000	9420	237 U	1130	213 U	219 U
Pyrene	2,200,000	2,200,000	813	10900	121000	26800	796000	1480000	57500	2970000	376000	13800	118	53.3 U	48 J
PCBs (mg/kg) [9]															
Aroclor-1254	4.4	380	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	9.3	630	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	NE	NE	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Polychlorinated Biphenyl	9.3	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---
Metals (mg/kg)															
Aluminum	190,000 [10]	190,000 [10]	28000	48900	4790	4930	44800	36700	57300	2180	69300	12600	10800	23300	36300
Antimony	27	27	4.3 U	10.7 U	2.4 U	2.7 U	11.4 U	4.2 U	11 U	2.3 U	5.3 J	11.9 U	12.1 U	4.2 U	4.4 U
Arsenic	12	29	9.2	14.9	19.5	20	19.9	18.3	15.1	18	13.4	34.8	36.6	17.7	31.2
Barium	8,200	8,200	667	455	94.8	96	371	506	431	35.6	347	120	139	371	370
Beryllium	320	320	5	7	1.3	1.2 J	9.1	6.2	8.5	0.39 J	13.3	6 U	6.1 U	3.1	4.8
Cadmium	38	38	0.58 J	0.91 J	0.61 U	0.25 J	1.3 J	1.2	2.8 U	2.4	2.7 U	2.3 J	1.8 J	1.1	2.8
Calcium	NE	NE	137000	220000	65600	13100	219000	171000	202000	7090	258000	85000	85900	107000	136000
Chromium	37 [11]	190 [11]	6	10.3	61.4	26.1	16.8	11.4	6.6	4.3	9.2	16.2	18.4	13	27
Cobalt	45	130	2.2 U	5.4 U	1.2 U	1.4 U	5.7 U	2.1 U	5.5 U	1.2 U	5.3 U	6 U	6.1 U	2.1 U	2.2 U
Copper	7,200	43,000	14.9	13.6	61.1	107	26.1	19.1	7.4 J	11.8	7.1 J	25.3	114	38	31
Iron	150,000	190,000	12500	24300	46100	53000	36300	43700	29000	14700	9190	127000	117000	55500	76000
Lead	450	450	17.2	32.2	138	306	44.8	42.3	16.9	208	13.6	91.3	120	48.5	150
Magnesium	NE	NE	20300	31700	10300	2980	34000	26300	29000	970	55600	25500	18600	15400	26900
Manganese	2,000	2,000	2070	3600	899	695	4000	3540	2110	369	3630	1430	1390	2860	2540

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-147-6.6	SB-147-11.5	SB-148-10.5	SB-149-10	SB-150-12	SB-151-3	SB-151-5	SB-152-6	SB-152-14.5	SB-153-11.5	SB-154-10.5	SB-155-5	SB-156-12
Sample ID			SB-147-6.6	SB-147-11.5	SB-148-10.5	SB-149-10	SB-150-12	SB-151-3	SB-151-5	SB-152-6	SB-152-14.5	SB-153-11.5	SB-154-10.5	SB-155-5	SB-156-12
Date			10/25/2023	10/25/2023	10/18/2023	10/18/2023	10/26/2023	10/30/2023	10/30/2023	10/30/2023	10/30/2023	10/27/2023	10/27/2023	10/23/2023	10/27/2023
Depth Range (ft bgs)			6.6	11.5	10.0	10.0	12.0	3.0	5.0	6.0	14.5	11.5	10.5	5.0	12.0
Metals (mg/kg) (cont.)															
Mercury	10	10	**0.047** J	**0.1**	**5.9**	**55.9**	**0.3**	**0.5**	**0.084**	**1.5**	**0.21**	**0.09**	**0.26**	0.055 U	**0.069**
Nickel	650	650	**3** J	10.7 U	**18.9**	**22.8**	**4.3** J	**5.8**	**4** J	**3.1**	10.7 U	**13.6**	**13.1**	**10.9**	**14.9**
Potassium	NE	NE	**1790**	**3720**	**788**	**504**	**1710**	**2520**	**1890**	**238**	**7940**	**5970**	**2140**	**1900**	**5440**
Selenium	26	26	**10.4** J	**16.5** J	**5.2** J	**6.1** J	**19.9** J	**9.8** J	**17.6** J	**6.9**	**23** J	**14.4** J	**12.9** J	**5.7** J	**14.4**
Silver	84	84	1.1 U	2.7 U	0.61 U	0.68 U	2.9 U	1.1 U	2.8 U	0.58 U	2.7 U	3 U	3 U	1 U	1.1 U
Sodium	NE	NE	**766**	**1110**	**231**	**249**	**918**	**881**	**1490**	**175**	**1890**	**1090**	**436**	**835**	**1390**
Thallium	2.2	14	6.5 U	16.1 U	3.7 U	4.1 U	17.1 U	6.3 U	16.5 U	**11.6**	16 U	**12.2** J	**10.4** J	**4.2** J	**7.1**
Vanadium	1,100	49,000	**7.1**	**9.8**	**14.6**	**11.9**	**13.5**	**11.6**	**12.2**	**3.3**	**11.8**	**30.3**	**35.2**	**15.9**	**27**
Zinc	12,000	12,000	**45.4**	**68.6**	**369**	**344**	**208**	**84.3**	**11.2**	**107**	10.7 U	**1460**	**1460**	**179**	**1870**

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SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-157-13	SB-157-13D	SB-158-17.5	SB-159-10.5	SB-160-11	SB-161-11	SB-162-7.5	SB-163-3	SB-163-3	SB-163-11	SB-164-7	SB-165-9.5	SB-166-3	SB-167-8	SB-168-8
Sample ID			SB-157-13	SB-157-13D	SB-158-17.5	SB-159-10.5	SB-160-11	SB-161-11	SB-162-7.5	SB-163-3	SB-163-3D	SB-163-11	SB-164-7	SB-165-9.5	SB-166-3	SB-167-8	SB-168-8
Date			10/27/2023	10/27/2023	10/25/2023	10/19/2023	10/25/2023	10/31/2023	10/31/2023	10/19/2023	10/19/2023	10/19/2023	10/13/2023	10/25/2023	10/12/2023	10/24/2023	10/24/2023
Depth Range (ft bgs)			13.0	13.0	17.5	10.5	11.0	11.0	7.5	3.0	3.0	11.0	7.0	9.5	3.0	8.0	8.0
Volatile Organic Compounds (µg/kg) [3]																	
1,2,4-Trichlorobenzene	27,000	27,000	426 U	448 U	452 U	8.1 U	479 U	568 U	915 U	662 U	589 U	6.1 U	494 U	560 U	573 U	661 U	600 U
1,2-Dichlorobenzene	60,000	60,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
1,3-Dichlorobenzene	61,000	61,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
1,4-Dichlorobenzene	10,000	10,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
2-Butanone	400,000	400,000	2130 U	2240 U	2260 U	16.2 U	2390 U	2840 U	4570 U	3310 U	2950 U	12.2 U	2470 U	2800 U	2870 U	3310 U	3000 U
Acetone	3,100,000	8,800,000	2130 U	2240 U	2260 U	16.2 U	2390 U	2840 U	4570 U	3310 U	2950 U	12.2 U	2470 U	2800 U	2870 U	3310 U	3000 U
Benzene	500	500	213 U	224 U	226 U	3.2 U	239 U	284 U	**5610**	**1430**	**1100**	2.4 U	247 U	280 U	287 U	**2140**	**225** J
Bromodichloromethane	8,000	8,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
Bromomethane	1,000	1,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
Carbon Disulfide	150,000	620,000	**56.9** J	224 U	226 U	3.2 U	239 U	284 U	**325** J	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
Chlorobenzene	10,000	10,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
Chloroform	8,000	8,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
cis-1,2-Dichloroethene	7,000	7,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
Cyclohexane	1,700,000	6,900,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	**719**	**175** J	2.4 U	247 U	280 U	287 U	**141** J	300 U
Ethylbenzene	70,000	70,000	**113** J	**254**	226 U	3.2 U	239 U	284 U	457 U	**581**	**388**	2.4 U	247 U	280 U	287 U	**1410**	300 U
Isopropylbenzene	600,000	2,500,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	**340**	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
Methyl acetate	3,500,000	9,700,000	426 U	448 U	**165** J	3.2 U	479 U	**170** J	**398** J	662 U	589 U	2.4 U	494 U	560 U	573 U	661 U	600 U
Methyl cyclohexane	NE	NE	213 U	224 U	226 U	3.2 U	239 U	284 U	**179** J	**1970**	**569**	2.4 U	247 U	280 U	287 U	**361**	**100** J
Methylene Chloride	500	500	213 U	224 U	226 U	**1.4** J	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	331 U	300 U
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	426 U	448 U	452 U	6.5 U	479 U	568 U	**13200**	**1160**	**1370**	4.9 U	494 U	560 U	573 U	**1160**	600 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	213 U	224 U	226 U	3.2 U	239 U	284 U	**4230**	**762**	**653**	2.4 U	247 U	280 U	287 U	**572**	300 U
Styrene	24,000	24,000	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	**110** J	**133** J	2.4 U	247 U	280 U	287 U	331 U	300 U
Tetrachloroethene	500	500	213 U	224 U	226 U	3.2 U	239 U	284 U	457 U	331 U	295 U	2.4 U	247 U	280 U	287 U	**1120**	300 U
Toluene	100,000	100,000	213 U	224 U	226 U	3.2 U	239 U	284 U	**8540**	**1030**	**743**	2.4 U	247 U	280 U	287 U	**1140**	**119** J
Total Xylenes	1,000,000	1,000,000	639 U	672 U	677 U	9.7 U	718 U	852 U	**17500**	**1930**	**2020**	7.3 U	741 U	841 U	860 U	**1730**	900 U
Semi-Volatile Organic Compounds (µg/kg) [6]																	
1,2,4,5-Tetrachlorobenzene	4,600	13,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
2,4-Dichlorophenol	2,000	2,000	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	205 U
2,4-Dimethylphenol	69,000	190,000	189 U	200 U	202 U	247 U	221 U	207 U	**67.7** J	3990 U	4340 U	5150 U	252 U	206 U	211 U	**57.7** J	205 U
2,4-Dinitrophenol	6,900	19,000	377 U	400 U	404 U	495 U	443 U	413 U	464 U	7990 U	8670 U	10300 U	504 U	411 U	421 U	422 U	409 U
2,6-Dinitrotoluene	43	180	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
2-Chloronaphthalene	6,000,000	17,000,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
2-Methylnaphthalene	25,000	100,000	**91.5** J	**105**	**121**	124 U	**26.3** J	103 U	**170**	**12900**	**10800**	**2440** J	126 U	103 U	105 U	**4460**	**66.9** J
2-Nitroaniline	11	44	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	205 U
3-Nitroaniline	NE	NE	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	205 U
4-Chloroaniline	420	1,800	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	205 U
4-Nitrophenol	6,000	6,000	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	205 U
Acenaphthene	2,600,000	4,700,000	**55**	**54.6**	**24.1** J	61.8 U	55.3 U	51.6 U	57.9 U	**2920**	**2000**	**1730**	63 U	51.4 U	52.6 U	52.8 U	51.2 U
Acenaphthylene	2,400,000	6,600,000	**554**	**614**	**342**	61.8 U	55.3 U	51.6 U	**168**	**16500**	**13400**	**5260**	63 U	51.4 U	52.6 U	52.8 U	51.2 U
Acetophenone	350,000	970,000	**28.2** J	**26** J	**24.4** J	124 U	111 U	103 U	**2710**	2000 U	2170 U	2570 U	126 U	103 U	105 U	**1130**	**117**
Anthracene	350,000	350,000	**208**	**249**	**744**	61.8 U	55.3 U	**20.1** J	57.9 U	**91000**	**26300**	**5820**	63 U	51.4 U	52.6 U	**26.2** J	51.2 U
Benzaldehyde	NE	NE	189 U	200 U	202 U	247 U	221 U	207 U	**438**	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	**296**
Benzo(a)anthracene	6,100	340,000	**262**	**276**	**1750**	61.8 U	55.3 U	51.6 U	**27.3** J	**25800**	**21000**	**19100**	63 U	51.4 U	52.6 U	**148**	51.2 U
Benzo(a)pyrene	4,200	46,000	**227**	**239**	**1370**	61.8 U	55.3 U	51.6 U	57.9 U	**19700**	**16900**	**22300**	63 U	51.4 U	52.6 U	**81.7**	51.2 U
Benzo(b)fluoranthene	3,500	170,000	**270**	**254**	**1520**	61.8 U	55.3 U	51.6 U	**75.7**	**18400**	**16200**	**25400**	63 U	51.4 U	52.6 U	**225**	51.2 U
Benzo(g,h,i)perylene	180,000	180,000	**155**	**151**	**750**	61.8 U	55.3 U	51.6 U	**73.3**	**11000**	**9730**	**18800**	63 U	51.4 U	52.6 U	**86**	51.2 U

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PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-157-13	SB-157-13D	SB-158-17.5	SB-159-10.5	SB-160-11	SB-161-11	SB-162-7.5	SB-163-3	SB-163-3	SB-163-11	SB-164-7	SB-165-9.5	SB-166-3	SB-167-8	SB-168-8
Sample ID			SB-157-13	SB-157-13D	SB-158-17.5	SB-159-10.5	SB-160-11	SB-161-11	SB-162-7.5	SB-163-3	SB-163-3D	SB-163-11	SB-164-7	SB-165-9.5	SB-166-3	SB-167-8	SB-168-8
Date			10/27/2023	10/27/2023	10/25/2023	10/19/2023	10/25/2023	10/31/2023	10/31/2023	10/19/2023	10/19/2023	10/19/2023	10/13/2023	10/25/2023	10/12/2023	10/24/2023	10/24/2023
Depth Range (ft bgs)			13.0	13.0	17.5	10.5	11.0	11.0	7.5	3.0	3.0	11.0	7.0	9.5	3.0	8.0	8.0
Benzo(k)fluoranthene	3,500	610,000	215	230	1380	61.8 U	55.3 U	51.6 U	39.3 J	14800	12000	21500	63 U	51.4 U	52.6 U	114	51.2 U
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)																	
Biphenyl	370	1,500	46.7 J	58.2 J	35.4 J	124 U	111 U	103 U	116 U	4000	2890	1100 J	126 U	103 U	105 U	496	102 U
bis(2-Chloroethoxy)methane	10,000	29,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
bis(2-Chloroisopropyl)ether	30,000	30,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	94.3 U	100 U	48.6 J	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	28.4 J	26.1 J	105 U	106 U	102 U
Butylbenzylphthalate	2,900,000	10,000,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
Caprolactam	NE	NE	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	205 U
Carbazole	21,000	89,000	449	488	416	124 U	111 U	88.4 J	116 U	37800	15100	1310 J	126 U	103 U	105 U	67.1 J	102 U
Chrysene	35,000	230,000	273	283	1830	61.8 U	55.3 U	51.6 U	57.9 U	34800	22600	23300	24.4 J	51.4 U	52.6 U	408	51.2 U
Dibenzo(a,h)anthracene	1,000	270,000	46.2 J	45.7 J	270	61.8 U	55.3 U	51.6 U	57.9 U	3480	2930	4900	63 U	51.4 U	52.6 U	38.3 J	51.2 U
Dibenzofuran	90,000	250,000	291	357	200	124 U	111 U	29.4 J	41.4 J	21300	16100	3710	126 U	103 U	105 U	349	102 U
Diethylphthalate	2,800,000	7,800,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	1290 J	1330 J	2570 U	126 U	103 U	105 U	106 U	102 U
Dimethylphthalate	NE	NE	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
Di-n-Butylphthalate	1,400,000	4,000,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	29.1 J	103 U	105 U	106 U	102 U
Fluoranthene	3,200,000	3,200,000	898	981	3410	61.8 U	55.3 U	32.8 J	67.3	71800	60600	31800	63 U	51.4 U	52.6 U	344	27.1 J
Fluorene	2,800,000	3,800,000	862	974	337	61.8 U	55.3 U	51.6 U	584	33500	25100	2210	63 U	51.4 U	52.6 U	36.5 J	36 J
Hexachlorobenzene	960	960	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	28.8 J	103 U	105 U	106 U	102 U
Hexachlorobutadiene	10,000	42,000	94.3 U	100 U	101 U	124 U	111 U	103 U	116 U	2000 U	2170 U	2570 U	126 U	103 U	105 U	106 U	102 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	171	168	810	61.8 U	55.3 U	51.6 U	71.2	11600	10100	18500	63 U	51.4 U	52.6 U	54.7	51.2 U
m&p-Cresol [7]	17,000 [8]	49,000 [8]	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	211 U	205 U
Naphthalene	13,000	25,000	203	215	510	61.8 U	23.3 J	210	1640	74300	81900	44600	26 J	51.4 U	52.6 U	32100	379
o-Cresol	170,000	490,000	189 U	200 U	202 U	247 U	221 U	207 U	232 U	3990 U	4340 U	5150 U	252 U	206 U	211 U	135 J	205 U
Phenanthrene	10,000,000	10,000,000	928	1060	2800	61.8 U	31.9 J	27.9 J	57.9 U	118000	94100	16400	29 J	51.4 U	52.6 U	1020	45.4 J
Phenol	200,000	200,000	189 U	200 U	202 U	247 U	221 U	207 U	438	3990 U	4340 U	5150 U	252 U	206 U	211 U	1680	205 U
Pyrene	2,200,000	2,200,000	843	948	2440	61.8 U	55.3 U	19.1 J	21.6 J	52800	39500	24200	63 U	51.4 U	52.6 U	265	18.1 J
PCBs (mg/kg) [9]																	
Aroclor-1254	4.4	380	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	9.3	630	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	NE	NE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Polychlorinated Biphenyl	9.3	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metals (mg/kg)																	
Aluminum	190,000 [10]	190,000 [10]	74800	68500	10800	14100	5610	66500	52600	11800	10800	8100	7080	64900	51100	12700	71600
Antimony	27	27	3.9 J	9.8 U	23.4 U	2.6 U	23 U	10.4 U	1.6 J	0.88 J	2.2 U	12.5 U	12.4 U	10.7 U	10.5 U	11.8 U	10.8 U
Arsenic	12	29	16.7	17.7	48.3	10.8	48.1	14.9	30.2	16	15.6	46.3	51.8	13.8	7.8 J	54.2	18.9
Barium	8,200	8,200	1290	1060	193	115	17.5	552	528	90.5	70.8	130	92	734	253	275	918
Beryllium	320	320	9.7	9.2	11.7 U	1.3 J	11.5 U	16.3	6.9	0.7 J	0.77 J	6.3 U	2.2 J	12.5	8.6	2.6 J	10.1
Cadmium	38	38	0.98 J	0.88 J	3.5 J	0.64 U	5.8 U	0.88 J	1.1 J	0.55 U	0.55 U	3.1 U	9.7	2.7 U	2.6 U	2.7 J	1.2 J
Calcium	NE	NE	290000	266000	34900	72500	8330	251000	159000	16900	10900	30000	19200	232000	224000	22800	252000
Chromium	37 [11]	190 [11]	5 J	6	28.2	11.6	11.6	17.6	30	16.9	16.4	36.3	17	10.2	11.2	36.8	12.8
Cobalt	45	130	5.4 U	4.9 U	11.7 U	1.7 J	11.5 U	5.2 U	2.3 U	4.9	2.9	6.3 U	6.2 U	5.3 U	5.3 U	5.9 U	5.4 U
Copper	7,200	43,000	10.8 U	9.8 U	35.2	19	11.4 J	10.4 U	62.7	41.6	31.3	31.5	35.4	4.6 J	10.5 U	65.4	5.4 J
Iron	150,000	190,000	6070	10600	227000	18300	253000	9630	71600	25800	30700	217000	233000	2100	3580	247000	30100
Lead	450	450	8.1 J	7.4 J	185	6.6	32.7	8.8 J	142	64.1	53.7	40.8	76.9	10.6 J	12.2	109	17.4
Magnesium	NE	NE	37400	32400	5700	16500	1520	58700	20600	6080	4620	3430	3930	44600	27700	5890	38000
Manganese	2,000	2,000	10400	10200	5210	635	2320	4570	5550	610	429	3110	4060	3930	3480	4220	8200

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-157-13	SB-157-13D	SB-158-17.5	SB-159-10.5	SB-160-11	SB-161-11	SB-162-7.5	SB-163-3	SB-163-3	SB-163-11	SB-164-7	SB-165-9.5	SB-166-3	SB-167-8	SB-168-8
Sample ID			SB-157-13	SB-157-13D	SB-158-17.5	SB-159-10.5	SB-160-11	SB-161-11	SB-162-7.5	SB-163-3	SB-163-3D	SB-163-11	SB-164-7	SB-165-9.5	SB-166-3	SB-167-8	SB-168-8
Date			10/27/2023	10/27/2023	10/25/2023	10/19/2023	10/25/2023	10/31/2023	10/31/2023	10/19/2023	10/19/2023	10/19/2023	10/13/2023	10/25/2023	10/12/2023	10/24/2023	10/24/2023
Depth Range (ft bgs)			13.0	13.0	17.5	10.5	11.0	11.0	7.5	3.0	3.0	11.0	7.0	9.5	3.0	8.0	8.0
Metals (mg/kg) (cont.)																	
Mercury	10	10	0.049 U	0.049 U	**0.078**	0.063 U	**0.027** J	0.045 U	**0.18**	**0.16**	**0.12**	**1.9**	**0.021** J	0.052 U	0.053 U	**0.06** J	0.051 U
Nickel	650	650	10.8 U	9.8 U	**18.9** J	**16.2**	23 U	10.4 U	**30.1**	**24.5**	**21.4**	**14.3**	**18**	10.7 U	10.5 U	**21.9**	**4.1** J
Potassium	NE	NE	**3720**	**4360**	**1100**	**1100**	**616**	**6530**	**2980**	**982**	**1460**	**901**	**860**	**8400**	**2210**	**870**	**9600**
Selenium	26	26	**14.4** J	**10.9** J	58.4 U	**6.7**	57.5 U	**24.6** J	**10.5** J	**2.4** J	5.5 U	31.4 U	31 U	**20.8** J	**17.2** J	29.6 U	**13.8** J
Silver	84	84	2.7 U	2.4 U	5.8 U	0.64 U	5.8 U	2.6 U	1.2 U	0.55 U	0.55 U	3.1 U	3.1 U	2.7 U	2.6 U	3 U	2.7 U
Sodium	NE	NE	**1350**	**1180**	**281** J	**142**	575 U	**1450**	**1100**	**693**	**736**	**327**	**142** J	**1590**	**1540**	**417**	**1950**
Thallium	2.2	14	16.3 U	14.7 U	**26.9** J	3.8 U	**25.2** J	15.6 U	7 U	3.3 U	3.3 U	18.8 U	**10** J	16 U	15.8 U	**28.5**	16.1 U
Vanadium	1,100	49,000	**5.2** J	**8.1**	**39**	**17.5**	**16.5**	**18.7**	**29.2**	**16.5**	**16.8**	**35.8**	**26.2**	**8.8**	**28.2**	**48.7**	**11.7**
Zinc	12,000	12,000	10.8 U	9.8 U	**1420**	**69.1**	**236**	**27.8**	**39.2**	**121**	**115**	**293**	**1110**	10.7 U	10.5 U	**1210**	**88.9**

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-169-8	SB-170-10	SB-171-7	SB-171-17	SB-172-13	SB-173-10.5	SB-174-11	SB-174-13	SB-175-9.5	SB-175-9.5D	SB-176-6.5	SB-176-13	SB-177-13	SB-178-10	SB-179-10.5
Sample ID			SB-169-8	SB-170-10	SB-171-7	SB-171-17	SB-172-13	SB-173-10.5	SB-174-11	SB-174-13	SB-175-9.5	SB-175-9.5D	SB-176-6.5	SB-176-13	SB-177-13	SB-178-10	SB-179-10.5
Date			10/11/2023	11/1/2023	11/1/2023	11/1/2023	10/31/2023	11/1/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/3/2023	11/2/2023	11/3/2023
Depth Range (ft bgs)			8.0	10.0	7.0	17.0	13.0	10.5	11.0	13.0	9.5	9.5	6.5	13.0	13.0	10.0	10.5
Volatile Organic Compounds (µg/kg) [3]																	
1,2,4-Trichlorobenzene	27,000	27,000	124 U	638 U	2330 U	479 U	459 U	520 U	2040 U	2360 U	2350 U	1990 U	2300 U	1890 U	667 U	3100 U	628 U
1,2-Dichlorobenzene	60,000	60,000	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
1,3-Dichlorobenzene	61,000	61,000	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
1,4-Dichlorobenzene	10,000	10,000	62 U	319 U	**663** J	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
2-Butanone	400,000	400,000	620 U	3190 U	11600 U	2400 U	2290 U	2600 U	10200 U	11800 U	11700 U	9940 U	11500 U	9460 U	3340 U	15500 U	3140 U
Acetone	3,100,000	8,800,000	620 U	3190 U	11600 U	2400 U	2290 U	2600 U	10200 U	11800 U	11700 U	9940 U	11500 U	9460 U	3340 U	15500 U	3140 U
Benzene	500	500	**65.8**	319 U	**4420**	**4290**	**296**	260 U	**1010** J	1180 U	1170 U	994 U	**3190**	**779** J	334 U	1550 U	314 U
Bromodichloromethane	8,000	8,000	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Bromomethane	1,000	1,000	**27.2** J	319 U	1160 U	**94.3** J	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Carbon Disulfide	150,000	620,000	62 U	319 U	**319** J	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Chlorobenzene	10,000	10,000	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Chloroform	8,000	8,000	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
cis-1,2-Dichloroethene	7,000	7,000	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Cyclohexane	1,700,000	6,900,000	**32.6** J	319 U	**404** J	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Ethylbenzene	70,000	70,000	62 U	319 U	**111000**	**3810**	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	**2850**	334 U	1550 U	**132** J
Isopropylbenzene	600,000	2,500,000	62 U	319 U	1160 U	240 U	229 U	260 U	**4260**	1180 U	1170 U	994 U	**567** J	946 U	334 U	1550 U	314 U
Methyl acetate	3,500,000	9,700,000	**32.3** J	638 U	2330 U	479 U	459 U	520 U	2040 U	2360 U	2350 U	1990 U	2300 U	1890 U	667 U	3100 U	628 U
Methyl cyclohexane	NE	NE	**100**	319 U	**2150**	**75.4** J	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Methylene Chloride	500	500	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
m&p-Xylene [4]	1,000,000 [5]	1,000,000 [5]	**34.3** J	638 U	**2490000**	**69000**	459 U	520 U	**3710**	2360 U	2350 U	**576** J	2300 U	**1400** J	667 U	3100 U	628 U
o-Xylene	1,000,000 [5]	1,000,000 [5]	**23.2** J	319 U	**842000**	**17800**	229 U	260 U	**12000**	1180 U	1170 U	994 U	1150 U	**1330**	334 U	1550 U	314 U
Styrene	24,000	24,000	62 U	319 U	**12800**	**538**	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Tetrachloroethene	500	500	62 U	319 U	1160 U	240 U	229 U	260 U	1020 U	1180 U	1170 U	994 U	1150 U	946 U	334 U	1550 U	314 U
Toluene	100,000	100,000	**37.3** J	319 U	**154000**	**13000**	**69** J	260 U	**915** J	**282** J	**6410**	**1520**	**1170**	**674** J	334 U	1550 U	314 U
Total Xylenes	1,000,000	1,000,000	**57.5** J	957 U	**3330000**	**86800**	688 U	779 U	**15700**	3540 U	3520 U	**790** J	3450 U	**2740** J	1000 U	4650 U	942 U
Semi-Volatile Organic Compounds (µg/kg) [6]																	
1,2,4,5-Tetrachlorobenzene	4,600	13,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
2,4-Dichlorophenol	2,000	2,000	227 U	217 U	4390 U	**786**	213 U	228 U	4150 U	179 U	207 U	218 U	4760 U	200 U	199 U	253 U	238 U
2,4-Dimethylphenol	69,000	190,000	227 U	217 U	4390 U	209 U	213 U	228 U	4150 U	179 U	207 U	218 U	4760 U	200 U	199 U	253 U	238 U
2,4-Dinitrophenol	6,900	19,000	453 U	435 U	8790 U	**482**	427 U	456 U	8310 U	357 U	414 U	437 U	9520 U	400 U	399 U	505 U	477 U
2,6-Dinitrotoluene	43	180	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
2-Chloronaphthalene	6,000,000	17,000,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
2-Methylnaphthalene	25,000	100,000	**89.1** J	109 U	2200 U	**309**	107 U	114 U	**756000**	**3510**	**13600**	**13600**	**7310**	**25900**	99.7 U	**796**	**247**
2-Nitroaniline	11	44	227 U	217 U	4390 U	209 U	213 U	228 U	4150 U	179 U	207 U	218 U	4760 U	**42** J	199 U	253 U	238 U
3-Nitroaniline	NE	NE	227 U	217 U	4390 U	209 U	213 U	228 U	4150 U	179 U	207 U	218 U	4760 U	**24.1** J	199 U	253 U	238 U
4-Chloroaniline	420	1,800	227 U	217 U	4390 U	209 U	213 U	228 U	4150 U	179 U	207 U	218 U	4760 U	200 U	199 U	253 U	238 U
4-Nitrophenol	6,000	6,000	227 U	217 U	4390 U	209 U	213 U	228 U	4150 U	179 U	207 U	218 U	4760 U	200 U	199 U	253 U	238 U
Acenaphthene	2,600,000	4,700,000	56.6 U	54.3 U	1100 U	**289**	53.3 U	57 U	**46300**	**227**	**787**	**749**	**21500**	**1610**	49.9 U	**465**	59.6 U
Acenaphthylene	2,400,000	6,600,000	56.6 U	**21.6** J	**2890**	**52** J	**51.6** J	57 U	**320000**	**556**	**10700**	**10700**	**75500**	**3380**	**38** J	**4740**	**901**
Acetophenone	350,000	970,000	113 U	109 U	2200 U	**998**	107 U	114 U	2080 U	**27.1** J	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	**137**
Anthracene	350,000	350,000	56.6 U	54.3 U	1100 U	52.2 U	53.3 U	57 U	**542000**	**1890**	**14400**	**13400**	**249000** E	**19200**	49.9 U	**4240**	**164**
Benzaldehyde	NE	NE	**27.2** J	217 U	4390 U	209 U	213 U	**25.4** J	4150 U	179 U	207 U	218 U	4760 U	200 U	199 U	253 U	238 U
Benzo(a)anthracene	6,100	340,000	**60.7**	54.3 U	**2780**	**116**	53.3 U	57 U	**577000**	**1750**	**25500**	**24200**	**143000** E	**16900**	49.9 U	**5780**	**277**
Benzo(a)pyrene	4,200	46,000	56.6 U	54.3 U	**1230**	52.2 U	53.3 U	57 U	**461000**	**1130**	**15600**	**14700**	**123000**	**13200**	**54.4**	**7490**	**781**
Benzo(b)fluoranthene	3,500	170,000	**58.9**	**23.8** J	**2360**	52.2 U	53.3 U	57 U	**585000**	**1490**	**28300**	**26800**	**139000**	**16700**	**57.7**	**9120**	**932**
Benzo(g,h,i)perylene	180,000	180,000	56.6 U	54.3 U	**1020** J	52.2 U	53.3 U	57 U	**222000**	**529**	**9950**	**9490**	**58000**	**5850**	**77.8**	**3920**	**1360**

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PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs [1]	PADEP Nonresidential Subsurface Soil MSCs [2]	SB-169-8	SB-170-10	SB-171-7	SB-171-17	SB-172-13	SB-173-10.5	SB-174-11	SB-174-13	SB-175-9.5	SB-175-9.5D	SB-176-6.5	SB-176-13	SB-177-13	SB-178-10	SB-179-10.5
Sample ID			SB-169-8	SB-170-10	SB-171-7	SB-171-17	SB-172-13	SB-173-10.5	SB-174-11	SB-174-13	SB-175-9.5	SB-175-9.5D	SB-176-6.5	SB-176-13	SB-177-13	SB-178-10	SB-179-10.5
Date			10/11/2023	11/1/2023	11/1/2023	11/1/2023	10/31/2023	11/1/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/3/2023	11/2/2023	11/3/2023
Depth Range (ft bgs)			8.0	10.0	7.0	17.0	13.0	10.5	11.0	13.0	9.5	9.5	6.5	13.0	13.0	10.0	10.5
Benzo(k)fluoranthene	3,500	610,000	46 J	20.6 J	1730	52.2 U	53.3 U	57 U	204000	597	9550	9890	54100	6470	36.7 J	3270	534
Semi-Volatile Organic Compounds (µg/kg) [6] (cont.)																	
Biphenyl	370	1,500	113 U	109 U	1360 J	43.7 J	107 U	114 U	121000	546	2510	2450	19500	2930	99.7 U	231	27.9 J
bis(2-Chloroethoxy)methane	10,000	29,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	640	99.7 U	126 U	119 U
bis(2-Chloroisopropyl)ether	30,000	30,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
bis(2-Ethylhexyl)phthalate	130,000	130,000	113 U	109 U	2200 U	104 U	107 U	22.3 J	2080 U	89.4 U	103 U	38.7 J	2380 U	99.9 U	99.7 U	126 U	119 U
Butylbenzylphthalate	2,900,000	10,000,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
Caprolactam	NE	NE	227 U	217 U	4390 U	209 U	213 U	228 U	4150 U	179 U	207 U	218 U	4760 U	200 U	44.7 J	253 U	238 U
Carbazole	21,000	89,000	113 U	109 U	2200 U	104 U	107 U	22.9 J	184000	1630	5180	5510	108000	7900	99.7 U	1730	182
Chrysene	35,000	230,000	88	54.3 U	3590	143	53.3 U	57 U	518000	1640	29600	28000	167000 E	15100	49.9 U	6070	438
Dibenzo(a,h)anthracene	1,000	270,000	56.6 U	54.3 U	1100 U	52.2 U	53.3 U	57 U	82600	208	3690	3200	18400	1780	49.9 U	1320	242
Dibenzofuran	90,000	250,000	59.6 J	109 U	3210	103 J	107 U	114 U	434000	1890	12100	11600	136000	15200	99.7 U	1940	116 J
Diethylphthalate	2,800,000	7,800,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
Dimethylphthalate	NE	NE	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
Di-n-Butylphthalate	1,400,000	4,000,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2160 J	99.9 U	99.7 U	126 U	119 U
Fluoranthene	3,200,000	3,200,000	89.1	31.7 J	7670	52.2 U	51.1 J	57 U	1180000	4060	57600	56100	377000 E	45200	49.9 U	10900	434
Fluorene	2,800,000	3,800,000	56.6 U	54.3 U	399000 E	17100 E	27.3 J	57 U	652000	2410	14900	15000	188000 E	24000	49.9 U	3460	59.6 U
Hexachlorobenzene	960	960	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
Hexachlorobutadiene	10,000	42,000	113 U	109 U	2200 U	104 U	107 U	114 U	2080 U	89.4 U	103 U	109 U	2380 U	99.9 U	99.7 U	126 U	119 U
Indeno(1,2,3-cd)pyrene	3,500	18,000,000	32.2 J	54.3 U	1080 J	54.8	53.3 U	57 U	243000	590	10700	10900	66200	6520	58.4	4860	1010
m&p-Cresol [7]	17,000 [8]	49,000 [8]	227 U	217 U	4390 U	45.7 J	125 J	228 U	4150 U	44.9 J	72.5 J	69.9 J	4760 U	200 U	199 U	278	238 U
Naphthalene	13,000	25,000	208	38.1 J	275000 E	3680	120	188	3280000	14000 E	131000	181000 E	50700	109000	49.9 U	7280	1650
o-Cresol	170,000	490,000	227 U	217 U	4390 U	52 J	56.7 J	228 U	4150 U	179 U	207 U	40.5 J	4760 U	200 U	199 U	104 J	238 U
Phenanthrene	10,000,000	10,000,000	184	22.6 J	1100 U	52.2 U	29.2 J	24.2 J	1990000	6980 E	71500	68600	511000 E	72200	49.9 U	8730	351
Phenol	200,000	200,000	227 U	217 U	4390 U	475	213 U	228 U	4150 U	139 J	207 U	170 J	1130 J	200 U	199 U	253 U	238 U
Pyrene	2,200,000	2,200,000	76.5	22.2 J	6310	267	45.4 J	57 U	1060000	3460	41600	41100	312000 E	39500	19 J	10500	405
PCBs (mg/kg) [9]																	
Aroclor-1254	4.4	380	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	9.3	630	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	NE	NE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Polychlorinated Biphenyl	9.3	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metals (mg/kg)																	
Aluminum	190,000 [10]	190,000 [10]	33400	61600	35000	61900	49800	74400	65500	61800	56800	54100	38100	134000	72600	28500	23800
Antimony	27	27	1.8 J	6.3 J	12.3	5.3 J	10 U	6.1 J	6.2 J	5.1 J	10.2 U	3.5 J	2.2 J	12.3 J	5.8 J	4.7 U	4.6 U
Arsenic	12	29	20.7	9.7 J	9.3	12.7	16.2	10.2 J	26.7	13.5	11.6	14.5	14.8	34.7	11.5	29.2	30.3
Barium	8,200	8,200	286	696	465	783	552	471	885	1790	524	504	249	1550	1190	207	229
Beryllium	320	320	4.7	8.2	6.3	8.1	10.4	8.8	17.4	11.5	9.4	8.2	6.4	28.5	12.2	4.6	5.1
Cadmium	38	38	0.79 J	2.7 U	1.8	2.8 U	0.85 J	2.7 U	2.8 U	2.6 U	1 J	1.1 J	1.3	5.3 U	2.7 U	4.6	3.6
Calcium	NE	NE	190000	268000	190000	288000	205000	307000	290000	244000	253000	250000	151000	500000	274000	87300	50900
Chromium	37 [11]	190 [11]	8.9	5.1 J	18.5	19.6	15.4	4.6 J	14.3	4.9 J	12.3	12.3	12.7	13	4.6 J	20.3	17.9
Cobalt	45	130	2.4 U	5.4 U	2.2 U	3.8 J	5 U	5.5 U	5.5 U	5.3 U	5.1 U	7.4	2.4 U	10.6 U	5.4 U	2.3 U	2.3 U
Copper	7,200	43,000	16.5	10.8 U	69.2	6.8 J	6.1 J	11 U	6 J	10.5 U	7.4 J	8.5 J	52.3	7.6 J	10.9 U	55.2	23.1
Iron	150,000	190,000	28900	3170	33500	5880	27200	2090	4150	5770	20600	22200	28500	7750	10900	76400	95800
Lead	450	450	40.5	13.3	47000	412	7 J	14.8	17.7	12.5	16.9	19.2	36.3	49.2	17.6	127	124
Magnesium	NE	NE	13500	32000	27500	32100	38400	32400	56000	46300	40300	33000	19600	104000	46300	12800	10500
Manganese	2,000	2,000	2170	4590	2330	7530	5570	2390	3910	5770	4090	3520	1730	7100	3690	2710	1470

TABLE 1

SUMMARY OF DETECTED ANALYTICAL RESULTS - SOIL
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Soil MSCs (1)	PADEP Nonresidential Subsurface Soil MSCs (2)	SB-169-8	SB-170-10	SB-171-7	SB-171-17	SB-172-13	SB-173-10.5	SB-174-11	SB-174-13	SB-175-9.5	SB-175-9.5D	SB-176-6.5	SB-176-13	SB-177-13	SB-178-10	SB-179-10.5
Sample ID			SB-169-8	SB-170-10	SB-171-7	SB-171-17	SB-172-13	SB-173-10.5	SB-174-11	SB-174-13	SB-175-9.5	SB-175-9.5D	SB-176-6.5	SB-176-13	SB-177-13	SB-178-10	SB-179-10.5
Date			10/11/2023	11/1/2023	11/1/2023	11/1/2023	10/31/2023	11/1/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/2/2023	11/3/2023	11/2/2023	11/3/2023
Depth Range (ft bgs)			8.0	10.0	7.0	17.0	13.0	10.5	11.0	13.0	9.5	9.5	6.5	13.0	13.0	10.0	10.5
Metals (mg/kg) (cont.)																	
Mercury	10	10	**0.081**	0.052 U	**0.18**	0.049 U	0.051 U	0.051 U	**0.81**	**0.028** J	**0.018** J	**0.035** J	**0.35**	0.045 U	0.056 U	**0.32**	**0.11**
Nickel	650	650	**6.5**	10.8 U	**39.7**	**4.6** J	**5.9** J	11 U	11 U	10.5 U	**6.4** J	**7** J	**6.7**	21.2 U	10.9 U	**17.9**	**11**
Potassium	NE	NE	**2040**	**4880**	**1480**	**3250**	**5320**	**3640**	**8300**	**5630**	**4440**	**3300**	**1900**	**11500**	**7950**	**5030**	**3490**
Selenium	26	26	**12.7**	**21.2** J	**22.8**	**18** J	**16.5** J	**24.9** J	**31.6**	**20.5** J	**21.1** J	**19.7** J	**15.8**	**57.5**	**24.7** J	**29.3**	**13.6**
Silver	84	84	1.2 U	2.7 U	1.1 U	2.8 U	2.5 U	2.7 U	2.8 U	2.6 U	2.5 U	2.5 U	1.2 U	5.3 U	2.7 U	**0.47** J	1.2 U
Sodium	NE	NE	**768**	**1380**	**1700**	**1910**	**1030**	**1270**	**1700**	**1500**	**1340**	**1220**	**1600**	**2770**	**1470**	**682**	**2020**
Thallium	2.2	14	7.2 U	16.2 U	6.5 U	16.7 U	15.1 U	16.5 U	16.6 U	15.8 U	15.2 U	15.2 U	7.2 U	31.8 U	16.3 U	**3.9** J	**5.7** J
Vanadium	1,100	49,000	**10.8**	**3.1** J	**7.8**	**7.1**	**18**	5.5 U	**16.5**	**7.5**	**16.9**	**14.4**	**14.1**	**12.7**	**6.8**	**22.9**	**22.9**
Zinc	12,000	12,000	**39.1**	10.8 U	**61.9**	**17.8**	10 U	11 U	**5** J	10.5 U	**16.5**	**19.9**	**77.6**	**7.2** J	**28.9**	**1880**	**830**

Notes/Qualifiers:

--- - Not Analyzed
% - percent
µg/kg - microgram per kilogram
E - result exceeded calibration range
ft bgs - ft below ground surface
J - result is less than the RL but greater than or equal to the MDL; estimated

MDL - Method Detection Limit
mg/kg - milligram per kilogram
MSC - Medium-Specific Concentration
NE - Not Established
PADEP - Pennsylvania Department of Environmental Protection
PCB - Polychlorinated Biphenyl

RL - Reporting Limit
SB - Soil Boring
SVOC - Semi-volatile Organic Compound
TDS - Total Dissolved Solids
U - Not Detected
VOC - Volatile Organic Compound

Bolded - Concentration is detected in the sample
Shaded - Detected concentration exceeds the PADEP Residential Soil MSC
Boxed - Detected concentration exceeds the PADEP Nonresidential Soil MSC

It is noted that several of the nondetect results have reporting limits that exceed the respective screening criteria.

(1) - PADEP Residential MSCs are determined by the lower of the residential Direct Contact and residential Soil-to-Groundwater (Used aquifer; TDS≤2500) values. The Soil-to-Groundwater value is determined by the higher of the 100x Groundwater MSC and Generic Value.

(2) - PADEP Nonresidential MSCs are determined by the lower of the nonresidential Direct Contact and nonresidential Soil-to-Groundwater (Used aquifer; TDS≤2500) values. The Soil-to-Groundwater value is determined by the higher of the 100x Groundwater MSC and Generic Value.

(3) - An additional 28 VOCs were analyzed for, but not detected.
(4) - Not a single chemical but a mixture of the isomers m-xylene and p-xylene.
(5) - Total Xylene used as a surrogate.
(6) - An additional 23 SVOCs were analyzed for, but not detected.
(7) - Not a single chemical but a mixture of the isomers m-cresol and p-cresol.
(8) - p-Cresol used as a surrogate.
(9) - An additional 6 PCBs were analyzed for, but not detected.
(10) - Secondary Maximum Contaminant Level (SMCL)
(11) - Chromium VI used as a surrogate.

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-100	GWG-101	GWG-102	GWG-102D	GWG-103	GWG-104	GWG-105	GWG-106	GWG-107	GWG-108	GWG-109	GWG-110	GWG-111	GWG-112	GWG-113
Sample ID			GWG-100	GWG-101	GWG-102	GWG-102D	GWG-103	GWG-104	GWG-105	GWG-106	GWG-107	GWG-108	GWG-109	GWG-110	GWG-111	GWG-112	GWG-113
Date			10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/19/2023	10/19/2023	10/19/2023	10/19/2023
Volatile Organic Compounds (µg/L) [1]																	
1,4-Dichlorobenzene	75	75	5 U	5 U	50 U	50 U	20 U	5 U	**0.48** J	1 U	**0.33** J	1 U	1 U	1 U	1 U	5 U	5 U
2-Butanone	4,000	4,000	50 U	50 U	500 U	500 U	200 U	50 U	10 U	10 U	**2.9** J	10 U	10 U	10 U	10 U	50 U	50 U
Acetone	31,000	88,000	50 U	50 U	500 U	500 U	200 U	50 U	10 U	**8.5** J	**13.5**	10 U	10 U	10 U	10 U	50 U	50 U
Benzene	5	5	**185000** E	**71.8**	**6120**	**6740**	**372**	**33.6**	**1420** E	**11.3**	**4.3**	**1.9**	**0.78** J	1 U	1 U	**6.1**	5 U
Bromomethane	10	10	5 U	5 U	50 U	50 U	20 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**3.7** J	**5.3**
Carbon Disulfide	1,500	6,200	**10**	5 U	50 U	50 U	20 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**7.2**	**1.6** J
Chlorobenzene	100	100	5 U	5 U	50 U	50 U	20 U	5 U	**1.2**	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Chloromethane	30	30	5 U	5 U	50 U	50 U	20 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
cis-1,3-Dichloropropene	NE	NE	5 U	5 U	50 U	50 U	20 U	5 U	1 U	**0.75** J	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Cyclohexane	13,000	53,000	5 U	5 U	50 U	50 U	20 U	5 U	**16.3**	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Ethylbenzene	700	700	5 U	**11.1**	50 U	50 U	20 U	5 U	**279** E	**1.1**	**0.48** J	1 U	1 U	1 U	1 U	5 U	5 U
Isopropylbenzene	840	3,500	5 U	5 U	50 U	50 U	20 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Methyl acetate	35,000	97,000	10 U	10 U	100 U	100 U	40 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**2.9** J	**2.7** J
Methyl cyclohexane	NE	NE	5 U	5 U	50 U	50 U	20 U	5 U	**13.2**	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
m&p-Xylene [2]	10,000 [3]	10,000 [3]	**1820**	**34**	**154**	**158**	**12.5** J	**4.6** J	**1470** E	**12.1**	**3.7**	**1.5** J	**0.8** J	2 U	2 U	10 U	10 U
o-Xylene	10,000 [3]	10,000 [3]	**588**	**16.6**	**44.5** J	**49.1** J	20 U	5 U	**1160** E	**3.5**	**1.2**	**0.38** J	1 U	1 U	1 U	5 U	5 U
Styrene	100	100	**51.2**	**6.1**	50 U	50 U	20 U	5 U	**73.4**	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Toluene	1,000	1,000	**26600**	**30.4**	**780**	**830**	**38.8**	**16.9**	**2290** E	**43.3**	**197**	**5**	**2.4**	1 U	1 U	**2.8** J	**2.8** J
Total Xylenes	10,000	10,000	**2410**	**50.6**	**198**	**207**	60 U	**4.6** J	**2630** E	**15.6**	**4.9**	**1.8** J	**0.8** J	3 U	3 U	15 U	15 U
Semi-Volatile Organic Compounds (µg/L) [4]																	
1,4-Dioxane	6.5	27	15 U	15 U	15 U	15 U	7.5 U	7.5 U	3 U	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
2,4-Dimethylphenol	690	1,900	**4140**	**12.4** J	**289**	**287**	**4.2** J	7.5 U	**3.8**	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
2,4-Dinitrophenol	69	190	30 U	30 U	30 U	30 U	15 U	15 U	6 U	6 U	6.3 U	30 U	6 U	6 U	15 U	30 U	6 U
2-Methylnaphthalene	6.3	26	**245**	**122**	**243**	**313**	**23.3**	**10.9**	1.5 U	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
2-Nitrophenol	280	780	15 U	15 U	15 U	15 U	7.5 U	7.5 U	3 U	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
4-Nitrophenol	60	60	15 U	15 U	15 U	15 U	7.5 U	7.5 U	3 U	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
Acenaphthene	2,100	3,800	**35.8**	**33.3**	**116**	**154**	**123**	**6**	1.5 U	**0.31** J	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Acenaphthylene	2,100	5,800	**237**	**76.3**	**87.2**	**116**	**9**	**10.6**	**0.31** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Acetophenone	3,500	9,700	15 U	15 U	15 U	**129**	**1.7** J	7.5 U	**8.6**	3 U	**0.69** J	15 U	3 U	3 U	7.5 U	15 U	3 U
Anthracene	66	66	**62.1**	**31.9**	**105**	**164**	**28.1**	**9.2**	1.5 U	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Benzaldehyde	NE	NE	15 U	15 U	15 U	15 U	7.5 U	7.5 U	3 U	**0.51** J	**0.39** J	15 U	**0.28** J	3 U	7.5 U	15 U	3 U
Benzo(a)anthracene	0.3	3.9	**25.4**	**19.6**	**74.7**	**108**	**15.1**	**8.9**	**0.51** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Benzo(a)pyrene	0.2	0.2	**24.5**	**19.2**	**70.4**	**95.3**	**12.5**	**8.6**	**0.67** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	**1.4** J	1.5 U
Benzo(b)fluoranthene	0.18	1.2	**18.1**	**12.5**	**56**	**71.5**	**10.8**	**7.2**	**0.56** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	**1.7** J	1.5 U
Benzo(g,h,i)perylene	0.26	0.26	**13.9**	**10.7**	**40.5**	**46.7**	**6.2**	**5.5**	**0.51** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Benzo(k)fluoranthene	0.18	0.55	**19**	**15.7**	**59.9**	**78.2**	**9.1**	**6.3**	**0.49** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Biphenyl	0.84	3.5	**38.9**	**24.1**	**40.6**	**53.6**	**6.2** J	**3.8** J	3 U	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
bis(2-Chloroethoxy)methane	100	290	15 U	15 U	15 U	15 U	7.5 U	7.5 U	**0.41** J	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
bis(2-Ethylhexyl)phthalate	6	6	**1.7** J	15 U	15 U	15 U	7.5 U	7.5 U	3 U	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
Caprolactam	NE	NE	15 U	15 U	15 U	15 U	7.5 U	7.5 U	3 U	3 U	**2.1** J	15 U	3 U	3 U	7.5 U	15 U	3 U
Carbazole	33	140	**218**	**99**	**252**	**282**	**113**	**10.2**	3 U	**0.4** J	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
Chrysene	1.8	1.9	**26.7**	**20.6**	**82.8**	**107**	**16**	**10.8**	**0.57** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Dibenzo(a,h)anthracene	0.052	0.6	**3.5** J	**3** J	**11.5**	**14**	**2** J	**1.7** J	1.5 U	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Dibenzofuran	35	97	**101**	**68**	**123**	**180**	**59.4**	**12.7**	3 U	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
Diethylphthalate	28,000	78,000	15 U	15 U	15 U	15 U	7.5 U	7.5 U	3 U	3 U	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-100	GWG-101	GWG-102	GWG-102D	GWG-103	GWG-104	GWG-105	GWG-106	GWG-107	GWG-108	GWG-109	GWG-110	GWG-111	GWG-112	GWG-113
Sample ID			GWG-100	GWG-101	GWG-102	GWG-102D	GWG-103	GWG-104	GWG-105	GWG-106	GWG-107	GWG-108	GWG-109	GWG-110	GWG-111	GWG-112	GWG-113
Date			10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/6/2023	10/19/2023	10/19/2023	10/19/2023	10/19/2023
Semi-Volatile Organic Compounds (µg/L) [4] (cont.)																	
Dimethylphthalate	NE	NE	15 U	15 U	15 U	15 U	7.5 U	7.5 U	3 U	**0.51** J	**0.59** J	15 U	**0.57** J	3 U	7.5 U	15 U	3 U
Di-n-Butylphthalate	3,500	9,700	15 U	**1.7** J	15 U	15 U	7.5 U	7.5 U	3 U	**0.38** J	3.2 U	15 U	3 U	3 U	7.5 U	15 U	3 U
Fluoranthene	260	260	**97.4**	**74.4**	**188**	**328**	**58.2**	**25.1**	**1.2** J	**0.38** J	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	**1.8** J	1.5 U
Fluorene	1,400	1,900	**118**	**90.4**	**161**	**245**	**94.9**	**21.6**	**0.57** J	**0.26** J	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
Indeno(1,2,3-cd)pyrene	0.18	2.3	**14.5**	**11.1**	**42.7**	**52.8**	**6.7**	**5.6**	**0.51** J	1.5 U	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	7.5 U	1.5 U
m&p-Cresol [5]	170 [6]	490 [6]	150 U	**10.5** J	**777**	**782**	**1.6** J	**1.4** J	**17.7**	**0.75** J	**10.2**	15 U	3 U	3 U	7.5 U	15 U	3 U
Naphthalene	100	100	**10900**	**2520**	**9680**	**10200** E	**1070**	**57.6**	**6.5**	**2.2**	1.6 U	**1.6** J	1.5 U	1.5 U	3.8 U	7.5 U	**1.3** J
o-Cresol	1,700	4,900	**5270**	**5.8** J	**380**	**398**	7.5 U	7.5 U	**47.6**	3 U	**2.5** J	15 U	3 U	3 U	7.5 U	15 U	3 U
Phenanthrene	1,100	1,100	**217**	**162**	**287**	**506**	**111**	**40.6**	**0.73** J	**0.56** J	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	**1.7** J	1.5 U
Phenol	2,000	2,000	**12700**	40 U	**1190**	**1370**	20 U	20 U	**18.2**	**0.59** J	8.4 U	40 U	8 U	8.1 U	20 U	40 U	8 U
Pyrene	130	130	**62.2**	**57.2**	**130**	**195**	**38**	**18.8**	**0.95** J	**0.31** J	1.6 U	7.5 U	1.5 U	1.5 U	3.8 U	**1.6** J	1.5 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-114	GWG-114D	GWG-115	GWG-116	GWG-117	GWG-118	GWG-119	GWG-120	GWG-120D	GWG-121	GWG-122	GWG-123	GWG-124
Sample ID			GWG-114	GWG-114D	GWG-115	GWG-116	GWG-117	GWG-118	GWG-119	GWG-120	GWG-120D	GWG-121	GWG-122	GWG-123	GWG-124
Date			10/19/2023	10/19/2023	10/19/2023	10/19/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023
Volatile Organic Compounds (µg/L) (1)															
1,4-Dichlorobenzene	75	75	1 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	4,000	4,000	10 U	50 U	50 U	50 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U	50 U	50 U
Acetone	31,000	88,000	10 U	**17.4** J	50 U	50 U	50 U	50 U	50 U	500 U	50 U	**17.6** J	50 U	**21.6** J	50 U
Benzene	5	5	**311**	**366**	5 U	5 U	5 U	5 U	**6.6**	**789**	**792**	**4.9** J	**430**	**7.3**	**26.4**
Bromomethane	10	10	1 U	**2.6** J	**4.3** J	**3.5** J	**2.1** J	**4** J	**4.8** J	**66.2**	**4.3** J	**3.2** J	**3.1** J	**3.9** J	**5.3**
Carbon Disulfide	1,500	6,200	1 U	**2.1** J	5 U	**1.9** J	**3.2** J	**3.3** J	5 U	**17.4** J	5 U	**2.9** J	**2.2** J	**3.1** J	**2.4** J
Chlorobenzene	100	100	1 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	30	30	1 U	5 U	5 U	**2.4** J	5 U	5 U	5 U	50 U	5 U	5 U	5 U	**2.2** J	5 U
cis-1,3-Dichloropropene	NE	NE	1 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	13,000	53,000	1 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	700	700	**1.8**	**2.8** J	5 U	5 U	5 U	5 U	5 U	50 U	**9.8**	5 U	**6.1**	5 U	5 U
Isopropylbenzene	840	3,500	1 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U
Methyl acetate	35,000	97,000	2 U	**2.5** J	10 U	**3.9** J	**2.6** J	**3** J	**2.8** J	**23.9** J	**2.9** J	**1.8** J	10 U	**2.5** J	10 U
Methyl cyclohexane	NE	NE	1 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U
m&p-Xylene (2)	10,000 (3)	10,000 (3)	**1.9** J	10 U	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U	**8.8** J	10 U	10 U
o-Xylene	10,000 (3)	10,000 (3)	**1.4**	**1.8** J	5 U	5 U	5 U	5 U	5 U	50 U	**5.2**	5 U	**11.1**	5 U	5 U
Styrene	100	100	1 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	**5.8**	5 U	5 U
Toluene	1,000	1,000	**3.8**	**7.3**	**2.7** J	**2.7** J	**2.8** J	**2.6** J	**2.9** J	**26.8** J	**4.4** J	**3** J	**4.8** J	**3.4** J	**5.3**
Total Xylenes	10,000	10,000	**3.3**	15 U	15 U	15 U	15 U	15 U	15 U	150 U	**5.2** J	15 U	**19.9**	15 U	15 U
Semi-Volatile Organic Compounds (µg/L) (4)															
1,4-Dioxane	6.5	27	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	3 U	3 U
2,4-Dimethylphenol	690	1,900	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	**21.5**	**1.2** J	3.1 U	**82.4**	**1.2** J	**2.1** J
2,4-Dinitrophenol	69	190	15 U	30 U	30 U	6 U	6.1 U	6 U	6.1 U	6.2 U	6.2 U	6.3 U	6.5 U	6 U	6 U
2-Methylnaphthalene	6.3	26	3.8 U	7.5 U	**2.3** J	1.5 U	1.5 U	1.5 U	1.5 U	**1.5** J	**0.57** J	**11.4**	**11.8**	**6.2**	**3.1**
2-Nitrophenol	280	780	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	3 U	3 U
4-Nitrophenol	60	60	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	**1.3** J	3.1 U	3.1 U	3.3 U	3 U	3 U
Acenaphthene	2,100	3,800	3.8 U	7.5 U	7.5 U	1.5 U	1.5 U	1.5 U	**10.4**	**2**	**2.4**	**1.3** J	**1.1** J	**5.4**	**0.33** J
Acenaphthylene	2,100	5,800	3.8 U	7.5 U	7.5 U	1.5 U	**0.36** J	1.5 U	**1.4** J	**6.5**	**6.5**	**3.5**	**6**	**4.8**	**0.89** J
Acetophenone	3,500	9,700	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	**0.66** J	3.1 U	3.3 U	3 U	**0.4** J
Anthracene	66	66	3.8 U	7.5 U	**2.8** J	1.5 U	**0.87** J	1.5 U	**5**	1.5 U	1.5 U	**7.1**	**0.6** J	**2.1**	1.5 U
Benzaldehyde	NE	NE	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	**0.29** J	3 U
Benzo(a)anthracene	0.3	3.9	3.8 U	7.5 U	**4.2** J	1.5 U	**1.3** J	1.5 U	1.5 U	1.5 U	1.5 U	**11.4**	**0.66** J	**1.3** J	1.5 U
Benzo(a)pyrene	0.2	0.2	3.8 U	7.5 U	**3.4** J	1.5 U	**1** J	1.5 U	1.5 U	**0.29** J	1.5 U	**5.9**	**0.64** J	**1.1** J	1.5 U
Benzo(b)fluoranthene	0.18	1.2	3.8 U	7.5 U	**3.9** J	1.5 U	**1.3** J	1.5 U	1.5 U	1.5 U	1.5 U	**8.8**	**0.76** J	**1.3** J	1.5 U
Benzo(g,h,i)perylene	0.26	0.26	3.8 U	7.5 U	**2.7** J	1.5 U	**0.74** J	1.5 U	1.5 U	1.5 U	1.5 U	**5.4**	**0.58** J	**0.97** J	1.5 U
Benzo(k)fluoranthene	0.18	0.55	3.8 U	7.5 U	**3.3** J	1.5 U	**1** J	1.5 U	1.5 U	1.5 U	1.5 U	**8**	**0.59** J	**1** J	1.5 U
Biphenyl	0.84	3.5	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	**1.4** J	**1.7** J	**3.3**	**0.9** J	**1.1** J	**0.65** J
bis(2-Chloroethoxy)methane	100	290	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	3 U	3 U
bis(2-Ethylhexyl)phthalate	6	6	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	3 U	3 U
Caprolactam	NE	NE	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	3 U	3 U
Carbazole	33	140	7.5 U	15 U	15 U	3 U	**0.26** J	3 U	**0.72** J	**13.5**	**11.9**	**15.2**	**14.6**	**7.2**	**4.2**
Chrysene	1.8	1.9	3.8 U	7.5 U	**6.1** J	1.5 U	**1.4** J	1.5 U	1.5 U	1.5 U	1.5 U	**13.8**	**0.75** J	**1.4** J	1.5 U
Dibenzo(a,h)anthracene	0.052	0.6	3.8 U	7.5 U	7.5 U	1.5 U	**0.3** J	1.5 U	1.5 U	1.5 U	1.5 U	**1.9**	1.6 U	1.5 U	1.5 U
Dibenzofuran	35	97	7.5 U	15 U	**1.5** J	3 U	3 U	3 U	**4**	**2.5** J	**3.4**	**22.8**	**1.7** J	**3.9**	**1.1** J
Diethylphthalate	28,000	78,000	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	**4**	3 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-114	GWG-114D	GWG-115	GWG-116	GWG-117	GWG-118	GWG-119	GWG-120	GWG-120D	GWG-121	GWG-122	GWG-123	GWG-124
Sample ID			GWG-114	GWG-114D	GWG-115	GWG-116	GWG-117	GWG-118	GWG-119	GWG-120	GWG-120D	GWG-121	GWG-122	GWG-123	GWG-124
Date			10/19/2023	10/19/2023	10/19/2023	10/19/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023	10/20/2023
Semi-Volatile Organic Compounds (µg/L) [4] (cont.)															
Dimethylphthalate	NE	NE	7.5 U	15 U	15 U	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	3.1 U	3.3 U	3 U	3 U
Di-n-Butylphthalate	3,500	9,700	7.5 U	**1.9** J	**1.6** J	3 U	3 U	3 U	3.1 U	3.1 U	3.1 U	**0.26** J	3.3 U	3 U	3 U
Fluoranthene	260	260	3.8 U	**1.9** J	**10.1**	1.5 U	**2.4**	1.5 U	**7.7**	**0.43** J	**0.47** J	**37**	**1.8**	**4.4**	1.5 U
Fluorene	1,400	1,900	3.8 U	7.5 U	7.5 U	1.5 U	1.5 U	1.5 U	**17.1**	**0.91** J	**1.1** J	**7.5**	**1.7**	**6.4**	**0.76** J
Indeno(1,2,3-cd)pyrene	0.18	2.3	3.8 U	7.5 U	**2** J	1.5 U	**0.77** J	1.5 U	1.5 U	1.5 U	1.5 U	**5.7**	**0.59** J	**0.96** J	1.5 U
m&p-Cresol [5]	170 [6]	490 [6]	7.5 U	15 U	15 U	3 U	3 U	**0.71** J	3.1 U	3.1 U	**1.4** J	3.1 U	**2.2** J	**6.1**	**8.7**
Naphthalene	100	100	**2.4** J	**9.9**	**3.3** J	**1.3** J	**2.6**	**1.3** J	**1.9**	**135**	**30.1**	**3290**	**1400**	**95.9**	**105**
o-Cresol	1,700	4,900	7.5 U	15 U	15 U	3 U	3 U	3.1 U	**23.6**	**1.6** J	3.1 U	3.3 U	**3.1**	**5.9**	
Phenanthrene	1,100	1,100	3.8 U	**2.5** J	**6.1** J	1.5 U	**0.72** J	1.5 U	**0.29** J	**0.37** J	**0.41** J	**60.6**	**2.6**	**11.1**	**0.43** J
Phenol	2,000	2,000	20 U	40 U	40 U	8.1 U	8.1 U	8.1 U	8.2 U	**18**	**4.3** J	8.3 U	**8.7**	**17.8**	**10.3**
Pyrene	130	130	3.8 U	**1.3** J	**9.3**	1.5 U	**2.1**	1.5 U	**4.3**	**0.38** J	**0.34** J	**22.3**	**1.3** J	**3.1**	1.5 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-125	GWG-125Dup	GWG-126	GWG-126D	GWG-127	GWG-128	GWG-129	GWG-130	GWG-131	GWG-132	GWG-133	GWG-134	GWG-135
Sample ID			GWG-125	GWG-125Dup	GWG-126	GWG-126D	GWG-127	GWG-128	GWG-129	GWG-130	GWG-131	GWG-132	GWG-133	GWG-134	GWG-135
Date			10/31/2023	10/31/2023	11/3/2023	11/3/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	11/3/2023	11/3/2023	11/3/2023
Volatile Organic Compounds (µg/L) [(1)]															
1,4-Dichlorobenzene	75	75	50 U	5 U	50 U	50 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	500 U	5 U
2-Butanone	4,000	4,000	500 U	50 U	500 U	500 U	50 U	50 U	50 U	50 U	50 U	500 U	50 U	5000 U	50 U
Acetone	31,000	88,000	500 U	50 U	500 U	500 U	24.5 J	22.1 J	50 U	40 J	50 U	500 U	50 U	5000 U	50 U
Benzene	5	5	1570	1730	6700	6630	6170	16100	14.4	4.1 J	2.1 J	35.2 J	49	3540	11.6
Bromomethane	10	10	50 U	5 U	50 U	50 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	500 U	5 U
Carbon Disulfide	1,500	6,200	50 U	5 U	50 U	50 U	14.4	2.3 J	5 U	5 U	5 U	50 U	5 U	500 U	5 U
Chlorobenzene	100	100	50 U	5 U	50 U	50 U	2.1 J	5 U	5 U	5 U	5 U	50 U	5 U	500 U	5 U
Chloromethane	30	30	50 U	5 U	50 U	50 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	500 U	5 U
cis-1,3-Dichloropropene	NE	NE	50 U	5 U	50 U	50 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	500 U	5 U
Cyclohexane	13,000	53,000	50 U	5 U	50 U	50 U	6.8	17.9	5 U	5 U	5 U	50 U	5 U	500 U	5 U
Ethylbenzene	700	700	42.3 J	39.7	1980	2020	1890	145	2.7 J	5 U	5 U	50 U	3.6 J	500 U	5 U
Isopropylbenzene	840	3,500	50 U	3.7 J	50 U	50 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	500 U	5 U
Methyl acetate	35,000	97,000	100 U	10 U	100 U	100 U	10 U	10 U	10 U	10 U	10 U	100 U	10 U	1000 U	10 U
Methyl cyclohexane	NE	NE	50 U	5 U	50 U	50 U	5 U	13.1	5 U	5 U	5 U	50 U	5 U	500 U	5 U
m&p-Xylene [(2)]	10,000 [(3)]	10,000 [(3)]	86.6 J	57.1	39500 E	40700 E	27300	1870	26.6	12.5	7.5 J	58.9 J	6.2 J	697 J	10 U
o-Xylene	10,000 [(3)]	10,000 [(3)]	74.6	67	11500 E	11700 E	8670	515	5.2	2.1 J	5 U	18.1 J	4.3 J	205 J	5 U
Styrene	100	100	50 U	5	50 U	50 U	1420	54.3	1.6 J	5 U	5 U	50 U	5 U	500 U	5 U
Toluene	1,000	1,000	112	101	21300 E	21500 E	7390	3990	12.7	4.3 J	2.3 J	15.2 J	3.7 J	471 J	1.9 J
Total Xylenes	10,000	10,000	161	124	51000 E	52400 E	36000	2390	31.7	14.6 J	7.5 J	77.1 J	10.5 J	901 J	15 U
Semi-Volatile Organic Compounds (µg/L) [(4)]															
1,4-Dioxane	6.5	27	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
2,4-Dimethylphenol	690	1,900	16.8	16.1	12.2 U	94.7	2660	58.7	15 U	15 U	15 U	0.97 J	30 U	70.5	3 U
2,4-Dinitrophenol	69	190	6.3 U	6 U	22.8 J	24 U	6 U	6.3 U	30 U	30 U	30 U	6 U	60 U	15 U	6 U
2-Methylnaphthalene	6.3	26	3.4	4.3	7.6	8.9	100	408	1.8 J	7.5 U	7.5 U	80.6	15 U	63.7	1.5 U
2-Nitrophenol	280	780	3.2 U	3 U	12.2 U	12 U	28.2	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
4-Nitrophenol	60	60	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
Acenaphthene	2,100	3,800	15.8	14.6	6.1 U	6 U	4.7	3.5	7.5 U	7.5 U	7.5 U	7.5	18.1	8.1	0.44 J
Acenaphthylene	2,100	5,800	16.6	22.6	6.1 U	6 U	55.2	7.8	7.5 U	7.5 U	7.5 U	13	38.6	40.9	2.5
Acetophenone	3,500	9,700	1.4 J	1 J	117	111	3 U	117	15 U	15 U	15 U	0.63 J	30 U	3.8 J	3 U
Anthracene	66	66	5.4	6	6.1 U	6 U	67.8	2.9	7.5 U	7.5 U	7.5 U	36.8	15 U	14.3	0.55 J
Benzaldehyde	NE	NE	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
Benzo(a)anthracene	0.3	3.9	0.31 J	0.29 J	6.1 U	6 U	74.5	2.2	7.5 U	7.5 U	7.5 U	25.6	29.5	3.8 U	0.66 J
Benzo(a)pyrene	0.2	0.2	1.6 U	1.5 U	6.1 U	6 U	61.4	1.4 J	7.5 U	7.5 U	7.5 U	20.5	17.6	0.65 J	1.5 U
Benzo(b)fluoranthene	0.18	1.2	1.6 U	1.5 U	6.1 U	6 U	53	1.5 J	7.5 U	7.5 U	7.5 U	18.4	30	3.8 U	1.5 U
Benzo(g,h,i)perylene	0.26	0.26	1.6 U	1.5 U	6.1 U	6 U	29.3	0.76 J	7.5 U	7.5 U	7.5 U	10.5	11.5 J	3.8 U	1.5 U
Benzo(k)fluoranthene	0.18	0.55	1.6 U	1.5 U	6.1 U	6 U	52.4	1.1 J	7.5 U	7.5 U	7.5 U	17.1	15 U	3.8 U	1.5 U
Biphenyl	0.84	3.5	12.7	13.2	12.2 U	12 U	23.2	16.4	15 U	15 U	15 U	4.1	16.6 J	18.4	3 U
bis(2-Chloroethoxy)methane	100	290	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
bis(2-Ethylhexyl)phthalate	6	6	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
Caprolactam	NE	NE	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	0.3 J
Carbazole	33	140	73.1	71.9	1.1 J	12 U	187	6.2	15 U	15 U	15 U	44.2	24.1 J	79	1.4 J
Chrysene	1.8	1.9	0.29 J	0.28 J	6.1 U	6 U	59.1	2.1	7.5 U	7.5 U	7.5 U	25.1	34.4	3.8 U	0.5 J
Dibenzo(a,h)anthracene	0.052	0.6	1.6 U	1.5 U	6.1 U	6 U	10.6	0.31 J	7.5 U	7.5 U	7.5 U	3.2	15 U	3.8 U	1.5 U
Dibenzofuran	35	97	30.8	30.6	12.2 U	12 U	79.1	22.2	15 U	15 U	15 U	69.4	35.6	46.4	1.6 J
Diethylphthalate	28,000	78,000	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-125	GWG-125Dup	GWG-126	GWG-126D	GWG-127	GWG-128	GWG-129	GWG-130	GWG-131	GWG-132	GWG-133	GWG-134	GWG-135
Sample ID			GWG-125	GWG-125Dup	GWG-126	GWG-126D	GWG-127	GWG-128	GWG-129	GWG-130	GWG-131	GWG-132	GWG-133	GWG-134	GWG-135
Date			10/31/2023	10/31/2023	11/3/2023	11/3/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	11/3/2023	11/3/2023	11/3/2023
Semi-Volatile Organic Compounds (µg/L) [4] (cont.)															
Dimethylphthalate	NE	NE	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
Di-n-Butylphthalate	3,500	9,700	3.2 U	3 U	12.2 U	12 U	3 U	3.2 U	15 U	15 U	15 U	3 U	30 U	7.5 U	3 U
Fluoranthene	260	260	**5.7**	**5.5**	6.1 U	6 U	**42.7**	**9.2**	**2.3** J	**1.4** J	7.5 U	**72**	**75.3**	**13**	**7**
Fluorene	1,400	1,900	**29.7**	**29.6**	**22.9**	**32.7**	**92.2**	**28.3**	7.5 U	7.5 U	7.5 U	**78.9**	**4880** E	**43.9**	**1.6**
Indeno(1,2,3-cd)pyrene	0.18	2.3	1.6 U	1.5 U	6.1 U	6 U	**34.2**	**0.78** J	7.5 U	7.5 U	7.5 U	**10.9**	**12.8** J	3.8 U	1.5 U
m&p-Cresol [5]	170 [6]	490 [6]	3.2 U	**3.4**	**17**	**13.3**	**10100**	**207**	15 U	15 U	15 U	3 U	30 U	**11.4**	3 U
Naphthalene	100	100	**125**	**1410**	**1180**	**1360**	**5160**	**4870**	**9.3**	**1.4** J	**2** J	**598**	**2960** E	**2970**	**0.7** J
o-Cresol	1,700	4,900	3.2 U	**13.4**	**25.8**	**26.5**	**5350**	**211**	15 U	15 U	15 U	3 U	30 U	**14.5**	3 U
Phenanthrene	1,100	1,100	**20.2**	**30.7**	6.1 U	6 U	**75**	**26.7**	**2.9** J	**1.7** J	7.5 U	**204**	**149**	**76.8**	**0.31** J
Phenol	2,000	2,000	**11.2**	**12.2**	**23.3** J	**17.6** J	**8130**	**412**	40 U	40 U	40 U	8 U	80 U	**14.2** J	8 U
Pyrene	130	130	**4**	**3.7**	6.1 U	6 U	**117**	**6.7**	**1.9** J	7.5 U	7.5 U	**60**	**55**	**9.5**	**3.3**

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-136	GWG-137	GWG-138	GWG-139	GWG-140	GWG-141	GWG-142	GWG-143	GWG-144	GWG-145	GWG-146	GWG-147	GWG-147D
Sample ID			GWG-136	GWG-137	GWG-138	GWG-139	GWG-140	GWG-141	GWG-142	GWG-143	GWG-144	GWG-145	GWG-146	GWG-147	GWG-147D
Date			11/3/2023	11/7/2023	11/7/2023	11/6/2023	11/6/2023	11/6/2023	11/7/2023	11/7/2023	11/6/2023	11/6/2023	11/6/2023	11/6/2023	11/6/2023
Volatile Organic Compounds (µg/L) [1]															
1,4-Dichlorobenzene	75	75	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U
2-Butanone	4,000	4,000	2500 U	500 U	500 U	50 U	500 U	5000 U	500 U	500 U	500 U	5000 U	500 U	500 U	500 U
Acetone	31,000	88,000	2500 U	500 U	500 U	50 U	500 U	5000 U	500 U	500 U	500 U	5000 U	500 U	500 U	500 U
Benzene	5	5	**4910**	**3160**	**3250**	**10.4**	50 U	**13100**	**18000** E	**406**	**187**	**8430**	**1600**	**66.4**	**65.8**
Bromomethane	10	10	250 U	**20.8** J	50 U	5 U	50 U	500 U	50 U	**27.4** J	50 U	500 U	50 U	50 U	50 U
Carbon Disulfide	1,500	6,200	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U
Chlorobenzene	100	100	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U
Chloromethane	30	30	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U
cis-1,3-Dichloropropene	NE	NE	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U
Cyclohexane	13,000	53,000	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U
Ethylbenzene	700	700	**206** J	**64.7**	**3520**	5 U	50 U	**2540**	50 U	**78.5**	50 U	**1210**	**24.2** J	50 U	50 U
Isopropylbenzene	840	3,500	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	**15.9** J	500 U	50 U	50 U	50 U
Methyl acetate	35,000	97,000	500 U	100 U	100 U	10 U	100 U	1000 U	100 U	100 U	100 U	1000 U	100 U	100 U	100 U
Methyl cyclohexane	NE	NE	250 U	50 U	50 U	5 U	50 U	500 U	50 U	50 U	50 U	500 U	50 U	50 U	50 U
m&p-Xylene [2]	10,000 [3]	10,000 [3]	**2470**	**485**	**370**	10 U	100 U	**42000**	**1460**	**89.6** J	100 U	**625** J	**71.5** J	100 U	100 U
o-Xylene	10,000 [3]	10,000 [3]	**884**	**230**	**208**	**8.4**	50 U	**13000**	**422**	**77.4**	50 U	**268** J	**43.1** J	50 U	50 U
Styrene	100	100	**240** J	**122**	**77**	5 U	50 U	**170** J	**164**	50 U	50 U	500 U	50 U	50 U	50 U
Toluene	1,000	1,000	**1240**	**661**	**740**	5 U	50 U	**29700**	**5530**	**62.3**	50 U	**481** J	**56.8**	50 U	50 U
Total Xylenes	10,000	10,000	**3360**	**715**	**577**	**8.4** J	150 U	**55000**	**1880**	**167**	150 U	**892** J	**115** J	150 U	150 U
Semi-Volatile Organic Compounds (µg/L) [4]															
1,4-Dioxane	6.5	27	15 U	30 U	30 U	**0.54** J	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
2,4-Dimethylphenol	690	1,900	**593**	**1230**	**2490**	3.1 U	3 U	**75.5**	**1780**	30 U	**63.6**	**3370**	**264**	**7** J	**5.1** J
2,4-Dinitrophenol	69	190	30 U	60 U	60 U	6.1 U	6 U	15 U	60 U	60 U	6 U	124 U	124 U	15 U	15 U
2-Methylnaphthalene	6.3	26	**386**	**554**	**352**	**0.57** J	1.5 U	**10.8**	**669**	**168**	**43.6**	**158**	**31.6**	**0.92** J	3.8 U
2-Nitrophenol	280	780	15 U	30 U	30 U	3.1 U	3 U	**15.2**	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
4-Nitrophenol	60	60	15 U	30 U	30 U	3.1 U	3 U	**10.5**	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
Acenaphthene	2,100	3,800	**25**	**21.9**	**16.3**	**2.9**	1.5 U	3.8 U	**14.2** J	**7.2** J	**29.8**	**18.2** J	31 U	3.8 U	3.8 U
Acenaphthylene	2,100	5,800	**352**	**323**	**166**	**15.8**	1.5 U	**0.78** J	**337**	**9.8** J	**14.2**	**22.6** J	**11.5** J	**1.2** J	**0.63** J
Acetophenone	3,500	9,700	15 U	30 U	30 U	**0.8** J	3 U	**608** E	30 U	30 U	3 U	**130**	62 U	7.5 U	7.5 U
Anthracene	66	66	**62.1**	**90.1**	**33.6**	**2.6**	1.5 U	3.8 U	**29.2**	**19.8**	**32.2**	**20.7** J	**5.3** J	**1** J	3.8 U
Benzaldehyde	NE	NE	15 U	30 U	**114**	3.1 U	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
Benzo(a)anthracene	0.3	3.9	**34.5**	**54.2**	**3.7** J	1.5 U	1.5 U	3.8 U	**7.4** J	**4** J	1.5 U	**7.4** J	31 U	**2.2** J	**0.84** J
Benzo(a)pyrene	0.2	0.2	**29**	**45.7**	15 U	1.5 U	1.5 U	3.8 U	**4.5** J	**2.6** J	1.5 U	**6** J	31 U	**2** J	**0.8** J
Benzo(b)fluoranthene	0.18	1.2	**33.4**	**36.2**	15 U	1.5 U	1.5 U	3.8 U	**4.7** J	15 U	1.5 U	**6.8** J	31 U	**2** J	**0.93** J
Benzo(g,h,i)perylene	0.26	0.26	**14.4**	**23.6**	15 U	1.5 U	1.5 U	3.8 U	15 U	15 U	1.5 U	31 U	31 U	**1.4** J	3.8 U
Benzo(k)fluoranthene	0.18	0.55	**12.9**	**37.7**	15 U	1.5 U	1.5 U	3.8 U	**4** J	15 U	1.5 U	31 U	31 U	3.8 U	**0.77** J
Biphenyl	0.84	3.5	**73.5**	**67.2**	**62.9**	**1.4** J	3 U	**0.7** J	**63**	30 U	**36.8**	**37** J	62 U	7.5 U	7.5 U
bis(2-Chloroethoxy)methane	100	290	15 U	30 U	30 U	3.1 U	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
bis(2-Ethylhexyl)phthalate	6	6	15 U	30 U	30 U	3.1 U	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
Caprolactam	NE	NE	15 U	30 U	30 U	3.1 U	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
Carbazole	33	140	**512**	**508**	**651**	**0.47** J	3 U	**5.6** J	**580**	**125**	**249**	**399**	**38.1** J	**3.3** J	**1.7** J
Chrysene	1.8	1.9	**34.2**	**53.8**	**2.6** J	1.5 U	1.5 U	3.8 U	**6.8** J	**3.9** J	1.5 U	**7.6** J	31 U	**2.3** J	**0.93** J
Dibenzo(a,h)anthracene	0.052	0.6	**4.1** J	**6.4** J	15 U	1.5 U	1.5 U	3.8 U	15 U	15 U	1.5 U	31 U	31 U	3.8 U	3.8 U
Dibenzofuran	35	97	**188**	**179**	**155**	**13.4**	3 U	**0.79** J	**135**	**52.5**	**191**	**121**	**7.4** J	7.5 U	7.5 U
Diethylphthalate	28,000	78,000	15 U	30 U	30 U	3.1 U	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U

TABLE 2

SUMMARY OF DETECTED ANALYTICAL RESULTS - GROUNDWATER
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

Site ID	PADEP Residential Groundwater MSCs (Used Aquifer; TDS≤2500)	PADEP Nonresidential Groundwater MSCs	GWG-136	GWG-137	GWG-138	GWG-139	GWG-140	GWG-141	GWG-142	GWG-143	GWG-144	GWG-145	GWG-146	GWG-147	GWG-147D
Sample ID			GWG-136	GWG-137	GWG-138	GWG-139	GWG-140	GWG-141	GWG-142	GWG-143	GWG-144	GWG-145	GWG-146	GWG-147	GWG-147D
Date			11/3/2023	11/7/2023	11/7/2023	11/6/2023	11/6/2023	11/6/2023	11/7/2023	11/7/2023	11/6/2023	11/6/2023	11/6/2023	11/6/2023	11/6/2023
Semi-Volatile Organic Compounds (µg/L) [4] (cont.)															
Dimethylphthalate	NE	NE	15 U	30 U	30 U	3.1 U	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
Di-n-Butylphthalate	3,500	9,700	15 U	30 U	30 U	3.1 U	3 U	7.5 U	30 U	30 U	3 U	62 U	62 U	7.5 U	7.5 U
Fluoranthene	260	260	**107**	**182**	**30.5**	**1.6**	1.5 U	3.8 U	**30.3**	**19.5**	**33.9**	**30.7** J	31 U	**5.5**	**2.7** J
Fluorene	1,400	1,900	**217**	**214**	**145**	**14.4**	1.5 U	**6.4**	**137**	**61.4**	**79**	**135**	**7.9** J	**1.2** J	3.8 U
Indeno(1,2,3-cd)pyrene	0.18	2.3	**17**	**26.3**	15 U	1.5 U	1.5 U	3.8 U	15 U	15 U	1.5 U	31 U	31 U	**1.4** J	3.8 U
m&p-Cresol [5]	170 [6]	490 [6]	**484**	**1630**	**7420**	3.1 U	3 U	**205**	**1780**	30 U	**25.5**	**649**	**35.1** J	**1.5** J	7.5 U
Naphthalene	100	100	**12000**	**14100**	**7610**	**12.1**	1.5 U	**606** E	**14200**	**1450**	**2040** E	**4860** E	**1230**	**32.1**	**23.4**
o-Cresol	1,700	4,900	**578**	30 U	**5690**	3.1 U	3 U	**222**	30 U	30 U	**39.9**	**5210** E	**531**	**4.9** J	**3.3** J
Phenanthrene	1,100	1,100	**312**	**375**	**174**	**11.5**	1.5 U	3.8 U	**138**	**79.4**	**69.7**	**147**	**5.4** J	**1.9** J	**0.63** J
Phenol	2,000	2,000	**285**	**1060**	**6700**	8.2 U	8.1 U	**380**	**585**	80 U	**14.8**	165 U	**10.9** J	20 U	20 U
Pyrene	130	130	**97.1**	**104**	**17**	**0.9** J	1.5 U	3.8 U	**17.1**	**11.5** J	**17.3**	**19.9** J	31 U	**3.3** J	**1.6** J

Notes/Qualifiers:

µg/L - microgram per liter
E - result exceeded calibration range
GWG - groundwater grab
J - result is less than the RL but greater than or equal to the MDL; estimated
MDL - Method Detection Limit
MSC - Medium-Specific Concentration
NE - Not Established
PADEP - Pennsylvania Department of Environmental Protection
RL - Reporting Limit
SVOC - Semi-volatile Organic Compound
TDS - Total Dissolved Solids
U - Not Detected
VOC - Volatile Organic Compound

Bolded - Concentration is detected in the sample
Shaded - Detected concentration exceeds the PADEP Residential Groundwater MSC
Boxed - Detected concentration exceeds the PADEP Nonresidential Groundwater MSC

It is noted that several of the nondetect results have reporting limits that exceed the respective screening criteria.

[1] - An additional 33 VOCs were analyzed for, but not detected.
[2] - Not a single chemical but a mixture of the isomers m-xylene and p-xylene.
[3] - Total Xylene used as a surrogate.
[4] - An additional 32 SVOCs were analyzed for, but not detected.
[5] - Not a single chemical but a mixture of the isomers m-cresol and p-cresol.
[6] - p-Cresol used as a surrogate.

TABLE 3

SUMMARY OF DETECTED ANALYTICAL RESULTS - QA/QC
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

	Equipment Rinsates					Field Blanks	Trip Blanks						
Sample ID	ER-1	ER-2	ER-3	ER-4	ER-5	FB-1	TB-1	TB-2	TB-3	TB-4	TB-5	TB-6	TB-7
Date	9/28/2023	10/6/2023	10/17/2023	10/24/2023	11/1/2023	10/6/2023	9/26/2023	9/28/2023	9/29/2023	10/2/2023	10/4/2023	10/6/2023	10/10/2023
Volatile Organic Compounds (µg/L)													
1,3-Dichlorobenzene	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	1 U	1 U	1 U	5 U	1 U	1 U	**0.62** J	**0.56** J	1 U	1 U	**0.63** J	1 U	1 U
Carbon Disulfide	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	**0.92** J	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	**22.1**	**18**	**13.3**	**8**	**13.1**	**19.2**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	**0.43** J	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl acetate	2 U	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methylene Chloride	**0.59** J	**0.51** J	1 U	5 U	1 U	**0.6** J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Semi-Volatile Organic Compounds (µg/L)													
Diethylphthalate	3.8 U	3 U	3 U	**0.29** J	3 U	3.2 U	---	---	---	---	---	---	---
Dimethylphthalate	3.8 U	**0.43** J	3 U	3 U	3 U	**0.47** J	---	---	---	---	---	---	---
Di-n-Butylphthalate	**0.97** J	3 U	**0.31** J	**1.3** J	3 U	3.2 U	---	---	---	---	---	---	---
Naphthalene	1.9 U	1.5 U	1.5 U	1.5 U	**1.1** J	1.6 U	---	---	---	---	---	---	---
Phenanthrene	1.9 U	1.5 U	1.5 U	1.5 U	**0.35** J	1.6 U	---	---	---	---	---	---	---
PCBs (µg/L)													
None Detected													
Metals (mg/L)													
Aluminum	**0.2**	0.11 U	0.11 U	**0.33** J	0.11 U	---	---	---	---	---	---	---	---
Calcium	**1**	**0.068** J	**0.06** J	**4.5**	**0.15**	---	---	---	---	---	---	---	---
Iron	**0.26**	0.067 U	0.067 U	**0.53**	0.067 U	---	---	---	---	---	---	---	---
Magnesium	**0.098** J	0.11 U	0.11 U	**0.33** J	0.11 U	---	---	---	---	---	---	---	---
Manganese	**0.012**	0.0056 U	0.0056 U	**0.033**	0.0056 U	---	---	---	---	---	---	---	---
Sodium	**0.24** J	0.56 U	0.56 U	**1.6** J	0.56 U	---	---	---	---	---	---	---	---

TABLE 3

SUMMARY OF DETECTED ANALYTICAL RESULTS - QA/QC
PHASE II LETTER REPORT
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA

	Trip Blanks											
Sample ID	TB-8	TB-9	TB-10	TB-11	TB-12	TB-13	TB-14	TB-15	TB-16	TB-17	TB-18	TB-19
Date	10/11/2023	10/13/2023	10/18/2023	10/19/2023	10/20/203	10/24/2023	10/26/2023	10/27/2023	10/31/2023	11/2/2023	11/3/2023	11/7/2023
Volatile Organic Compounds (µ												
1,3-Dichlorobenzene	1 U	1 U	1 U	**0.26** J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	10 U	10 U	10 U	**4.3** J	**3.6** J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	1 U	1 U	1 U	**1.1**	**2**	1 U	1 U	1 U	**0.6** J	1 U	1 U	1 U
Carbon Disulfide	1 U	1 U	1 U	**0.6** J	**0.45** J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	1 U	1 U	1 U	**0.55** J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	**0.72** J	**0.41** J	**0.37** J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl acetate	2 U	2 U	2 U	**0.54** J	**0.33** J	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	**0.65** J	**0.66** J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Semi-Volatile Organic Compour												
Diethylphthalate	---	---	---	---	---	---	---	---	---	---	---	---
Dimethylphthalate	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-Butylphthalate	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	---	---	---	---	---	---	---	---	---	---	---	---
PCBs (µg/L)												
None Detected												
Metals (mg/L)												
Aluminum	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	---	---	---	---	---	---	---	---	---	---	---	---
Iron	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	---	---	---	---	---	---	---	---	---	---	---	---

Notes/Qualifiers:

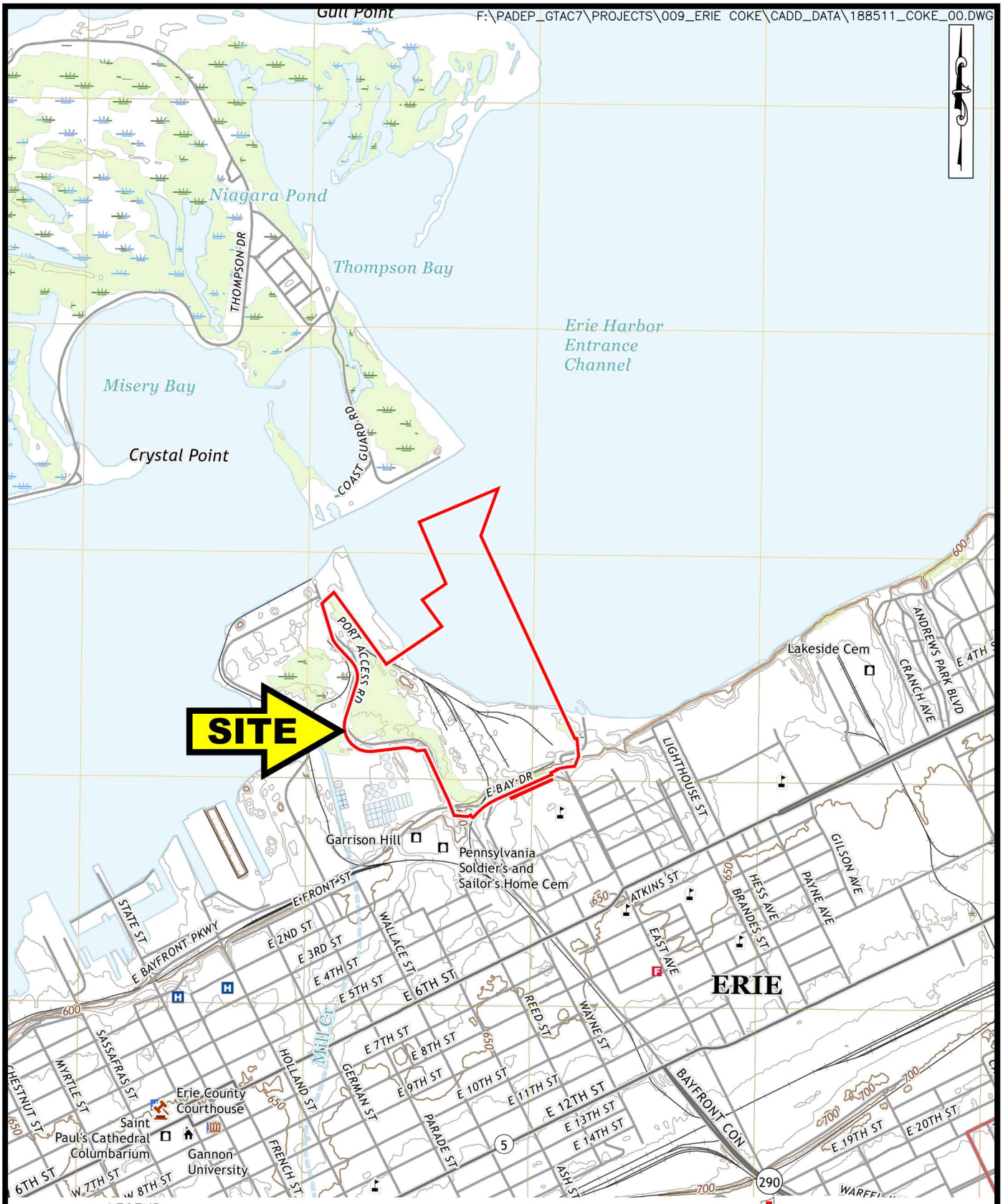
--- - Not Analyzed
µg/L - microgram per liter
J - result is less than the RL but greater than or equal to the MDL; estimated
MDL - Method Detection Limit
mg/L - milligram per liter
ND - Not Detected

PCB - Polychlorinated Biphenyl
QA/QC - Quality Assurance/Quality Control
RL - Reporting Limit
SVOC - Semi-volatile Organic Compound
U - Not Detected
VOC - Volatile Organic Compound

Bolded - Concentration is detected in the sample.

(1) - An additional 52 VOCs were analyzed for, but not detected
(2) - An additional 68 SVOCs were analyzed for, but not detected
(3) - 10 PCBs were analyzed for, but not detected.
(4) - An additional 23 metals were analyzed for, but not detected

FIGURES

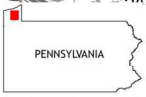


LEGEND

—PROPERTY BOUNDARY (2023)

SOURCE:
USGS: ERIE NORTH, PA; 2019

FIGURE 1
SITE LOCATION MAP
ERIE COKE SITE
CITY OF ERIE, ERIE COUNTY, PENNSYLVANIA



QUADRANGLE LOCATION

SCALE:	0 — 2000	DATE:	MARCH 2023
S.O. NO.:	188511	FILE:	188511_COKE_00
DSN/DWN:	DMG/RRR	CHK:	CHK

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OBG|Baker Environmental Solutions Joint Venture

SCALE: 0 500

S.O. NO.: 188511

DSN/DWN: CHK/RRR

DATE: DECEMBER 2023

FILE: 188511_COKE_01

CHK: CHK

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OBG|Baker Environmental Solutions Joint Venture

FIGURE 2
SITE FEATURES MAP
ERIE COKE SITE
ERIE COUNTY, PENNSYLVANIA

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NOTE:
DATE OF PHOTOGRAPH UNKNOWN

SCALE:	NOT TO SCALE	DATE:	DECEMBER 2023
S.O. NO.:	188511	FILE:	188511_COKE_01
DSN/DWN:	CHK/RRR	CHK:	CHK

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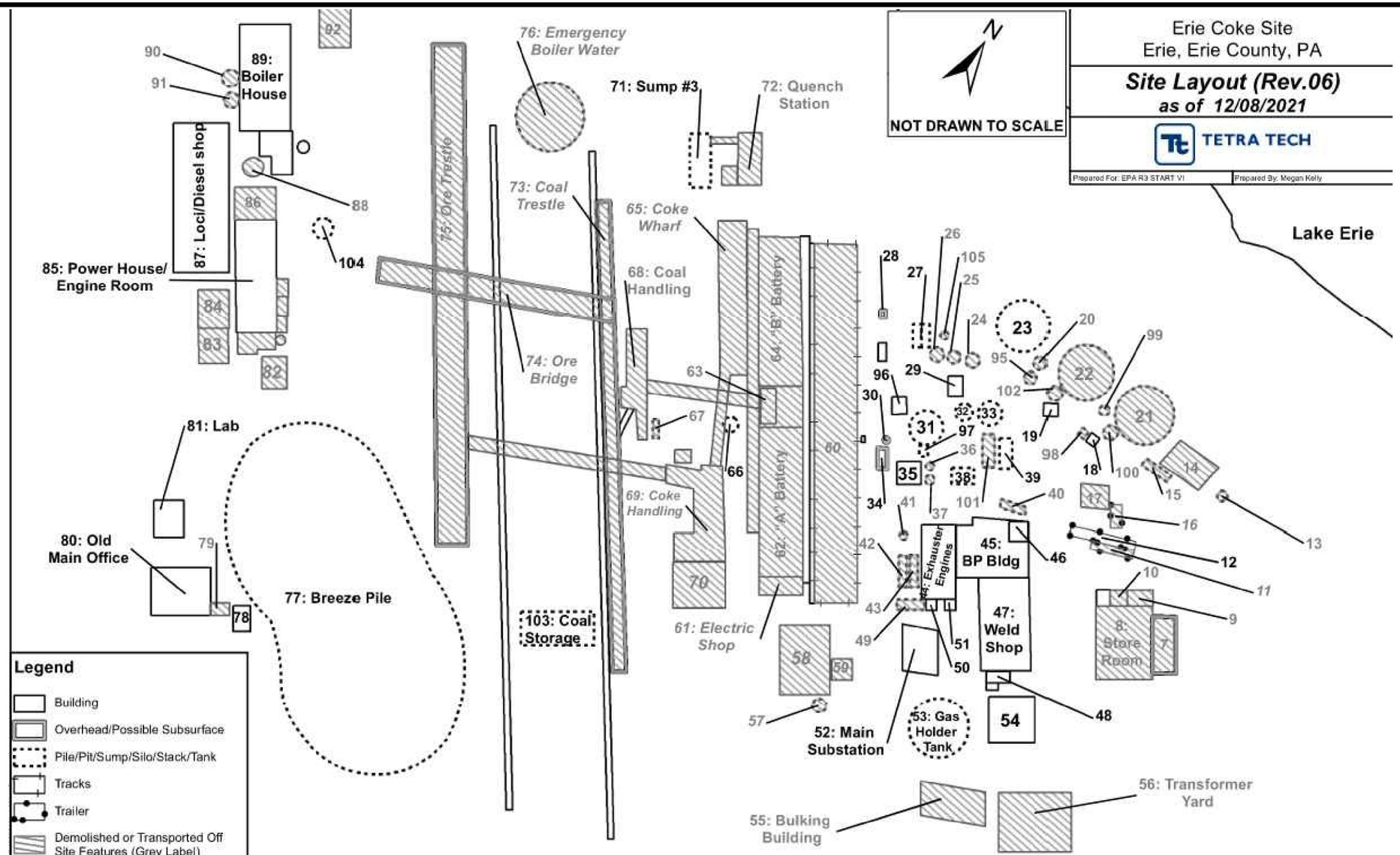
OBG|Baker Environmental Solutions Joint Venture

FIGURE 3
HISTORICAL OPERATIONS AERIAL MAP
ERIE COKE SITE
ERIE COUNTY, PENNSYLVANIA



1 Electric Shop
2 Safety/ Personnel Building
3 Nurse
4 Guard House
5 Truck Scale
6 Office
7 Dock
8 Store Room
9 Purchase Office
10 Electric Office
11 Trailer #4
12 Trailer #3
13 Soda Silo
14 Waste Water Office
15 Caustic Tank
16 Women's Trailer
17 Forman's Office
18 Meter/Acid Building
19 Chemical Feed Building
20 Wash Tank
21 SBR2
22 SBR1
23 T-101
24 Liquor Settling 3
25 Liquor Settling 2
26 Liquor Settling 1
27 Sump/Covered Pit
28 Sump #1
29 Phenol Pump House
30 City Water Plant
31 Tar Storage Tank
32 Waste Water Tank
33 Liquor Storage
34 Natural Gas
35 Pump House
36 Absorber
37 Thionizer
38 BP Pit/Sump #2
39 T-33
40 T-3
41 Hot Drain Tank
42 West Decantor
43 East Decantor
44 Exhauster Engines
45 By-Products Building
46 Sulfur Pit
47 Weld Shop & Maintenance Office
48 Fire Pump
49 Flushing Liquor Tank
50 Storage
51 Hourly Lunch Room
52 Main Substation
53 Gas Holder
54 Main Shower Building/Lockers
55 Bulking Building
56 Transformer Yard
57 Stack #1
58 Bag House
59 Control Room
60 Pusher Tracks
61 Electric Shop
62 "A" Battery
63 Coal Bins
64 "B" Battery
65 Coke Wharf
66 Stack #2
67 Bulk Density Oil
68 Coal Handling
69 Coke Handling
70 Conveyor Belts
71 Sump #3
72 Quench Station
73 Coal Trestle
74 Ore Bridge
75 Ore Trestle
76 Emergency Boiler Water for Coal Field Sprays
77 Breeze Pile
78 Western Storage Building #3
79 City Water Lines
80 Old Main Office
81 Lab
82 Western Storage Building #1
83 Western Shower House
84 Western Storage Building #2
85 Power House/Engine Room
86 Lake Water Pump
87 Loci/Diesel Shop
88 Deaerator
89 Boiler House
90 Coal Silo #1
91 Coal Silo #2
92 Thaw Shed
93 R.R. Scale House
94 H2O Storage House
95 Clarifier Tank
96 Fire Supply House
97 Battery Pit
98 AB-W-02
99 Sulfur Sludge Tank
100 Lake Water Tank
101 Rain Water Tank
102 Tank 103
103 Coal Storage
104 Containment Ring
105 Flare

IMAGE SOURCE: TETRA TECH 2021

SCALE: NOT TO SCALE
S.O. NO.: 188511
DSN/DWN: CHK/RRR
DATE: DECEMBER 2023
FILE: 188511_COKE_01
CHK: CHK

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FIGURE 4
HISTORICAL SITE LAYOUT
ERIE COKE SITE
ERIE COUNTY, PENNSYLVANIA

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LEGEND

—PROPERTY BOUNDARY (SURVEY 2023)

IMAGE SOURCE: GOOGLE; 04/2022

SCALE:	NOT TO SCALE
DATE:	DECEMBER 2023
DSN/DWN:	CHK/RRR
FILE:	188511_COKE_16

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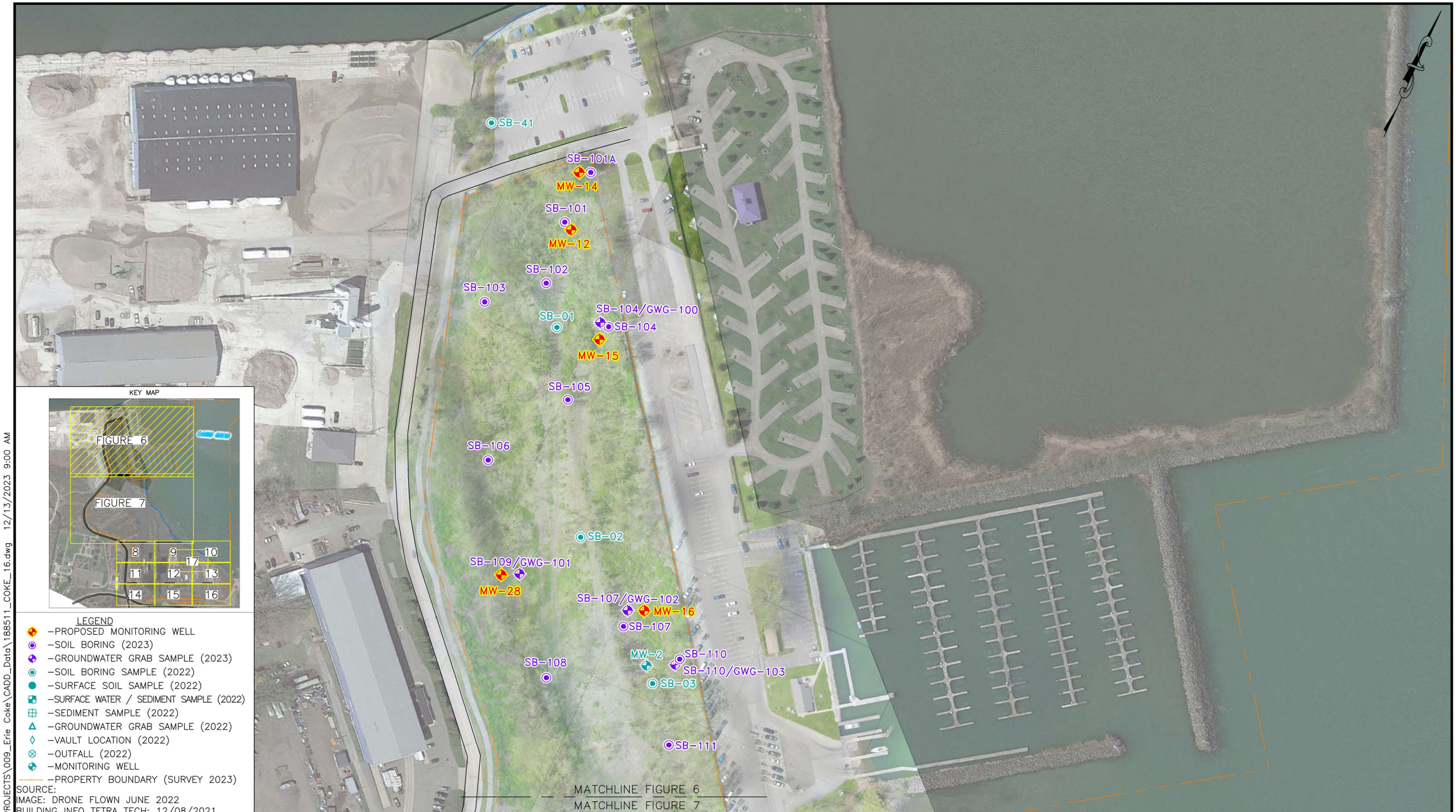
FIGURE 5
PROPOSED PHASE II MONITORING WELL LOCATIONS
ERIE COKE SITE
ERIE, PENNSYLVANIA



LEGEND

- –PROPOSED MONITORING WELL
- –SOIL BORING (2023)
- –GROUNDWATER GRAB SAMPLE (2023)
- –SOIL BORING SAMPLE (2022)
- –SURFACE SOIL SAMPLE (2022)
- –SURFACE WATER / SEDIMENT SAMPLE (2022)
- –SEDIMENT SAMPLE (2022)
- –GROUNDWATER GRAB SAMPLE (2022)
- –VAULT LOCATION (2022)
- –OUTFALL (2022)
- –MONITORING WELL
- –PROPERTY BOUNDARY (SURVEY 2023)

SOURCE:
IMAGE: DRONE FLOWN JUNE 2022
BUILDING INFO TETRA TECH: 12/08/2021

SCALE: 0 160 1" = 160'
S.O. NO.: 188511
DSN/DWN: CHK/RRR

DATE: DECEMBER 2023
FILE: 188511_COKE_16
CHK: CHK

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FIGURE 6
PROPOSED PHASE II MONITORING WELL LOCATIONS
LAMPE MARINA AREA
ERIE COKE SITE
ERIE, PENNSYLVANIA

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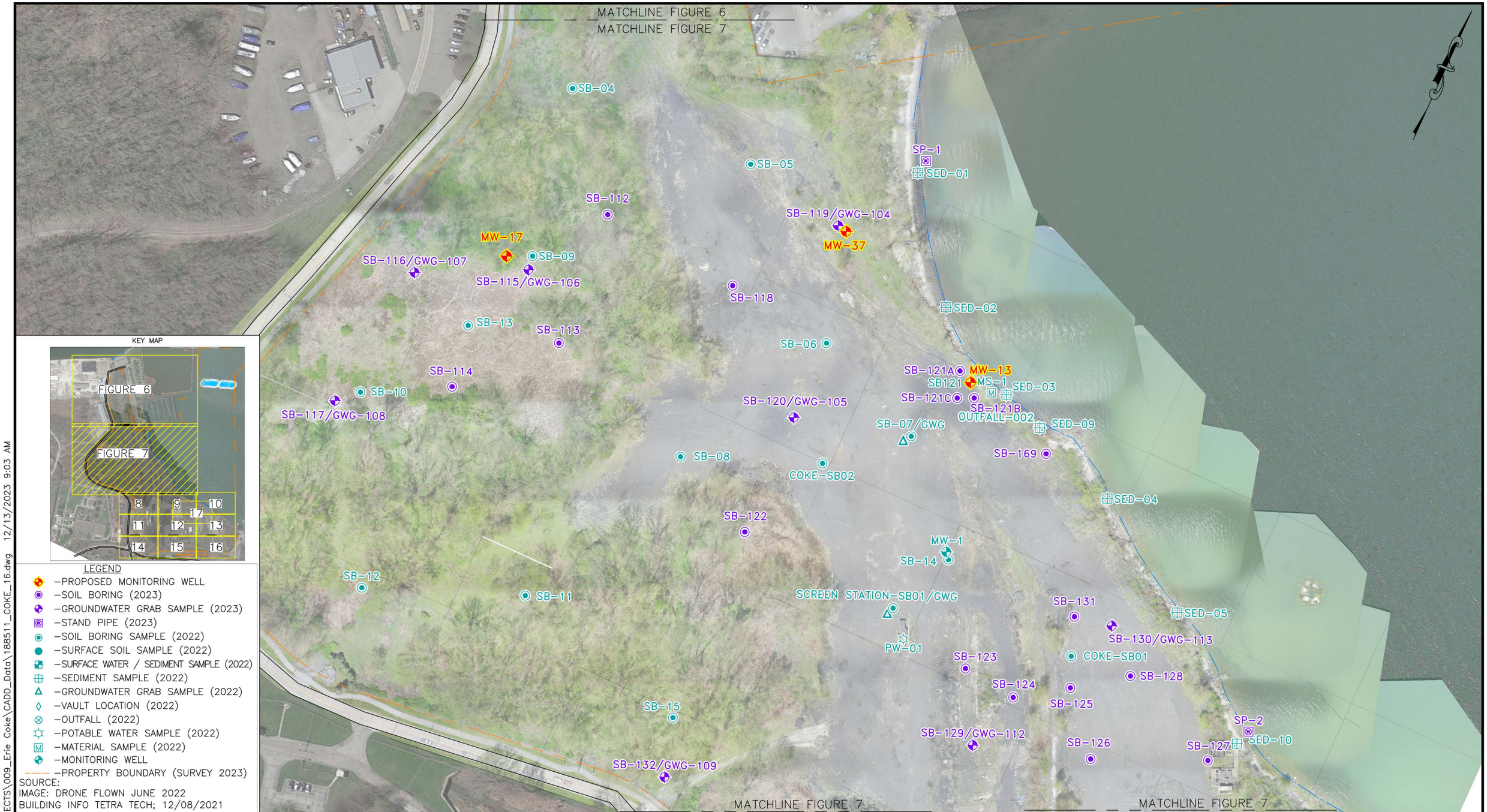

KEY MAP

LEGEND

- –PROPOSED MONITORING WELL
- –SOIL BORING (2023)
- –GROUNDWATER GRAB SAMPLE (2023)
- –STAND PIPE (2023)
- –SOIL BORING SAMPLE (2022)
- –SURFACE SOIL SAMPLE (2022)
- –SURFACE WATER / SEDIMENT SAMPLE (2022)
- –SEDIMENT SAMPLE (2022)
- –GROUNDWATER GRAB SAMPLE (2022)
- –VAULT LOCATION (2022)
- –OUTFALL (2022)
- –POTABLE WATER SAMPLE (2022)
- –MATERIAL SAMPLE (2022)
- –MONITORING WELL
- –PROPERTY BOUNDARY (SURVEY 2023)

SOURCE:
IMAGE: DRONE FLOWN JUNE 2022
BUILDING INFO TETRA TECH; 12/08/2021

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SCALE: 0 160 1" = 160'
S.O. NO.: 188511
DSN/DWN: CHK/RRR

DATE: DECEMBER 2023
FILE: 188511_COKE_16
CHK: CHK

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FIGURE 7
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL NORTH AREA
ERIE COKE SITE
ERIE, PENNSYLVANIA

LEGEND

- PROPOSED MONITORING WELL
- SOIL BORING (2023)
- GROUNDWATER GRAB SAMPLE (2023)
- SOIL BORING SAMPLE (2022)
- SURFACE SOIL SAMPLE (2022)
- SURFACE WATER / SEDIMENT SAMPLE (2022)
- SEDIMENT SAMPLE (2022)
- GROUNDWATER GRAB SAMPLE (2022)
- VAULT LOCATION (2022)
- OUTFALL (2022)
- MONITORING WELL
- PROPERTY BOUNDARY (SURVEY 2023)

SOURCE:
IMAGE: DRONE FLOWN JUNE 2022
BUILDING INFO TETRA TECH; 12/08/2021

SCALE: 0 — 50, 1" = 50'
S.O. NO.: 188511
DSN/DWN: CHK/RRR

DATE: DECEMBER 2023
FILE: 188511_COKE_16
CHK: CHK

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FIGURE 8
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL SOUTH AREA – NORTHWEST REGION
ERIE COKE SITE
ERIE, PENNSYLVANIA

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SCALE: 0 50 1" = 50'

S.O. NO.: 188511

DSN/DWN: CHK/RRR

DATE: DECEMBER 2023

FILE: 188511_COKE_16

CHK: CHK

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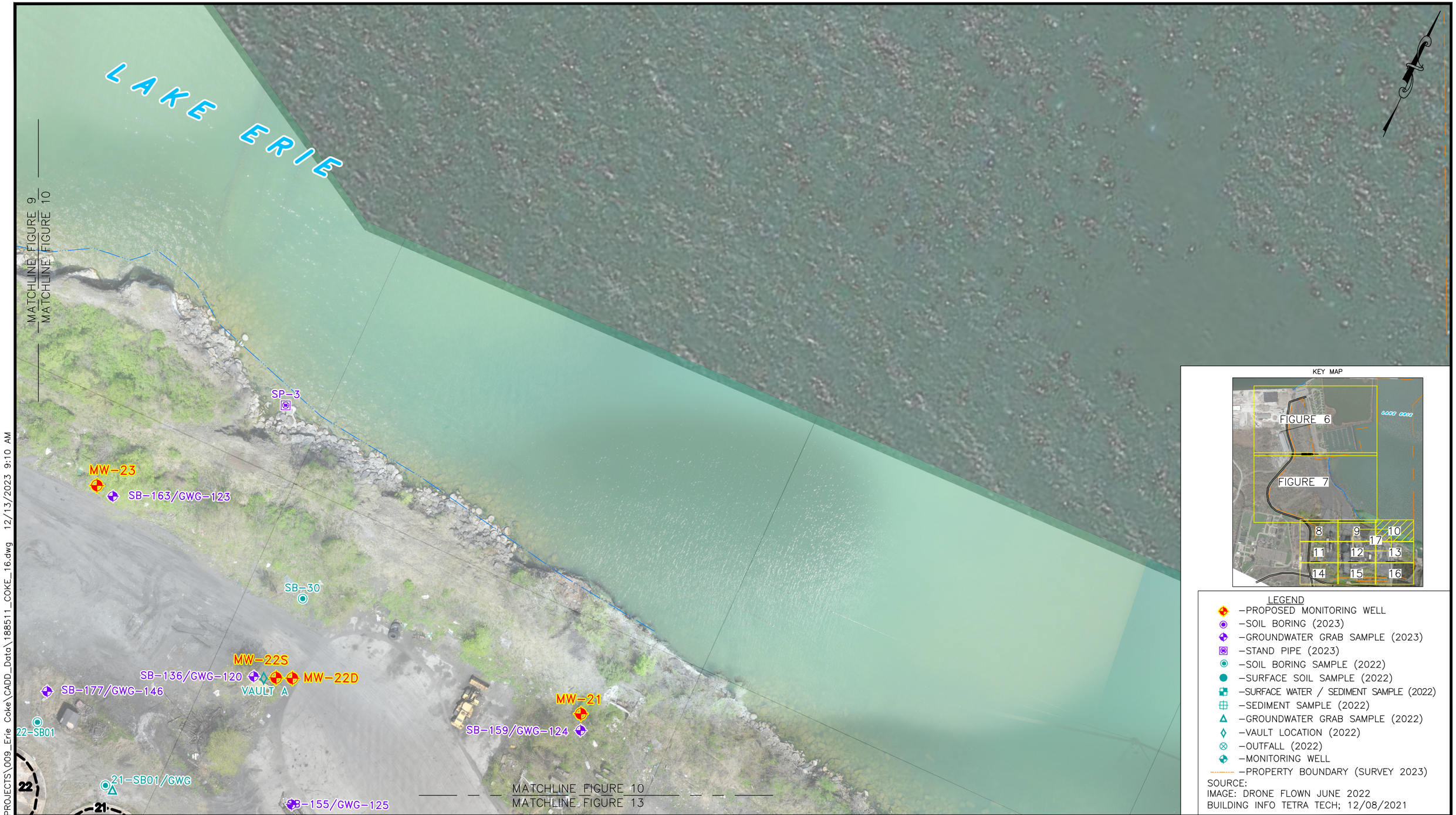
FIGURE 9
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL SOUTH AREA – NORTHCENTRAL REGION
ERIE COKE SITE
ERIE, PENNSYLVANIA



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SCALE: 0 — 50, 1" = 50'	DATE: DECEMBER 2023	OBG Part of Ramboll / Michael Baker INTERNATIONAL	FIGURE 10
S.O. NO.: 188511	FILE: 188511_COKE_16	OBG|Baker Environmental Solutions Joint Venture	PROPOSED PHASE II MONITORING WELL LOCATIONS
DSN/DWN: CHK/RRR	CHK: CHK		INDUSTRIAL SOUTH AREA – NORTHEAST REGION
			ERIE COKE SITE
			ERIE, PENNSYLVANIA

SCALE: 0 50 1" = 50'

S.O. NO.: 188511

DSN/DWN: CHK/RRR

DATE: DECEMBER 2023

FILE: 188511_COKE_16

CHK: CHK

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FIGURE 11
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL SOUTH AREA – WEST REGION
ERIE COKE SITE
ERIE, PENNSYLVANIA

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SCALE: 0 50 1" = 50'	DATE: DECEMBER 2023	OBG Part of Ramboll / Michael Baker INTERNATIONAL	FIGURE 12
S.O. NO.: 188511	FILE: 188511_COKE_16	OBG|Baker Environmental Solutions Joint Venture	PROPOSED PHASE II MONITORING WELL LOCATIONS
DSN/DWN: CHK/RRR	CHK: CHK		INDUSTRIAL SOUTH AREA – CENTRAL REGION
			ERIE COKE SITE
			ERIE, PENNSYLVANIA

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SCALE: 0 50 1" = 50'

S.O. NO.: 188511

DSN/DWN: CHK/RRR

DATE: NOVEMBER 2023

FILE: 188511_COKE_16

CHK: CHK

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FIGURE 13
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL SOUTH AREA – EAST REGION
ERIE COKE SITE
ERIE, PENNSYLVANIA

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LEGEND

- PROPOSED MONITORING WELL
- SOIL BORING (2023)
- GROUNDWATER GRAB SAMPLE (2023)
- SOIL BORING SAMPLE (2022)
- SURFACE SOIL SAMPLE (2022)
- SURFACE WATER / SEDIMENT SAMPLE (2022)
- SEDIMENT SAMPLE (2022)
- GROUNDWATER GRAB SAMPLE (2022)
- VAULT LOCATION (2022)
- OUTFALL (2022)
- MONITORING WELL
- PROPERTY BOUNDARY (SURVEY 2023)

SOURCE:
IMAGE: DRONE FLOWN JUNE 2022
BUILDING INFO TETRA TECH: 12/08/2021

SCALE: 0 50 1" = 50'
S.O. NO.: 188511
DSN/DWN: CHK/RRR

DATE: DECEMBER 2023
FILE: 188511_COKE_16
CHK: CHK

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FIGURE 14
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL SOUTH AREA – SOUTHWEST REGION
ERIE COKE SITE
ERIE, PENNSYLVANIA

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SCALE: 0 50 1" = 50'
S.O. NO.: 188511
DSN/DWN: CHK/RRR

DATE: DECEMBER 2023
FILE: 188511_COKE_16
CHK: CHK

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FIGURE 15
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL SOUTH AREA – SOUTHCENTRAL REGION
ERIE COKE SITE
ERIE, PENNSYLVANIA

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SCALE: 0 50 1" = 50'

S.O. NO.: 188511

DSN/DWN: CHK/RRR

DATE: DECEMBER 2023

FILE: 188511_COKE_16

CHK: CHK

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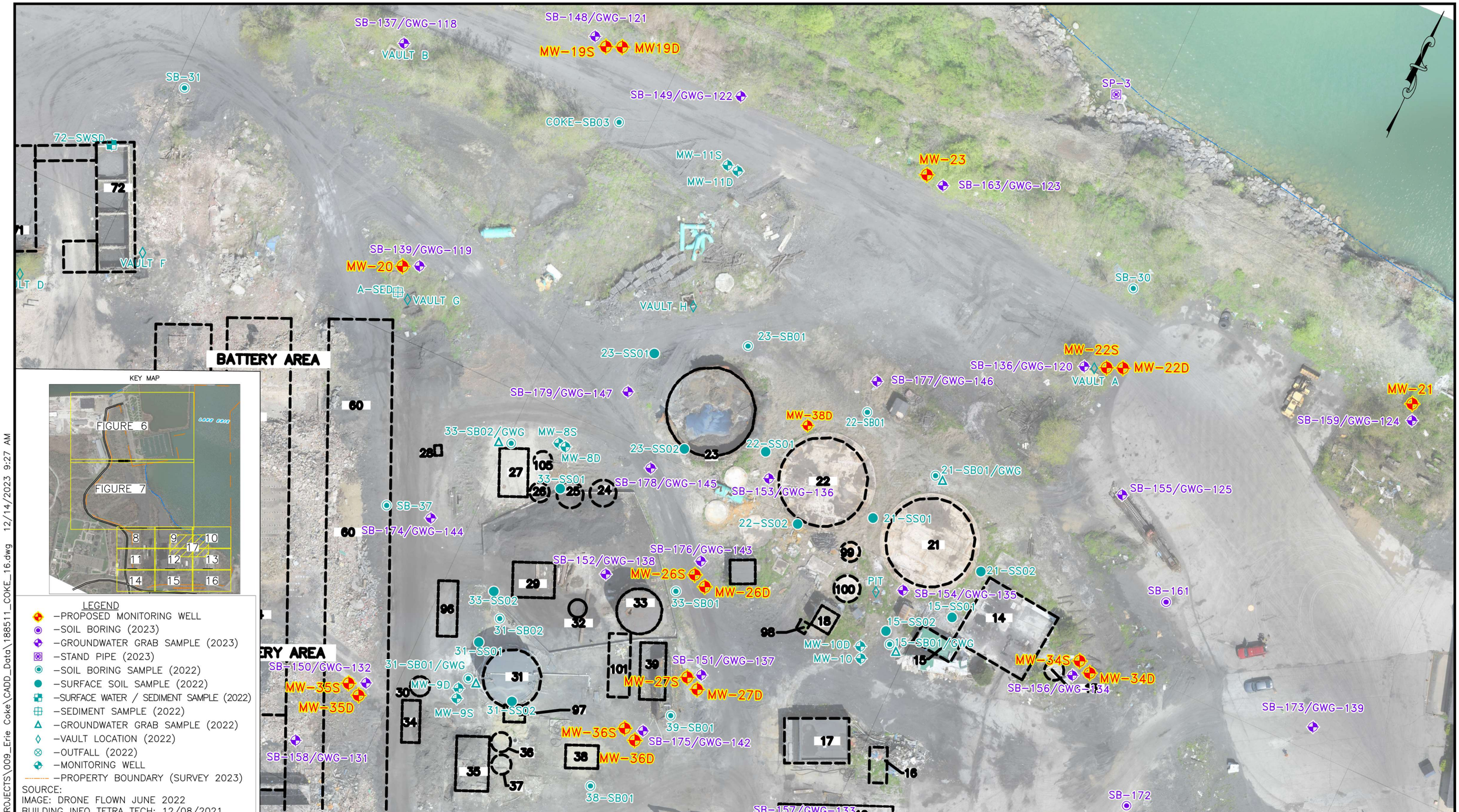
FIGURE 16
PROPOSED PHASE II MONITORING WELL LOCATIONS
INDUSTRIAL SOUTH AREA – SOUTHEAST REGION
ERIE COKE SITE
ERIE, PENNSYLVANIA



SCALE: 0 50 1" = 50'

S.O. NO.: 188511

DSN/DWN: CHK/RRR

DATE: DECEMBER 2023

FILE: 188511_COKE_16

CHK: CHK

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FIGURE 17
PROPOSED PHASE II MONITORING WELL LOCATIONS
TANK FARM AREA
ERIE COKE SITE
ERIE, PENNSYLVANIA

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SCALE:	0 300
DATE:	DECEMBER 2023
DSN/DWN:	CHK/RRR
FILE:	188511_COKE_16-MW

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FIGURE 18
PROPOSED PHASE II MONITORING WELL LOCATIONS

ERIE COKE SITE
ERIE, PENNSYLVANIA