



October 13, 2023

Reference No. 11209494

Renee Wawczak – Project Manager
United States Environmental Protection Agency
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Send Via E-mail
(Wawczak.Renee@epa.gov)

Dear Renee:

**Re: Quarterly Progress Report – Q3-2023
EPA Docket No. RCRA-05-2020-0005
CITGO Terminal, East Chicago, Indiana**

This submission has been prepared on behalf of CITGO Petroleum Corporation (CITGO) in accordance with the Section 3008(h) Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6928(h) Administrative Order on Consent (AOC) (RCRA Docket No: RCRA-05-2020-0005 with an effective date of January 24, 2020) for the CITGO Terminal at 2500 East Chicago Avenue, East Chicago, Indiana (EPA ID: IND 095267381) (Site).

This report is organized to address reporting requirements set out in Section VII of the AOC. This report summarizes the activities conducted at the Site from July 1, 2023 through September 30, 2023.

1. Summary of Work Performed during the Reporting Period

- Participated in monthly project status calls including discussion on project progress with EPA, OXY, CITGO, and GHD on July 20 and August 23, 2023.

2. Summary of Reports, and Other Deliverables Completed During the Reporting Period

- Submitted Q2 2023 Quarterly Progress Report on July 14, 2023.
- Submitted revised CMP Report on September 29, 2023 in response to EPA's comments submitted on April 20, 2023.

3. Summary of Problems Encountered and Planned Resolutions

- None

4. Summary of Results of Sampling, Tests, or Other Data Received or Generated

- Figure 1 presents the groundwater contours for the June 2023 gauging event.
- Figure 2 and Figure 3 present a summary of exceedances of groundwater screening criteria including up to the quarterly groundwater monitoring event completed in June 2023.
- Table 1 presents the validated groundwater sampling results from the June 2023 quarterly monitoring event. The two years of additional post-RFI quarterly groundwater monitoring requested by EPA is complete as of the Q2-2023 quarterly sampling event.



5. Anticipated Activities During the Next Reporting Period

- For the purpose of continuity of data, EPA requested in an email dated September 18, 2023, that CITGO sample a subset of monitoring wells (CITGO-MW01-20, CITGO-MW02-20, CITGO-MW04-20, CITGO-MW-06-20, CITGO-MW16-20, CITGO-MW17-20, CITGO-MW18-20, and CITGO-MW19-20) on an annual basis for analysis of benzene, benzo(a)pyrene, benzo(a)anthracene, 2-methylnaphthalene, and naphthalene; until the CMP has been approved and EPA has issued the Final Decision, at which time the scope outlined in the approved CMP would be implemented. CITGO will proceed with completing the sampling program scope outlined by EPA in the September 18, 2023 email.
- Support EPA in preparation for public meeting.

6. Project Schedule

- Attachment A presents the currently anticipated project schedule.

7. Percent Project Completed

- At the time of this report, the project is approximately 90% completed.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Should you have any questions on the above, please do not hesitate to contact us.

Respectfully submitted,

CITGO Petroleum Corporation

Scott Buckner, CITGO Project Manager

JEP/kf/23

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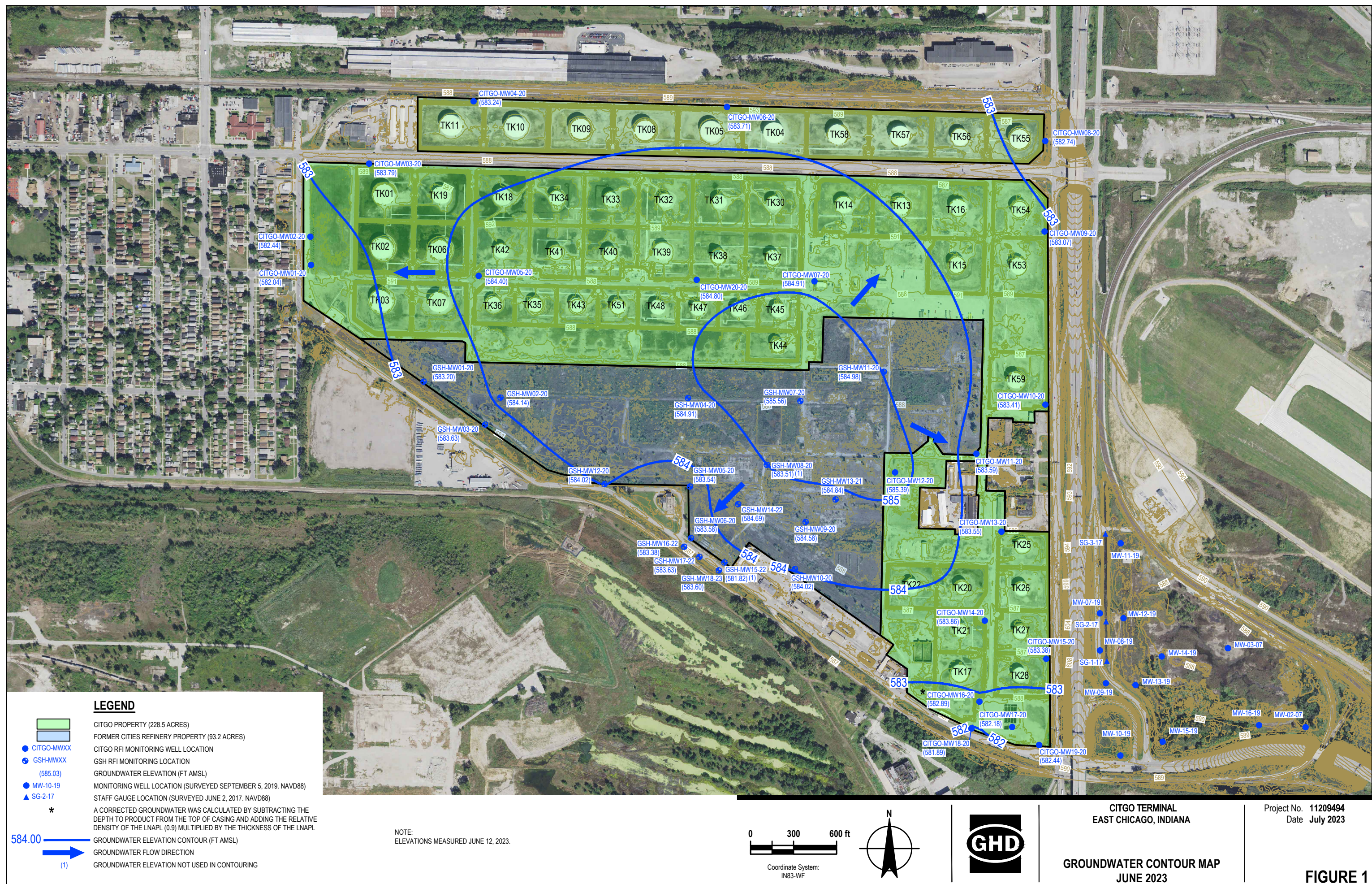






Table 1
Analytical Results Summary - June 2023
CITGO Terminal
East Chicago, Indiana

Sample Location		CITGO-MW01-20	CITGO-MW02-20	CITGO-MW03-20	CITGO-MW04-20	CITGO-MW05-20	CITGO-MW06-20	CITGO-MW07-20	CITGO-MW08-20	CITGO-MW08-20	CITGO-MW09-20	CITGO-MW10-20	CITGO-MW11-20	CITGO-MW12-20	CITGO-MW12-20
Sample Identification		WG-061523-DS-02	WG-061523-DS-04	WG-061623-DS-09	WG-061523-RE-01	WG-061623-DS-12	WG-061523-AC-03	WG-061923-AC-18	WG-061523-AC-05	WG-061523-AC-06	WG-061923-NN-17	WG-061923-NN-19	WG-061623-RE-14	WG-061623-AC-13	WG-061623-AC-15
Sample Date		6/15/2023	6/15/2023	6/16/2023	6/15/2023	6/16/2023	6/15/2023	6/19/2023	6/15/2023	6/15/2023	6/19/2023	6/19/2023	6/16/2023	6/16/2023	6/16/2023
Sample Type										(Duplicate)					(Duplicate)
Units															
Metals															
Aluminum	ug/L	63 J	200 U	610	200 U	200 U	170 J	87 J	200 U	200 U	200 U	200 U	200 U	220	54 J
Antimony	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Arsenic	ug/L	26	15 U	15 U	15 U	9.7 J	13 J	5.9 J	15 U	15 U	15 U	15 U	4.3 J	7.8 J	5.4 J
Barium	ug/L	37 J	32 J	14 J	40 J	22 J	65 J	23 J	23 J	22 J	58 J	34 J	51 J	16 J	15 J
Beryllium	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cadmium	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Calcium	ug/L	98000	110000	46000	51000	73000	85000	97000	72000	69000	94000	56000	100000	59000	55000
Chromium	ug/L	2.6 J	10 U	1.7 J	10 U	1.5 J	6.8 J	1.1 J	10 U	10 U	10 U	36	0.97 J	1.0 J	10 U
Cobalt	ug/L	1.2 J	10 U	10 U	10 U	10 U	0.86 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Copper	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Iron	ug/L	14000	5200	1000	1100	3000	7700	3800	3700	3700	3300	4200	5800	1900	1600
Lead	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3.2 J	10 U	10 U	10 U
Magnesium	ug/L	12000	11000	16000	8600	11000	12000	14000	13000	13000	13000	7400	5000	4500 J	3900 J
Manganese	ug/L	650	400	49	240	340	440	780	200	200	810	420	580	150	140
Mercury	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	ug/L	40 U	40 U	40 U	40 U	40 U	4.0 J	40 U	40 U	40 U	18 J	40 U	40 U	40 U	40 U
Potassium	ug/L	780 J	1000 J	2600 J	1800 J	2100 J	1400 J	3200 J	660 J	710 J	950 J	630 J	2600 J	2700 J	2500 J
Selenium	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Silver	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Sodium	ug/L	5000 U	5000 U	13000	33000	5000 U	6300	6700	5000 U	5000 U	3000 J	2600 J	5300	5200	4900 J
Thallium	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Vanadium	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	21 J	8.1 J
Zinc	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Semi-Volatile Organic Compounds (SVOCs)															
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	4.6 U	4.8 U	5.0 U	4.8 U	5.0 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.6 U	4.8 U	5.0 U	4.8 U	5.0 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
2,4-Dimethylphenol	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	9.3 U	9.6 U	10 U	9.6 U	10 U	9.6 U	9.3 U	9.6 U	9.6 U	24 U	9.6 U	10 U	10 U	10 U
2,4-Dinitrotoluene	ug/L	4.6 U	4.8 U	5.0 U	4.8 U	5.0 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	4.6 U	4.8 U	5.0 U	4.8 U	5.0 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	1.9 U	1.9 U	10 U	1.9 U	10 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	10 U	10 U	10 U
2-Nitrophenol	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	1.9 U	1.9 U	--	1.9 U	--	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.6 U	4.8 U	5.0 U	4.8 U	5.0 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	1.9 U	1.9 U	10 U	1.9 U	10 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	ug/L	4.6 U	4.8 U	10 U	4.8 U	10 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	--	--	10 U	--	10 U	--	--	--	--	--	--	10 U	10 U	10 U
4-Nitroaniline	ug/L	1.9 U	1.9 U	10 U	1.9 U	10 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	10 U	10 U	10 U
4-Nitrophenol	ug/L	9.3 U	9.6 U	10 U	9.6 U	10 U	9.6 U	9.3 U	9.6 U	9.6 U	24 U	9.6 U	10 U	10 U	10 U
Acenaphthene	ug/L	0.19 U	2.8	5.0 U	0.19 U	5.0 U	0.19 U	2.1	0.19 U	1.1	2.9	0.19 U	0.50 J	5.0 U	5.0 U
Acenaphthylene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	0.57 J	5.0 U	5.0 U
Anthracene	ug/L	0.19 U	0.38	5.0 U	0.19 U	5.0 U	0.19 U	0.25	0.19 U	0.27	4.2	0.19 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
Benzo(a)anthracene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	1.0	0.19 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Benzyl alcohol	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	4.6 U	4.8 U	5.0 U	4.8 U	5.0 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U

Table 1
Analytical Results Summary - June 2023
CITGO Terminal
East Chicago, Indiana

Sample Location		CITGO-MW01-20	CITGO-MW02-20	CITGO-MW03-20	CITGO-MW04-20	CITGO-MW05-20	CITGO-MW06-20	CITGO-MW07-20	CITGO-MW08-20	CITGO-MW08-20	CITGO-MW09-20	CITGO-MW10-20	CITGO-MW11-20	CITGO-MW12-20	CITGO-MW12-20
Sample Identification		WG-061523-DS-02	WG-061523-DS-04	WG-061623-DS-09	WG-061523-RE-01	WG-061623-DS-12	WG-061523-AC-03	WG-061923-AC-18	WG-061523-AC-05	WG-061523-AC-06	WG-061923-NN-17	WG-061923-NN-19	WG-061623-RE-14	WG-061623-AC-13	WG-061623-AC-15
Sample Date		6/15/2023	6/15/2023	6/16/2023	6/15/2023	6/16/2023	6/15/2023	6/19/2023	6/15/2023	6/15/2023	6/19/2023	6/19/2023	6/16/2023	6/16/2023	6/16/2023
Sample Type	Units									(Duplicate)					(Duplicate)
Semi-Volatile Organic Compounds (SVOCs) cont'd															
Caprolactam	ug/L	3.9 J	4.8 U	5.0 U	1.7 J	5.0 U	1.7 J	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
Carbazole	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
Chrysene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	1.1	0.19 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Dibenzofuran	ug/L	0.93 U	1.2	10 U	0.96 U	10 U	0.96 U	0.28 J	0.96 U	0.96 U	13	0.96 U	10 U	10 U	10 U
Diethyl phthalate	ug/L	4.6 U	4.8 U	5.0 U	4.8 U	5.0 U	4.8 U	4.6 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	4.6 U	4.8 U	0.36 J	4.8 U	5.0 U	4.6 U	4.8 U	4.8 U	4.8 U	12 U	4.8 U	5.0 U	0.40 J	0.38 J
Di-n-octyl phthalate (DnOP)	ug/L	1.9 U	1.9 U	5.0 U	1.9 U	5.0 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	0.19 U	0.49	5.0 U	0.19 U	5.0 U	0.19 U	0.17 J	0.19 U	0.19 U	3.7	0.19 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	0.19 U	1.6	5.0 U	0.19 U	5.0 U	0.19 U	1.3	0.77	0.76	48	0.19 U	0.39 J	5.0 U	5.0 U
Hexachlorobenzene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	9.3 U	9.6 U	5.0 U	9.6 U	5.0 U	9.6 U	9.3 U	9.6 U	9.6 U	24 U	9.6 U	5.0 U	5.0 U	5.0 U
Hexachloroethane	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.96 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Isophorone	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.40	0.48 U	0.19 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	9.3 U	9.6 U	10 U	9.6 U	10 U	9.6 U	9.3 U	9.6 U	9.6 U	24 U	9.6 U	10 U	10 U	10 U
Phenanthrene	ug/L	0.19 U	0.19 U	5.0 U	0.19 U	5.0 U	0.19 U	0.19 U	0.19 U	0.19 U	78	0.19 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	0.93 U	0.96 U	5.0 U	0.96 U	5.0 U	0.96 U	0.93 U	0.96 U	0.96 U	2.4 U	0.96 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	0.19 U	1.2	5.0 U	0.19 U	5.0 U	0.19 U	0.41	0.19 U	0.19 U	11	0.19 U	5.0 U	5.0 U	5.0 U
Semi-Volatile Organic Compounds (SVOCs)-SIM															
1,4-Dioxane	ug/L	0.20 UJ	0.20 UJ	0.24	0.20 UJ	0.20 U	0.20 UJ	0.20 U	0.20 UJ	0.20 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Volatile Organic Compounds (VOCs)															
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.73 J	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	ug/L	5.1 J	10 U	10 U	10 U	4.1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.77	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.4	0.50 U	0.50 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	2.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Carbon disulfide	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Chloroform (Trichloromethane)	ug/L	3.0 U	3.0 U	29	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Chloromethane (Methyl chloride)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cyclohexane	ug/L	10 U	2.4 J	10 U	10 U	4.4 J	10 U	12	10 U	10 U	2.1 J	10 U	230	10 U	10 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.2 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.9	1.0 U	1.0 U	1.0 U	1.0 U	1.5	0.60 J	0.51 J	0.38 J	1.0 U	38	1.0 U	1.0 U
Methyl acetate	ug/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Methyl cyclohexane	ug/L	1.0 U	2.6	1.0 U	1.0 U	1.0 U	1.0 U	4.8	1.0 U	1.0 U	0.82 J	1.0 U	130	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	11 U	12 U	5.0 U	12 U	5.0 U	9.2 U	5.0 U	12 U	14 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	0.54 J	1.0 U	1.0 U	0.71 J	1.0 U	0.43 J	1.0 U	1.0 U	1.0 U	1.0 U	2.3	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 1
Analytical Results Summary - June 2023
CITGO Terminal
East Chicago, Indiana

Sample Location	CITGO-MW01-20	CITGO-MW02-20	CITGO-MW03-20	CITGO-MW04-20	CITGO-MW05-20	CITGO-MW06-20	CITGO-MW07-20	CITGO-MW08-20	CITGO-MW08-20	CITGO-MW09-20	CITGO-MW10-20	CITGO-MW11-20	CITGO-MW12-20	CITGO-MW12-20
Sample Identification	WG-061523-DS-02	WG-061523-DS-04	WG-061623-DS-09	WG-061523-RE-01	WG-061623-DS-12	WG-061523-AC-03	WG-061923-AC-18	WG-061523-AC-05	WG-061523-AC-06	WG-061923-NN-17	WG-061923-NN-19	WG-061623-RE-14	WG-061623-AC-13	WG-061623-AC-15
Sample Date	6/15/2023	6/15/2023	6/16/2023	6/15/2023	6/16/2023	6/15/2023	6/19/2023	6/15/2023	6/15/2023	6/19/2023	6/19/2023	6/16/2023	6/16/2023	6/16/2023
Sample Type	Units													
Volatile Organic Compounds (VOCs) cont'd									(Duplicate)					(Duplicate)
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	1.2 J	3.0 U	0.70 J	0.54 J	1.5 J	0.52 J	0.89 J	0.92 J	3.0 U	3.0 U	3.7	3.0 U

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
J- - Estimated concentration, result may be biased low.
J+ - Estimated concentration, result may be biased high.

SIM - Selective Ion Monitoring

Table 1
Analytical Results Summary - June 2023
CITGO Terminal
East Chicago, Indiana

Sample Location		CITGO-MW14-20	CITGO-MW17-20	CITGO-MW18-20	CITGO-MW19-20	CITGO-MW20-20
Sample Identification		WG-061623-AC-10	WG-061623-RE-07	WG-061623-RE-11	WG-061623-AC-08	WG-061923-AC-16
Sample Date		6/16/2023	6/16/2023	6/16/2023	6/16/2023	6/19/2023
Sample Type						
Units						
Metals						
Aluminum	ug/L	200	100 J	120 J	90 J	110 J
Antimony	ug/L	20 U	20 U	20 U	20 U	20 U
Arsenic	ug/L	7.4 J	15 U	4.3 J	15 U	19
Barium	ug/L	29 J	55 J	74 J	110 J	38 J
Beryllium	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cadmium	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Calcium	ug/L	50000	110000	97000	110000	61000
Chromium	ug/L	1.7 J	5.0 J	2.3 J	2.1 J	0.85 J
Cobalt	ug/L	10 U	10 U	10 U	10 U	10 U
Copper	ug/L	25 U	25 U	25 U	25 U	25 U
Iron	ug/L	460	5600	10000	5600	1800
Lead	ug/L	10 U	10 U	4.1 J	3.9 J	10 U
Magnesium	ug/L	2300 J	12000	11000	16000	7300
Manganese	ug/L	85	460	470	580	440
Mercury	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.27
Nickel	ug/L	40 U	3.3 J	40 U	2.3 J	40 U
Potassium	ug/L	1800 J	1800 J	2200 J	2700 J	2700 J
Selenium	ug/L	20 U	20 U	20 U	20 U	20 U
Silver	ug/L	10 U	10 U	10 U	10 U	10 U
Sodium	ug/L	5000 U	2500 J	4200 J	190000	9900
Thallium	ug/L	20 U	20 U	20 U	20 U	20 U
Vanadium	ug/L	50 U	50 U	50 U	50 U	50 U
Zinc	ug/L	50 U	50 U	50 U	50 U	50 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dioxane	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
2,4,6-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
2,4-Dichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
2,4-Dinitrophenol	ug/L	10 U	10 U	10 U	10 U	9.6 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
2-Chlorophenol	ug/L	5.0 U	0.60 J	5.0 U	5.0 U	0.96 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
2-Nitroaniline	ug/L	10 U	10 U	10 U	10 U	1.9 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
3&4-Methylphenol	ug/L	--	--	--	--	1.9 U
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
3-Nitroaniline	ug/L	10 U	10 U	10 U	10 U	1.9 U
4,6-Dinitro-2-methylphenol	ug/L	10 U	10 U	10 U	10 U	4.8 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
4-Chloroaniline	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	R
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
4-Methylphenol	ug/L	10 U	10 U	10 U	10 U	--
4-Nitroaniline	ug/L	10 U	10 U	10 U	10 U	1.9 U
4-Nitrophenol	ug/L	10 U	10 U	10 U	10 U	9.6 U
Acenaphthene	ug/L	5.0 U	0.74 J	5.0 U	5.0 U	0.19 U
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
Benzaldehyde	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
Benzo(a)anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.36
Benzo(a)pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.25
Benzo(b)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.27
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.30
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
Benzyl alcohol	ug/L	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U

Table 1
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CITGO Terminal
East Chicago, Indiana

Sample Location		CITGO-MW14-20	CITGO-MW17-20	CITGO-MW18-20	CITGO-MW19-20	CITGO-MW20-20
Sample Identification		WG-061623-AC-10	WG-061623-RE-07	WG-061623-RE-11	WG-061623-AC-08	WG-061923-AC-16
Sample Date		6/16/2023	6/16/2023	6/16/2023	6/16/2023	6/19/2023
Sample Type						
Units						
Semi-Volatile Organic Compounds (SVOCs) cont'd						
Caprolactam	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
Carbazole	ug/L	5.0 U	32	5.0 U	5.0 U	0.53 J
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.73
Dibenz(a,h)anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
Dibenzofuran	ug/L	10 U	0.72 J	10 U	10 U	0.96 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	0.46 J	5.0 U	0.40 J	4.8 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.9 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.36
Fluorene	ug/L	5.0 U	2.0 J	5.0 U	5.0 U	0.19 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	9.6 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.19 U
Nitrobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
Pentachlorophenol	ug/L	10 U	10 U	10 U	10 U	9.6 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.33
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.96 U
Pyrene	ug/L	5.0 U	0.35 J	5.0 U	5.0 U	2.0
Semi-Volatile Organic Compounds (SVOCs)-SIM						
1,4-Dioxane	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	10 U	10 U	10 U	10 U
Acetone	ug/L	10 U	10 U	3.4 J	10 U	10 U
Benzene	ug/L	0.50 U	1.5	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Carbon disulfide	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chlorobenzene	ug/L	1.0 U	48	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Chloroform (Trichloromethane)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Chloromethane (Methyl chloride)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cyclohexane	ug/L	10 U	6.6 J	3.9 J	10 U	1.4 J
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	3.1	1.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	100 U	100 U	100 U	100 U	100 U
Methyl cyclohexane	ug/L	1.0 U	2.4	1.0 U	1.0 U	1.5
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	0.59 J	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 1
Analytical Results Summary - June 2023
CITGO Terminal
East Chicago, Indiana

Sample Location	CITGO-MW14-20	CITGO-MW17-20	CITGO-MW18-20	CITGO-MW19-20	CITGO-MW20-20
Sample Identification	WG-061623-AC-10	WG-061623-RE-07	WG-061623-RE-11	WG-061623-AC-08	WG-061923-AC-16
Sample Date	6/16/2023	6/16/2023	6/16/2023	6/16/2023	6/19/2023
Sample Type					
	Units				
Volatile Organic Compounds (VOCs) cont'd					
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	4.0 U	4.0 U	4.0 U	4.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	0.60 J	3.0 U	0.71 J

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
J- - Estimated concentration, result may be biased low.
J+ - Estimated concentration, result may be biased high.

SIM - Selective Ion Monitoring



CITGO Petroleum Corporation

2316 Terminal Drive
Arlington Heights, IL 60005

ATTACHMENT A

Project Schedule

Project Schedule - AOC CITGO Terminal East Chicago, IN																						
ID	Task Name	Duration	Start	Finish	2022				2023				2024				2025					
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
1	<u>Administrative</u>	965 days	<u>Fri 1/24/20</u>	<u>Mon 10/16/23</u>																		
2	Effective Date of AOC	1 day	Fri 1/24/20	Fri 1/24/20																		
3	Semi-Annual Meetings - Meeting with EPA either by phone or in person on at least a semi-annual basis	261 days	Fri 7/29/22	Fri 7/28/23																		
7	Quarterly Reports - Fifteenth day of the month after the end of each quarter	392 days	Fri 4/15/22	Mon 10/16/23																		
15	Financial Assurance Update (Updated annually and/or with subsequent work plans)	523 days	Mon 9/20/21	Thu 9/21/23																		
18	<u>RFI</u>	765 days	<u>Wed 7/1/20</u>	<u>Thu 6/15/23</u>																		
19	RFI Field Activities	12 mons	Wed 7/1/20	Wed 6/9/21																		
20	RFI Report Submitted	1 day	Fri 10/1/21	Fri 10/1/21																		
21	Public Meeting, including 30-Day Comment Period	1 mon	Wed 6/1/22	Tue 6/28/22																		
22	EPA Final Comments and Approval of RFI Report	1 day	Mon 8/1/22	Mon 8/1/22																		
23	Quarterly Groundwater Monitoring	262 days	Wed 6/15/22	Thu 6/15/23																		
29	Environmental Indicators Report(s) - 60 Days following EPA Final Comments on RFI	1 day	Fri 12/23/22	Fri 12/23/22																		
30	<u>Final Corrective Measures</u>	668 days	<u>Wed 12/14/22</u>	<u>Fri 7/4/25</u>																		
31	Final Corrective Measures Proposal Submitted	1 day	Wed 12/14/22	Wed 12/14/22																		
32	Corrective Measures Proposal Resubmittal	1 day	Fri 9/29/23	Fri 9/29/23																		
33	Public Meeting, including 30-Day Comment Period (Schedule Timeframe Estimated)	1 mon	Mon 3/18/24	Fri 4/12/24																		
34	EPA Final Decision (Schedule Timeframe Estimated)	2 mons	Mon 4/15/24	Fri 6/7/24																		
35	Final Corrective Measures Implementation - (According to the schedule in the Final Decision, i.e. much of the construction completed within one year, or within a reasonable period of time after EPA selects the final corrective measures)	12 mons	Mon 6/10/24	Fri 5/9/25																		
36	Final Remedy Construction Completion Report (Including an Operation and Maintenance Plan), as needed.	2 mons	Mon 5/12/25	Fri 7/4/25																		
Project: CITGO Terminal, East Chicago, IN Date: Tue 10/10/232:32 PM		Expected Timeframe Expected Date Contingent Timeframe Fixed Date		Summary Manual Progress																		
Note: Per AOC, 'days' refers to calendar days Schedule subject to change based on regulatory reviews/approvals, weather, and other factors beyond Respondent's control																						