

Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

Rick Passmore Vice President Operations Direct Dial (713) 215-7622

April 14, 2022

5 Greenway Plaza, Suite 110 Houston, TX 77046-0521

Reference No. 11208111

Renee Wawczak – Project Manager United States Environmental Protection Agency Region 5 [Mail Code LU-16J] 77 W. Jackson Boulevard Chicago, Illinois 60604-3590 Send Via E-mail (Wawczak.Renee@epa.gov)

Dear Renee:

Re: Quarterly Progress Report – Q1-2022 EPA Docket No. RCRA-05-2020-0006 Former Cities Refinery, East Chicago, Indiana

This submission has been prepared on behalf of OXY USA Inc. (OXY) 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-05-2020-0006 with an effective date of January 24, 2020) for the Former Cities Refinery at 2500 Rear East Chicago Avenue, East Chicago, Indiana (EPA ID: INR000123927, formerly part of IND095267381) (Site).

This report is organized to address reporting requirements set out in Section VII of the AOC. This report summarizes the activities conducted for and at the Site from January 1, 2022 through March 31, 2022.

1. Summary of Work Performed during the Reporting Period (January 1, 2021 – March 31, 2021)

- Participated in project status calls including discussion on RFI progress and upcoming public meeting presentation with OXY, EPA, CITGO, and GHD on January 20th, February 17th, and March 17th, 2022.
- Conducted visual inspections of on-Site manhole structures on January 17th, 2022
- Conducted visual inspections of on-Site manhole structures on February 22nd, 2022
- Conducted visual inspections of on-Site manhole structures on March 30th, 2022
- Quarterly groundwater gauging and sampling event was conducted between March 14th 18th, 2022.

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

- Q1 2021 Quarterly Progress Report submitted January 14th, 2022.
- EPA provided draft comments on the RFI January 19, 2022 via email, which were discussed during the monthly progress status call on January 20th, 2022. On January 31, 2022, a response to EPA's draft comments were submitted to memorialize the discussion on January 20th, 2022 which were approved by EPA on February 1, 2022.

3. Summary of Problems Encountered and Planned Resolutions

None

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

- RFI field activities were completed in accordance with the plan outlined in the RFI Report submitted October 1, 2021, and slightly modified based on the response to EPA comments on the RFI dated January 31st, 2022.
- Figure 1 presents the groundwater contours for the March 2022 gauging event.

- Figure 2 presents a summary of exceedances of screening levels in groundwater, including the most recent quarterly groundwater monitoring event completed in December 2021. The March 2022 sampling event data is undergoing validation and will be provided in the next quarterly status report.
- Table 1 presents the validated groundwater sampling results from the December 2021 quarterly monitoring event.

5. Anticipated Activities During the Next Reporting Period

- Complete validation of Q1-2022 quarterly sampling data.
- Conduct Q2-2022 quarterly sampling event (June 2022).
- Complete periodic inspections of on-Site manhole structures and removal of LNAPL, as needed.
- Install two additional off-Site monitoring well downgradient of GSH-MW06-20. OXY is in the process of coordinating with relevant parties (land owners, utilities, etc.) to facilitate the installation of the off-Site wells.
 OXY will continue to collaborate with EPA on final well locations and a proposed schedule for installation.
- Pending EPA approval, implement on-Site LNAPL degradation pilot study work plan.
- Participation in public meeting.

6. Project Schedule

• Attachment A presents the currently anticipated project schedule completed in accordance with the AOC.

7. Percent Project Completed

• At the time of this report, the project is approximately 63% 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,

GLENN SPRINGS HOLDINGS, INC.

Rick Passmore, OXY Poject Manager

JEP/kf/23

cc: Thomas Krueger, EPA (Krueger.Thomas@epa.gov)
 Frank Parigi, Glenn Springs Holdings (Frank_Parigi@oxy.com)
 Lloyd Landreth, Landreth Law (llandreth@landrethlaw.com)
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 Mike Tomka, GHD (Michael.Tomka@ghd.com)
 John-Eric Pardys, GHD (John-eric.Pardys@ghd.com)



Coordinate System:

IN83-WF

GROUNDWATER ELEVATION CONTOUR (FT AMSL)

GROUNDWATER FLOW DIRECTION

584.00 -

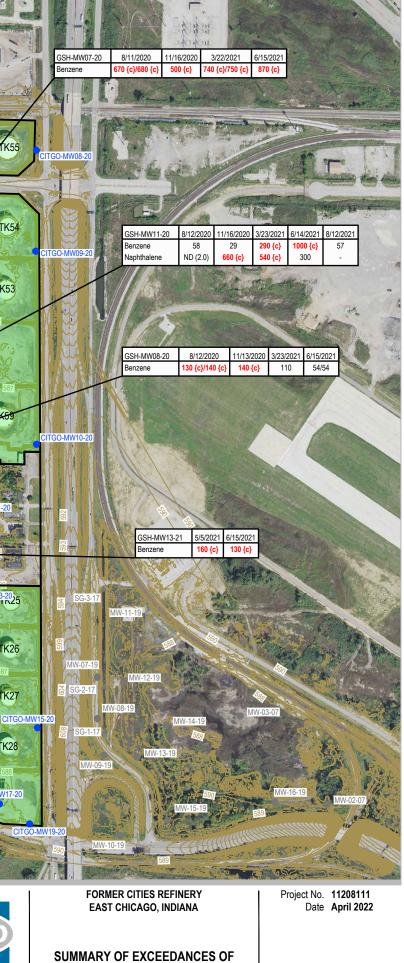


GROUNDWATER CONTOUR MAP MARCH 2022



Source: AERIAL IMAGE, 2016 NAIP; MONITORING WELL SURVEY BY CM LAVOIE DATED JULY 30, 2020.

					· John My								
					588	CITGO-MW04-20	TK09	689 K08	CITGO-MW06-2 TK05	A CONTRACTOR OF A CONTRACTOR O	580 TK58	TK57	TK56
				CITGO-M	W03-20	588 TK18	K34 TK33	TK32	588 588 TK31	(30	TK14	588	587 TU16
			CITGO-MW02-20 CITGO-MW01-20	TK02	ТКОб	592 TK42 CITGO-MW05-20	4) TK40	TK39	ТК38 ТГБО-МW20-20	37 CITGO-MW07-20		591	TK15
				ТКОЗ	FK07	TK36 TK35	533 TK43 553	TK48 TK4		(45)		588	591
GSH-MW01- Arsenic Manganese Thallium	20 8/11/2020 11/16/2020 9.5 J 7.4 J 490 (a) 450 (a) ND (20) ND (20)	6.8 J 7.4 J '	3/2021 12/21/2021 6 {a} 11 {a} 90 {a} 510 {a} 0 J {a} ND (20)		GSH-MW01-20	GSH-MW02-20		Essa Essa		K44	GSH-MW11-20		
		GSH-MW03-20 Arsenic Thallium	8/11/2020 11/16/2020 7.7 J 8.9 J ND (20) ND (20)	6.4 J 5.6 J 13	V/2021 12/21/2021 J {a} ND (10) J {a} ND (20)	CSH-MW03-20	and.	GSH-MW0	1-20 GSI	-MW07-20		588	ERR
A Dente	LEGEND		GSH-MW12- Thallium	20 8/11/2020 11/16/2020 ND (20) ND (20) GSH-MW05-20		1/3/2021 12/22/2021 1/1 J {a} ND (20) 1/2020 3/23/2021 6/15/2	GSH-MW12-20 021 11/3/2021 12/22/2		MW05-20	GSH-MW08-20 GSH-MW13-21 I-MW09-20	Ball An	CITGO-MW1	2-20
	CITGO PROPERTY (228.5 ACF FORMER CITIES REFINERY PI CITGO RFI MONITORING WEL GSH RFI MONITORING LOCAT	ROPERTY (93.2 ACRES) L LOCATION		2-Methylnaphtha Benzene Manganese Naphthalene Thallium	alene 21 3 33 (ab) 23 340 570 ND (2.0) 2.1 ND (20) ND	(a) 3.5 J/3.2 J ND (2) (a) 700 (a)/740 (a) 450 (a) (a) ND (2)/ND (2) ND (0.	.00 32 {ab}/33 {ab} 15 {a a} 1300 {a}/1200 {a} 770 {a 21) ND (0.20)/3.9 {a} ND (0.20)/3.9 {a}	a} 555)		GSH-MW10-2	20	TK22	
SG-2-17	MONITORING WELL LOCATIO STAFF GAUGE LOCATION (SL 3/12/2020 11/16/2020		AVD88)		GSH-MW06-20 2-Methylnapht Arsenic Benzene Manganese		180 {a} 300 {a} 280 6.8 J 9.2 J 11 J 160 {abc} 140 {abc} 140 {abc}	{a} 170 {a} {a} 8.4 J abc} 130 {abc}				587	TK20 ITGO-MW14-20 TK21
anganese	21 33 33 (ab) 23 (a) 340 570 (a) ND (2.0) 2.1 (a)	RESULT (ug/L) PARAMETER		X	Naphthalene Thallium	ND (2.0) 0.98 J ND (20) ND (20)	GS 2-M	(a) ND (20) H-MW10-20 8/ Methylnaphthalene	36 42 {a}	23/2021 6/15/202 35 87 {a}/77 1 J {a} 13 J {a}/1	{a} 79 {a}	12/21/2021 65 (a) 17 (a)	TK17
33 {ab}	RESULT EXCEEDS SCREENIN	IG LEVEL		Carl Carl	D. Y		lror Ma	n 11 inganese 4	7000 {a} 25000 {a} 22 500 {a} 560 {a} 5	000 {a} 19000 {a}/200 50 {a} 480 {a}/510 D (20) 4.2 J {a}/NE	000 {a} 17000 {a} 0 {a} 480 {a}	20000 {a} 500 {a} ND (20) CITGO	TGO-MW16-20
Parameter	a	Screening Level b	С		592)	· A tor							7-14144 10-20
2-Methylnaphtha Arsenic	10	-	-	Alan .	RE		and the second	A State of the sta	and a state of				
Benzene Iron Manganoso	5 14,000 430	- 28	-	Pol- Plan and		RA	2 + M. M. C.		A AN AN AN A A A A A A A A A A A A A A	ARC DA			Cert.
Manganese Naphthalene	430 1.7 2	- 110	- 460									Ņ	
b - IDEM 2019 - (R IDEM - TAP/RESIDENTIAL GROUND WATER/RESIDENTI/								0	300 6	500 ft	h	
c - IDEM 2019 - 0	GROUND WATER/COMMERCI	AL/INDUSTRIAL											



Source: AERIAL IMAGE, 2016 NAIP; MONITORING WELL SURVEY BY CM LAVOIE DATED JULY 30, 2020.

SCREENING LEVELS IN GROUNDWATER

FIGURE 2

Table 1

Former Cities Refinery Analytical Results Summary Sampling

Location ID: Sample Name: Sample Date: Depth:		GSH-MW01-20 WG-122121-DS-15 12/21/2021 	GSH-MW03-20 WG-122121-DS-16 12/21/2021 	GSH-MW05-20 WG-122221-DS-18 12/22/2021 	GSH-MW06-20 WG-122121-DS-14 12/21/2021 	GSH-MW10-20 WG-122121-DS-12 12/21/2021 	GSH-MW12-20 WG-122221-DS-17 12/22/2021 	
Parameters	Unit							
Volatile Organic Compo Benzene	unds µg/L	2.6	1.0 U	15	130	1.6	1.0 U	
Semivolatile Organic Co	ompounds							
2-Methylnaphthalene	μg/L	0.54 U	0.18 U	9.4	170	65	0.18 U	
Naphthalene	µg/L	0.54 U	0.18 U	0.55 U	0.90 U	0.90 U	0.18 U	
Metals								
Arsenic	µg/L	11	10 U	10 U	8.4 J	17	10 U	
Iron	µg/L	14000	4000	8100	6000	20000	2000	
Manganese	µg/L	510	380	770	1200	500	200	
Thallium	µg/L	20 U						

Footnotes:

U Not detected at the associated reporting limit. J Estimated concentration.

ATTACHMENT A

Project Schedule

			Former	ct Schedule - AOC Cities Refinery Chicago, IN					
D	Task Name		Duration	Start	Finish	2022 Q1	Q2	Q3	Q4
1	Administrative		<u>965 days</u>	Fri 1/24/20	Mon 10/16/23				
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 of	r 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		1		I
15	Financial Assurance Update (Updated annually and/or with su	523 days	Mon 9/20/21	Thu 9/21/23					
18	<u>RFI</u>		<u>444 days</u>	Fri 10/1/21	<u>Thu 6/15/23</u>				
19	On-going Quarterly Groundwater Monitoring and Off-Site Inv	restigation (Exact Dates TBD)	262 days	Wed 6/15/22	Thu 6/15/23		I	I	I
25	Additional RFI Work Plan(s), as needed		1 day	Fri 7/1/22	Fri 7/1/22		•	🔶 To Be De	termined
26	EPA Review and Approval of RFI Work Plan(s), as needed		1 day	Fri 7/1/22	Fri 7/1/22		•	🔶 To Be De	termined
27	RFI Field Activities, as needed		1 day	Fri 7/1/22	Fri 7/1/22		4	🔶 To Be De	etermined
28	Submit RFI Report - No later than October 1, 2021		1 day	Fri 10/1/21	Fri 10/1/21				
29	Interim Corrective Measures, as needed		<u>1 day</u>	Fri 7/1/22	<u>Fri 7/1/22</u>				
30	Interim Corrective Measures Work Plan(s), as needed		1 day	Fri 7/1/22	Fri 7/1/22		•	🔶 To Be De	termined
31	Interim Corrective Measures Implementation, as needed (90 Measures Work Plan and Schedule)	days following submittal of Interim Corrective	1 day	Fri 7/1/22	Fri 7/1/22		•	♠ To Be De	termined
32	Interim Corrective Measures Report (Either prior to or as part	t of the Environmental Indicators Report)	1 day	Fri 7/1/22	Fri 7/1/22		4	🔶 To Be De	termined
33	Final Corrective Measures		<u>570 days</u>	Mon 5/16/22	Fri 7/19/24				
34	Public Meeting, including 30-Day Comment Period (Exact Dat	e TBD)	30 days	Mon 5/16/22	Fri 6/24/22				
35	Environmental Indicators Report(s) - 60 Days following EPA Fi	inal Comments on RFI	1 day	Mon 8/22/22	Mon 8/22/22			•	
36	Installation of Off-Site Monitoring Wells (Estimated Schedule	2 days	Wed 6/1/22	Thu 6/2/22		•			
37	Final Corrective Measures Proposal - Within 90 Days followin	g 2 quarters of Data from Off-Site Monitoring Wells	1 day	Fri 12/9/22	Fri 12/9/22				•
38	EPA review and comments, supplemental information / inves	tigation request (if needed)	3 mons	Mon 12/12/22	Fri 3/3/23				
39	Public review and comment		2 mons	Mon 3/6/23	Fri 4/28/23				
40	EPA Final Decision		2 mons	Mon 5/1/23	Fri 6/23/23				
41	Final Corrective Measures Implementation - (According to the construction completed within one year, or within a reasonal measures)	12 mons	Mon 6/26/23	Fri 5/24/24					
42	Final Remedy Construction Completion Report (Including an (Operation and Maintenance Plan)	2 mons	Mon 5/27/24	Fri 7/19/24				
	ct: Former Cities Refinery, East Chicago, IN Wed 4/13/223:35 PM	Expected Timeframe Expect Contingent Timeframe Fixed I	ed Date Date	 • • 	Summ Manua	ary al Progress	s •	1	

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