

AECOM 100 North Broadway 20th Floor St. Louis, MO 63102 aecom.com

October 4, 2024

Illinois Environmental Protection Agency Division of Water Pollution Control Compliance Assurance Section 1021 North Grand Avenue East Springfield, Illinois 62794-9276 Illinois Environmental Protection Agency Collinsville FOS 2009 Mall Street Collinsville, Illinois 62234

Shell Oil Products US Steam Enhanced Extraction Pretreatment System - Treated Water Analytical Data Village of Roxana Wastewater Treatment Plant Water Pollution Control Permit No. 2023-EE-68012 September 2024 Analytical

To Whom It May Concern:

AECOM Technical Services, Inc. (AECOM), on behalf of Shell Oil Products US (Shell), is submitting this letter as required by Water Pollution Control Permit No. 2023-EE-68012, Special Condition 8(B). This Permit is for the pretreatment and discharge of the steam enhanced extraction (SEE) wastewater to the Village of Roxana Wastewater Treatment Plant (WWTP). Special Condition 8(B) of the Permit requires monitoring of the system discharges and submittal of analytical results to the Illinois Environmental Protection Agency (IEPA). Wastewater treated through the pretreatment system is sampled on a weekly basis in accordance with Condition 13 of the August 22, 2022 letter from Illinois EPA, Permit Section, Division of Land Pollution Control (Log N. B-43R-CA-107).

During system activities in September 2024, five (5) treated wastewater analytical samples of discharged water were analyzed. Due to system downtime for maintenance, water was not continuously generated or discharged in September 2024. Samples were collected during periods of water generation. The table below summarizes the samples and corresponding results.

Sample ID	Sample Date	Benzene (mg/L)
PWYSEE-WaterEff-083024	8/30/2024	<0.0005 (not detected)
PWYSEE-WaterEff-090524	9/5/2024	0.0029
PWYSEE-WaterEffluent-091124	9/11/2024	<0.0005 (not detected)
PWYSEE-WaterEffluent-091624	9/16/2024	<0.0005 (not detected)
PWYSEE-WaterEffluent-092424	9/24/2024	<0.0005 (not detected)

Please contact Ms. Wendy Pennington (wendy.pennington@aecom.com; 314-452-8929) with any questions.

Sincerely,

Wen Pat

Wendy Pennington, P.E. Compliance Manager AECOM

Samueltisher

Samuel Fisher, CHMM Task Manager AECOM

encl: Teklab Work Orders 24082546, 24090388, 24090717, 24091070, 24091782

cc: Buddy Bealer (Shell) Scott Schmidt (Village of Roxana)



Jason Woody (Village of Roxana) Project File



http://www.teklabinc.com/

September 03, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969



RE: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24082546

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 8/30/2024 14:11:00 for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

/my

Aaron Renner Project Manager (630)324-6855 arenner@teklabinc.com



Report Contents

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24082546 Report Date: 03-Sep-24

This reporting package includes the following:

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Laboratory Results	7
Quality Control Results	8
Receiving Check List	10
Chain of Custody	Appended



Definitions

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24082546

Report Date: 03-Sep-24

Abbr Definition

- * Analytes on report marked with an asterisk are not NELAP accredited
- CCV Continuing cal bration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
- DNI Did not ignite
- DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly I ke a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- NC Data is not acceptable for compliance purposes
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
 - PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
 - RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
 - RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
 - SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
 - Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
 - TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the cal bration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the cal bration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count (> 200 CFU)

eklab, Inc.

Definitions

Qualifiers

http://www.teklabinc.com/

Work Order: 24082546

Report Date: 03-Sep-24

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

- # Unknown hydrocarbon
- C RL shown is a Client Requested Quantitation Limit
- H Holding times exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
 - S Sp ke Recovery outside recovery limits
 - X Value exceeds Maximum Contaminant Level

- B Analyte detected in associated Method Blank
- E Value above quantitation range
- I Associated internal standard was outside method criteria
- M Manual Integration used to determine area response
- R RPD outside accepted recovery limits
- T TIC(Tentatively identified compound)



Case Narrative

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Cooler Receipt Temp: 14.7 °C

Work Order: 24082546 Report Date: 03-Sep-24

			Locations			
	Collinsville		Springfield	Kansas City		
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road	
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		Lenexa, KS 66214	
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998	
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998	
Email	jhriley@teklabinc.com	Email	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com	
	Collinsville Air		Chicago			
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.			
	Collinsville, IL 62234-7425		Downers Grove, IL 60515			
Phone	(618) 344-1004	Phone	(630) 324-6855			
Fax	(618) 344-1005	Fax				
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com			



Accreditations

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24082546 Report Date: 03-Sep-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2025	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2025	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2025	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2025	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	UST	0073		1/31/2025	Collinsville
Mississippi	MSDH			4/30/2025	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville



Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24082546-001

Matrix: AQUEOUS

Work Order: 24082546

Report Date: 03-Sep-24

Client Sample ID: PWYSEE-WaterEff-083024

Collection Date: 08/30/2024 13:20

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch			
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS											
Benzene	NELAP	0.1	0.5		ND	µg/L	1	08/30/2024 21:25 227872			
Surr: 1,2-Dichloroethane-d4	*	0	80-120		96.1	%REC	1	08/30/2024 21:25 227872			
Surr: 4-Bromofluorobenzene	*	0	80-120		98.1	%REC	1	08/30/2024 21:25 227872			
Surr: Dibromofluoromethane	*	0	80-120		98.8	%REC	1	08/30/2024 21:25 227872			
Surr: Toluene-d8	*	0	80-120		102.1	%REC	1	08/30/2024 21:25 227872			



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Client: AECOM

Work Order: 24082546

Report Date: 03-Sep-24

RPD Limit: 20

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

SW-846 5030, 82	60B, VOLATI	LE ORGA	NIC COMPOUNDS BY GC/MS
Batch 227872	SampType:	MBLK	Units µg/L

	mbert									
SampID: MBLK-AE240830A-1 Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		ND						08/30/2024
Surr: 1,2-Dichloroethane-d4	*			50.5	50.00		100.9	80	120	08/30/2024
Surr: 4-Bromofluorobenzene	*			49.3	50.00		98.7	80	120	08/30/2024
Surr: D bromofluoromethane	*			50.1	50.00		100.2	80	120	08/30/2024
Surr: Toluene-d8	*			51.1	50.00		102.2	80	120	08/30/2024

Batch 227872 SampType: LCS

SampID: LCS-AE240830A-1

										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		45.9	50.00	0	91.8	81.6	120	08/30/2024
Surr: 1,2-Dichloroethane-d4	*			50.2	50.00		100.5	80	120	08/30/2024
Surr: 4-Bromofluorobenzene	*			49.1	50.00		98.2	80	120	08/30/2024
Surr: D bromofluoromethane	*			50.1	50.00		100.2	80	120	08/30/2024
Surr: Toluene-d8	*			51.3	50.00		102.6	80	120	08/30/2024

Units µg/L

Units µg/L

Units µg/L

Batch 227872 SampType: LCSD

SampID:	LCSD-AE240830A-1	
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Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	II %RPD	Date Analyzed
Benzene		0.5		44.9	50.00	0	89.7	45.88	2.25	08/30/2024
Surr: 1,2-Dichloroethane-d4	*			50.1	50.00		100.2			08/30/2024
Surr: 4-Bromofluorobenzene	*			49.5	50.00		98.9			08/30/2024
Surr: D bromofluoromethane	*			50.4	50.00		100.8			08/30/2024
Surr: Toluene-d8	*			50.8	50.00		101.7			08/30/2024

Batch 227872 SampType: MS

SampID: 24082437-003eMS Date Analyzed SPK Ref Val %REC Low Limit High Limit Analyses Cert RL Qual Result Spike 0.5 47.0 Benzene 50.00 0 94.1 74.1 118 08/30/2024 Surr: 1,2-Dichloroethane-d4 * 49.1 50.00 98.3 80 120 08/30/2024 Surr: 4-Bromofluorobenzene 48.3 50.00 96.6 80 120 08/30/2024 Surr: D bromofluoromethane 50.5 50.00 101.0 80 120 08/30/2024 Surr: Toluene-d8 . 51.3 50.00 102.5 80 120 08/30/2024



Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Work Order: 24082546

Report Date: 03-Sep-24

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS											
Batch 227872 SampType:	MSD		Units µg/L					RPD Li	imit: 20		
SampID: 24082437-003eMSD										Date	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref \	/al %RPD	Analyzed	
Benzene		0.5		46.7	50.00	0	93.3	47.03	0.77	08/30/2024	
Surr: 1,2-Dichloroethane-d4	*			48.8	50.00		97.6			08/30/2024	
Surr: 4-Bromofluorobenzene	*			48.4	50.00		96.7			08/30/2024	
Surr: D bromofluoromethane	*			50.2	50.00		100.3			08/30/2024	
Surr: Toluene-d8	*			51.6	50.00		103.2			08/30/2024	



Receiving Check List

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24082546 Report Date: 03-Sep-24

Carrier: Employee	Rec	Received By: PRS						
Completed by: On: 30-Aug-24 Amber Dilallo		On: Aua-24	Marin L. D Marvin L. Darling	an ling I				
Pages to follow: Chain of custody 1 Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance?	Extra pages include Yes V None Yes V Yes V Yes V Yes V Yes V Yes V Yes V Field Yes V	No Ice 🗹 No No No No No Lab No	Not Present ☐ Blue Ice ☐ NA ☑	Temp °C 14.7 Dry Ice				
When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam Water – at least one vial per sample has zero headspace?		e between	No VOA vials					
Water - TOX containers have zero headspace?	Yes	No 🗌	No TOX containers					
Water - pH acceptable upon receipt?	Yes 🔽	No 🗌	NA 🗌					
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗌	NA 🗹					
Any No responses	must be detailed be	low or on the	e COC.					

24082546

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Email reports to: <u>samuel.fisher@aecom.</u> wendy.pennington@aecom.com; brett.howell@		STATE RET EDD NOT N		ENT RATE A	PPLIES		ene												
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http://www.teklabinc.com/

September 06, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969



RE: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24090388

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 9/5/2024 15:21:00 for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

/my

Aaron Renner Project Manager (630)324-6855 arenner@teklabinc.com



Report Contents

http://www.teklabinc.com/

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Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24090388 Report Date: 06-Sep-24

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Work Order: 24090388

Report Date: 06-Sep-24

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- DNI Did not ignite
- DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly I ke a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
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 - RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
 - RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
 - SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
 - Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
 - TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the cal bration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the cal bration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count (> 200 CFU)

nc.

Definitions

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

- # Unknown hydrocarbon
- C RL shown is a Client Requested Quantitation Limit
- H Holding times exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
 - S Sp ke Recovery outside recovery limits
 - X Value exceeds Maximum Contaminant Level

Report Date: 06-Sep-24

Work Order: 24090388

Qualifiers

- B Analyte detected in associated Method Blank
- E Value above quantitation range
- I Associated internal standard was outside method criteria
- M Manual Integration used to determine area response
- R RPD outside accepted recovery limits
- T TIC(Tentatively identified compound)



Case Narrative

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Cooler Receipt Temp: 8.1 °C

Work Order: 24090388 Report Date: 06-Sep-24

			Locations			
	Collinsville		Springfield	Kansas City		
Address	ddress 5445 Horseshoe Lake Road		3920 Pintail Dr	Address	8421 Nieman Road	
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		Lenexa, KS 66214	
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998	
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998	
Email	jhriley@teklabinc.com	Email	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com	
	Collinsville Air		Chicago			
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.			
	Collinsville, IL 62234-7425		Downers Grove, IL 60515			
Phone	(618) 344-1004	Phone	(630) 324-6855			
Fax	(618) 344-1005	Fax				
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com			



Accreditations

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24090388 Report Date: 06-Sep-24

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State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2025	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2025	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2025	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2025	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	UST	0073		1/31/2025	Collinsville
Mississippi	MSDH			4/30/2025	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville



Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24090388-001

Matrix: AQUEOUS

Work Order: 24090388

Report Date: 06-Sep-24

Client Sample ID: PWYSEE-WaterEff-090524

Collection Date: 09/05/2024 10:40

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 5030, 8260B, VOLATII	E ORGANIC C	OMPOU	INDS BY	GC/MS				
Benzene	NELAP	0.1	0.5		2.9	µg/L	1	09/06/2024 09:22 228091
Surr: 1,2-Dichloroethane-d4	*	0	80-120		91.7	%REC	1	09/06/2024 09:22 228091
Surr: 4-Bromofluorobenzene	*	0	80-120		99.3	%REC	1	09/06/2024 09:22 228091
Surr: Dibromofluoromethane	*	0	80-120		97.3	%REC	1	09/06/2024 09:22 228091
Surr: Toluene-d8	*	0	80-120		102.3	%REC	1	09/06/2024 09:22 228091



http://www.teklabinc.com/

Client: AECOM

Work Order: 24090388

Report Date: 06-Sep-24

RPD Limit: 20

Date

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Batch 228091 SampType:	MBLK		Units µg/L							
SampID: MBLK-AE240906A-1 Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		ND						09/06/2024
Surr: 1,2-Dichloroethane-d4	*			46.6	50.00		93.2	80	120	09/06/2024
Surr: 4-Bromofluorobenzene	*			48.8	50.00		97.6	80	120	09/06/2024
Surr: D bromofluoromethane	*			49.0	50.00		98.0	80	120	09/06/2024
Surr: Toluene-d8	*			51.1	50.00		102.2	80	120	09/06/2024

Units µg/L

Units µg/L

Units µg/L

Batch 228091 SampType: LCS

SampID: LCS-AE240906A-1

Cumpio: 2007/2240000/41										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		46.8	50.00	0	93.6	81.6	120	09/06/2024
Surr: 1,2-Dichloroethane-d4	*			45.8	50.00		91.6	80	120	09/06/2024
Surr: 4-Bromofluorobenzene	*			50.3	50.00		100.5	80	120	09/06/2024
Surr: D bromofluoromethane	*			48.6	50.00		97.3	80	120	09/06/2024
Surr: Toluene-d8	*			50.0	50.00		100.0	80	120	09/06/2024

Batch 228091 SampType: LCSD

SampID:	LCSD-AE240906A-1	

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref V	al %RPD	Analyzed
Benzene		0.5		47.3	50.00	0	94.6	46.81	1.00	09/06/2024
Surr: 1,2-Dichloroethane-d4	*			45.8	50.00		91.6			09/06/2024
Surr: 4-Bromofluorobenzene	*			49.4	50.00		98.8			09/06/2024
Surr: D bromofluoromethane	*			49.2	50.00		98.3			09/06/2024
Surr: Toluene-d8	*			49.7	50.00		99.3			09/06/2024

Batch 228091 SampType: LCS

SampID: QCS-AE240906A-1

Sampid. QCS-AE240900A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		46.8	50.00	0	93.6	65	135	09/06/2024
Surr: 1,2-Dichloroethane-d4	*			45.8	50.00		91.6	80	120	09/06/2024
Surr: 4-Bromofluorobenzene	*			50.3	50.00		100.5	80	120	09/06/2024
Surr: D bromofluoromethane	*			48.6	50.00		97.3	80	120	09/06/2024
Surr: Toluene-d8	*			50.0	50.00		100.0	80	120	09/06/2024



Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Work Order: 24090388

Report Date: 06-Sep-24

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS											
Batch 228091 SampType:			Units µg/L					RPD Lin	nit: 40		
SampID: QCSD-AE240906A-1										Date Analyzed	
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	al %RPD	Analyzeu	
Benzene		0.5		47.3	50.00	0	94.6	46.81	1.00	09/06/2024	
Surr: 1,2-Dichloroethane-d4	*			45.8	50.00		91.6			09/06/2024	
Surr: 4-Bromofluorobenzene	*			49.4	50.00		98.8			09/06/2024	
Surr: D bromofluoromethane	*			49.2	50.00		98.3			09/06/2024	
Surr: Toluene-d8	*			49.7	50.00		99.3			09/06/2024	



Receiving Check List

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24090388 Report Date: 06-Sep-24

Carrier: Samuel Fisher	Rece	ived By: PRS	5						
Completed by: On: 05-Sep-24 Laura E Henson	(Sep-24	Elizabeth A. Hur Elizabeth A. Hurley	lag					
Pages to follow: Chain of custody 1	Extra pages include	d 0							
Shipping container/cooler in good condition?	Yes 🗸	No	Not Present	Temp °C 8.1					
Type of thermal preservation?	None	Ice 🗹	Blue Ice	Dry Ice					
Chain of custody present?	Yes 🗹	No 🗌		2.9.00					
Chain of custody signed when relinquished and received?	Yes 🖌	No 🗌							
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌							
Samples in proper container/bottle?	Yes 🗹	No 🗌							
Sample containers intact?	Yes 🗹	No 🗌							
Sufficient sample volume for indicated test?	Yes 🖌	No 🗌							
All samples received within holding time?	Yes 🗸	No 🗌							
Reported field parameters measured:	Field	Lab	NA 🔽						
Container/Temp Blank temperature in compliance?	Yes 🖌	No 🗌							
When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam		e between							
Water – at least one vial per sample has zero headspace?	Yes 🖌	No	No VOA vials						
Water - TOX containers have zero headspace?	Yes	No	No TOX containers						
Water - pH acceptable upon receipt?	Yes 🗹	No	NA 🗌						
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗌	NA 🗹						
Any No responses must be detailed below or on the COC.									

24090388

LAB (LOCATION)							2	She	ell O	il F	ro	oduo	cts	US	Ch	ain	Of	Cı	usto	ody	Re	eco	rd					AECOM
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	; Collinsville, IL}	TRANSP	ORTATION		OTHER					٦ŀ	<u>, 1</u> . 2		<u>11 cet e</u> ,	<u>gging</u> ,		<u>y porta</u>		<u></u>				·		<u>.</u>			PAG	GE:1 of1
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AECOM											1						-											
ADDRESS: 100	N. Broadway	- 20th Floor	; ST. LOI	JIS, MO 6310	02				-		EDF DELIVERABLE TO (Name, Company, Office Location): PHONE NO.:							E-MAIL: samuel.fisher@aecom.com							AECOM Other ID			
PROJECT CONTACT (Hardcopy or POF Report to):		Samuel Fi									Samuel Fisher, AECOM, St. Louis 314-296-1969 Sampler Name(s):								36110					USE OF				
TELEPHONE: FAX: 514-429-0100	314-429-04		Bill To Cont		lef fich		ecom.c	<u></u>				300			D. a k	.1												
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CAB Field Sample Identification DATE TIME				MATRIX	нсь	HCL HN03 H2SO4 NONE H2SO4		2504 COI	VT.						1						1							
PWYSEE-WaterEff- 0905	12 J	9/5/24	1040	Aqueous	2				2	2	×					1								_			0	24090388-001
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http://www.teklabinc.com/

September 12, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969



RE: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24090717

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 9/11/2024 08:43:00 for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

(long)

Aaron Renner Project Manager (630)324-6855 arenner@teklabinc.com



Report Contents

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24090717 Report Date: 12-Sep-24

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	8
Receiving Check List	11
Chain of Custody	Appended

eklab, Inc.

Definitions

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24090717

Report Date: 12-Sep-24

Abbr Definition

- * Analytes on report marked with an asterisk are not NELAP accredited
- CCV Continuing cal bration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
 - DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
- DNI Did not ignite
- DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
- ICV Initial calibration verification is a check of a standard to determine the state of cal bration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- NC Data is not acceptable for compliance purposes
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
 - PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
 - RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
 - RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
 - SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
 - Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
 - TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a l brary search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count (> 200 CFU)

Environmental Laboratory

Definitions

http://www.teklabinc.com/

Work Order: 24090717

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

- # Unknown hydrocarbon
- C RL shown is a Client Requested Quantitation Limit
- H Holding times exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside recovery limits
- X Value exceeds Maximum Contaminant Level

Report Date: 12-Sep-24

Qualifiers

- B Analyte detected in associated Method Blank
- E Value above quantitation range
- I Associated internal standard was outside method criteria
- M Manual Integration used to determine area response
- R RPD outside accepted recovery limits
- T TIC(Tentatively identified compound)



Case Narrative

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Cooler Receipt Temp: 9.7 °C

Work Order: 24090717 Report Date: 12-Sep-24

			Locations		
	Collinsville		Springfield		Kansas City
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		Lenexa, KS 66214
hone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
ax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Bmail	jhriley@teklabinc.com	Email	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com
	Collinsville Air		Chicago		
ddress	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.		
	Collinsville, IL 62234-7425		Downers Grove, IL 60515		
Phone	(618) 344-1004	Phone	(630) 324-6855		
Fax	(618) 344-1005	Fax			
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com		



Accreditations

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24090717 Report Date: 12-Sep-24

Dept	Cert #	NELAP	Exp Date	Lab
IEPA	100226	NELAP	1/31/2025	Collinsville
IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
KDHE	E-10374	NELAP	4/30/2025	Collinsville
LDEQ	05002	NELAP	6/30/2025	Collinsville
LDEQ	05003	NELAP	6/30/2025	Collinsville
ODEQ	9978	NELAP	12/31/2024	Collinsville
ADEQ	88-0966		3/14/2025	Collinsville
IDPH	17584		5/31/2025	Collinsville
IDNR	430		6/1/2026	Collinsville
UST	0073		1/31/2025	Collinsville
MSDH			4/30/2025	Collinsville
MDNR	930		1/31/2025	Collinsville
MDNR	00930		10/31/2026	Collinsville
	IEPA IEPA KDHE LDEQ LDEQ ODEQ ADEQ IDPH IDNR UST MSDH MDNR	IEPA 100226 IEPA 1004652024-2 KDHE E-10374 LDEQ 05002 LDEQ 05003 ODEQ 9978 ADEQ 88-0966 IDPH 17584 IDNR 430 UST 0073 MSDH 930	IEPA 100226 NELAP IEPA 1004652024-2 NELAP KDHE E-10374 NELAP LDEQ 05002 NELAP LDEQ 05003 NELAP ODEQ 9978 NELAP ADEQ 88-0966 IDPH IDNR 430 UST MDNR 930 IDNR	IEPA 100226 NELAP 1/31/2025 IEPA 1004652024-2 NELAP 4/30/2025 KDHE E-10374 NELAP 4/30/2025 LDEQ 05002 NELAP 6/30/2025 LDEQ 05003 NELAP 6/30/2025 ODEQ 9978 NELAP 12/31/2024 ADEQ 88-0966 3/14/2025 IDNR 430 6/1/2026 UST 0073 1/31/2025 MDNR 930 1/31/2025



Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24090717-001

Matrix: AQUEOUS

Work Order: 24090717

Report Date: 12-Sep-24

Client Sample ID: PWYSEE-WaterEffluent-091124

Collection Date: 09/11/2024 08:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 5030, 8260B, VOLATII	LE ORGANIC CO	OMPOU	INDS BY	GC/MS				
Benzene	NELAP	0.1	0.5		ND	µg/L	1	09/11/2024 14:46 228262
Surr: 1,2-Dichloroethane-d4	*	0	80-120		102.4	%REC	1	09/11/2024 14:46 228262
Surr: 4-Bromofluorobenzene	*	0	80-120		103.5	%REC	1	09/11/2024 14:46 228262
Surr: Dibromofluoromethane	*	0	80-120		99.4	%REC	1	09/11/2024 14:46 228262
Surr: Toluene-d8	*	0	80-120		101.1	%REC	1	09/11/2024 14:46 228262



http://www.teklabinc.com/

Client: AECOM

Work Order: 24090717

Report Date: 12-Sep-24

RPD Limit: 20

Data

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

SW-640 5050, 0200D, VOLATILE OKGANIC COMP CONDS DI GOMIS											
Batch 228262 SampType	: MBLK		Units µg/L								
SampID: MBLK-AK240911A-1											Date
Analyses	Cert	RL	Qual	Result	Sp	ike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		ND							09/11/2024
Surr: 1,2-Dichloroethane-d4	*			50.7	50.	00		101.3	80	120	09/11/2024
Surr: 4-Bromofluorobenzene	*			50.2	50.	00		100.3	80	120	09/11/2024
Surr: Dibromofluoromethane	*			49.7	50.	00		99.5	80	120	09/11/2024
Surr: Toluene-d8	*			50.6	50.	00		101.2	80	120	09/11/2024

Batch 228262 SampType: LCS

										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		52.5	50.00	0	104.9	81.6	120	09/11/2024
Surr: 1,2-Dichloroethane-d4	*			50.0	50.00		99.9	80	120	09/11/2024
Surr: 4-Bromofluorobenzene	*			49.2	50.00		98.3	80	120	09/11/2024
Surr: Dibromofluoromethane	*			50.1	50.00		100.2	80	120	09/11/2024
Surr: Toluene-d8	*			50.0	50.00		100.0	80	120	09/11/2024

Units µg/L

Units µg/L

Units µg/L

Batch 228262 SampType: LCSD

SampID:	LCSD-AK240911A-1	
---------	------------------	--

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	al %RPD	Analyzed
Benzene		0.5		50.0	50.00	0	100.0	52.47	4.86	09/11/2024
Surr: 1,2-Dichloroethane-d4	*			49.7	50.00		99.3			09/11/2024
Surr: 4-Bromofluorobenzene	*			50.3	50.00		100.5			09/11/2024
Surr: Dibromofluoromethane	*			49.3	50.00		98.7			09/11/2024
Surr: Toluene-d8	*			49.8	50.00		99.6			09/11/2024

Batch 228262 SampType: LCS

SampID: QCS-AK240911A-1

Sumple. QCS-AR240911A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		52.5	50.00	0	104.9	65	135	09/11/2024
Surr: 1,2-Dichloroethane-d4	*			50.0	50.00		99.9	80	120	09/11/2024
Surr: 4-Bromofluorobenzene	*			49.2	50.00		98.3	80	120	09/11/2024
Surr: Dibromofluoromethane	*			50.1	50.00		100.2	80	120	09/11/2024
Surr: Toluene-d8	*			50.0	50.00		100.0	80	120	09/11/2024



Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Work Order: 24090717

Report Date: 12-Sep-24

Client Project: PWY SEE 2024 Water Effluent	/ 60721927-7.2.2
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SW-846 5030, 8260B, VOLAT	LE ORGA	NIC C	OMPOUND	S BY GC/MS					
Batch 228262 SampType:	LCSD		Units µg/L					RPD Limit: 40	
SampID: QCSD-AK240911A-1									Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val %RPD	Analyzed
Benzene		0.5		50.0	50.00	0	100.0	52.47 4.86	09/11/2024
Surr: 1,2-Dichloroethane-d4	*			49.7	50.00		99.3		09/11/2024
Surr: 4-Bromofluorobenzene	*			50.3	50.00		100.5		09/11/2024
Surr: Dibromofluoromethane	*			49.3	50.00		98.7		09/11/2024
Surr: Toluene-d8	*			49.8	50.00		99.6		09/11/2024

Batch 228262 SampType: LCSG Units %REC

Sampid: LCSG-AK240911A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Surr: 1,2-Dichloroethane-d4	*			50.3	50.00		100.6	80	120	09/11/2024
Surr: 4-Bromofluorobenzene	*			50.0	50.00		100.1	80	120	09/11/2024
Surr: Dibromofluoromethane	*			49.1	50.00		98.2	80	120	09/11/2024
Surr: Toluene-d8	*			50.9	50.00		101.7	80	120	09/11/2024

Batch 228262 SampType: LCSGD Units %REC RPD Limit: 0 SampID: LCSGD-AK240911A-1 Date Analyzed SPK Ref Val %REC RPD Ref Val %RPD Spike Analyses Cert RL Qual Result * 50.2 100.4 09/11/2024 Surr: 1,2-Dichloroethane-d4 50.00 Surr: 4-Bromofluorobenzene * 50.5 50.00 100.9 09/11/2024 Surr: Dibromofluoromethane * 50.00 99.5 09/11/2024 49.8 * Surr: Toluene-d8 50.4 50.00 100.7 09/11/2024

Batch 228262 SampType: MS Units µg/L

SampID: 24090593-003AMS

	Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
1	Benzene		5.0		489	500.0	0	97.8	74.1	118	09/11/2024
	Surr: 1,2-Dichloroethane-d4	*			501	500.0		100.2	80	120	09/11/2024
	Surr: 4-Bromofluorobenzene	*			512	500.0		102.4	80	120	09/11/2024
	Surr: Dibromofluoromethane	*			493	500.0		98.6	80	120	09/11/2024
	Surr: Toluene-d8	*			501	500.0		100.2	80	120	09/11/2024

Date



Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Work Order: 24090717

Report Date: 12-Sep-24

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

SW-846 5030, 8260B, VOLAT	ILE ORGA		OMPOUND	S BY GC/M	s									
Batch 228262 SampType:	MSD		Units µg/L			RPD Limit: 20								
SampID: 24090593-003AMSD									Date					
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val %RPD	Analyzed					
Benzene		5.0		487	500.0	0	97.5	488.9 0.31	09/11/2024					
Surr: 1,2-Dichloroethane-d4	*			504	500.0		100.8		09/11/2024					
Surr: 4-Bromofluorobenzene	*			506	500.0		101.2		09/11/2024					
Surr: Dibromofluoromethane	*			489	500.0		97.7		09/11/2024					
Surr: Toluene-d8	*			506	500.0		101.2		09/11/2024					

Batch 228262 SampType: MS

Unite	ua/I
Units	µg/L

`	24000047-00111110										Date
	Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
	Benzene		0.5		50.4	50.00	0	100.9	37	151	09/11/2024
	Surr: 1,2-Dichloroethane-d4	*			50.1	50.00		100.3	80	120	09/11/2024
	Surr: 4-Bromofluorobenzene	*			51.1	50.00		102.1	80	120	09/11/2024
	Surr: Dibromofluoromethane	*			49.4	50.00		98.7	80	120	09/11/2024
	Surr: Toluene-d8	*			50.0	50.00		99.9	80	120	09/11/2024



Receiving Check List

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24090717 Report Date: 12-Sep-24

Carrier: Employee	Reco	eived By: LE	4	
Completed by: On: 11-Sep-24 Laura E Henson		viewed by: On: Sep-24	Elizabeth A. Hurley	leg
Pages to follow: Chain of custody 1	Extra pages include	ed 0]	
Shipping container/cooler in good condition?	Yes 🗸	No 🗌	Not Present	Temp °C 9.7
Type of thermal preservation?	None	Ice 🗹	Blue Ice	Dry Ice
Chain of custody present?	Yes 🗸	No 🗌		,
Chain of custody signed when relinquished and received?	Yes 🗸	No 🗌		
Chain of custody agrees with sample labels?	Yes 🖌	No 🗌		
Samples in proper container/bottle?	Yes 🖌	No 🗌		
Sample containers intact?	Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?	Yes 🖌	No 🗌		
All samples received within holding time?	Yes 🗹	No 🗌		
Reported field parameters measured:	Field	Lab 🗌	NA 🗹	
Container/Temp Blank temperature in compliance?	Yes 🗹	No 🗌		
When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam		e between		
Water – at least one vial per sample has zero headspace?	Yes 🖌	No	No VOA vials	
Water - TOX containers have zero headspace?	Yes	No	No TOX containers 🗹	
Water - pH acceptable upon receipt?	Yes 🗹	No	NA 🗌	
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗌	NA 🗹	
Any No responses	must be detailed be	low or on the	e COC.	

24090717

LAB (LOCATION)				4	@	S	hel	l Oil	Pr	odu	ucts	US	Ch	ain	Of	Cu	sto	iy F	Red	cor	d				AECOM
ACCUTEST () CALSCIENCE ()	[Please Check Appropriate Box: Print Bill To Contact Name:									PlaNet Site or Project ID								IF NO INCIDENT # APPLIE						
CALSCIENCE () TESTAMERICA (Pensacola)	SGW FDG	=		PIPELINE			RETAI	iL 			s	amuel F	isher						25	5278				DATE	9/11/24
Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)		.LS		ONSULT	ANT) LUBES				*******	PO				Т		GS		Proje	ct ID				•••
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AECOM				<u> </u>														IL			SEE 2	024 W	ater E	ffluent /	0721927-7.2.2
RESS: 100 N. Broadway	- 20th Floor;	ST. LOUI	S, MO 6310	2							er, AECC			ion):		ONE NO.:	1980			E-MAIL: Samuel.	febor/	@0000	m com		AECOM Other ID
VECT CONTACT (Hardcopy or PDF Report to):													Juis		~	4-250-				Sander	11511814	waeco			
EPHONE: FAX	Samuel Fis	her Bill To Contact	E-MAIL							•	lame(s)		,	1									LAB	USE ONL	r
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SPECIAL INSTRUCTIONS OR NOTES : Email reports to: <u>samuel.fisher@aecon</u>	1.com:					E APPLIES	001 TSC		e 82																- onice
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Field Sample Identification	DATE	TIME		HCL	HNO3 H2	SO4 NON	E H2S04																		
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http://www.teklabinc.com/

September 17, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969



RE: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24091070

Dear Samuel Fisher:

TEKLAB, INC received 4 samples on 9/16/2024 08:54:00 for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

(long!

Aaron Renner Project Manager (630)324-6855 arenner@teklabinc.com



Report Contents

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091070 Report Date: 17-Sep-24

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	11
Receiving Check List	14
Chain of Custody	Appended

eklab, Inc.

Definitions

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091070

Report Date: 17-Sep-24

Abbr Definition

- * Analytes on report marked with an asterisk are not NELAP accredited
- CCV Continuing cal bration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
- DNI Did not ignite
- DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
- ICV Initial calibration verification is a check of a standard to determine the state of cal bration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- NC Data is not acceptable for compliance purposes
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
 - PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
 - RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
 - RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
 - SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
 - Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
 - TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a l brary search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count (> 200 CFU)

eklab, Inc.

Definitions

http://www.teklabinc.com/

Work Order: 24091070

Report Date: 17-Sep-24

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

- # Unknown hydrocarbon
- C RL shown is a Client Requested Quantitation Limit
- H Holding times exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside recovery limits
- X Value exceeds Maximum Contaminant Level

Qualifiers

- B Analyte detected in associated Method Blank
- E Value above quantitation range
- I Associated internal standard was outside method criteria
- M Manual Integration used to determine area response
- R RPD outside accepted recovery limits
- T TIC(Tentatively identified compound)



Case Narrative

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Cooler Receipt Temp: 17.5 °C

Work Order: 24091070 Report Date: 17-Sep-24

			Locations		
	Collinsville		Springfield		Kansas City
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		Lenexa, KS 66214
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com
	Collinsville Air		Chicago		
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.		
	Collinsville, IL 62234-7425		Downers Grove, IL 60515		
Phone	(618) 344-1004	Phone	(630) 324-6855		
Fax	(618) 344-1005	Fax			
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com		



Accreditations

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091070

Report Date: 17-Sep-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2025	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2025	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2025	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2025	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	UST	0073		1/31/2025	Collinsville
Mississippi	MSDH			4/30/2025	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville



Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24091070-001

Matrix: AQUEOUS

Work Order: 24091070

Report Date: 17-Sep-24

Client Sample ID: PWYSEE-WaterEffluent-091624

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 5030, 8260B, VOLATI	LE ORGANIC CO	OMPOU	INDS BY	GC/MS				
Benzene	NELAP	0.1	0.5		ND	µg/L	1	09/17/2024 08:25 228519
Surr: 1,2-Dichloroethane-d4	*	0	80-120		93.4	%REC	1	09/17/2024 08:25 228519
Surr: 4-Bromofluorobenzene	*	0	80-120		103.1	%REC	1	09/17/2024 08:25 228519
Surr: Dibromofluoromethane	*	0	80-120		97.7	%REC	1	09/17/2024 08:25 228519
Surr: Toluene-d8	*	0	80-120		103.7	%REC	1	09/17/2024 08:25 228519



Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24091070-002

Report Date: 17-Sep-24

Work Order: 24091070

Client Sample ID: PWYSEE-Untreated-091624

Matrix: AQUEOUS

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATIL	E ORGANIC C	OMPOU	JNDS BY	GC/MS					
Benzene	NELAP	25.0	250		23700	µg/L	500	09/17/2024 10:03	228519
Surr: 1,2-Dichloroethane-d4	*	0	80-120		94.0	%REC	500	09/17/2024 10:03	228519
Surr: 4-Bromofluorobenzene	*	0	80-120		103.7	%REC	500	09/17/2024 10:03	228519
Surr: Dibromofluoromethane	*	0	80-120		97.9	%REC	500	09/17/2024 10:03	228519
Surr: Toluene-d8	*	0	80-120		102.8	%REC	500	09/17/2024 10:03	228519



Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24091070-003

Matrix: AQUEOUS

Work Order: 24091070

Report Date: 17-Sep-24

Client Sample ID: PWYSEE-POSTLGAC500-091624

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 5030, 8260B, VOLATI	LE ORGANIC CO	OMPOU	INDS BY	GC/MS				
Benzene	NELAP	0.1	0.5		2.7	µg/L	1	09/17/2024 12:27 228520
Surr: 1,2-Dichloroethane-d4	*	0	80-120		99.1	%REC	1	09/17/2024 12:27 228520
Surr: 4-Bromofluorobenzene	*	0	80-120		99.6	%REC	1	09/17/2024 12:27 228520
Surr: Dibromofluoromethane	*	0	80-120		99.8	%REC	1	09/17/2024 12:27 228520
Surr: Toluene-d8	*	0	80-120		99.6	%REC	1	09/17/2024 12:27 228520



Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24091070-004

Matrix: AQUEOUS

Work Order: 24091070

Report Date: 17-Sep-24

Client Sample ID: PWYSEE-PostAS-091624

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 5030, 8260B, VOLATI	LE ORGANIC CO	OMPOL	JNDS BY	GC/MS				
Benzene	NELAP	0.5	5.0		294	µg/L	10	09/17/2024 10:27 228519
Surr: 1,2-Dichloroethane-d4	*	0	80-120		93.5	%REC	10	09/17/2024 10:27 228519
Surr: 4-Bromofluorobenzene	*	0	80-120		102.4	%REC	10	09/17/2024 10:27 228519
Surr: Dibromofluoromethane	*	0	80-120		98.2	%REC	10	09/17/2024 10:27 228519
Surr: Toluene-d8	*	0	80-120		103.0	%REC	10	09/17/2024 10:27 228519



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Client: AECOM

Work Order: 24091070

Report Date: 17-Sep-24

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

SW-640 5050, 0200B, VOEATIEL ONGANIC COMIT CONDS BT GOMIS												
Batch 228519 SampType	e: MBLK		Units µg/L									
SampID: MBLK-AE240916A-2											Date	
Analyses	Cert	RL	Qual	Result		Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Benzene		0.5		ND							09/17/2024	
Surr: 1,2-Dichloroethane-d4	*			47.0		50.00		94.1	80	120	09/17/2024	
Surr: 4-Bromofluorobenzene	*			50.6		50.00		101.2	80	120	09/17/2024	
Surr: Dibromofluoromethane	*			49.0		50.00		98.1	80	120	09/17/2024	
Surr: Toluene-d8	*			51.5		50.00		103.0	80	120	09/17/2024	

Batch 228519 SampType: LCS

Cumpio. 2007/12/00/10/1-2										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		48.2	50.00	0	96.4	81.6	120	09/16/2024
Surr: 1,2-Dichloroethane-d4	*			46.0	50.00		92.0	80	120	09/16/2024
Surr: 4-Bromofluorobenzene	*			50.8	50.00		101.5	80	120	09/16/2024
Surr: Dibromofluoromethane	*			50.1	50.00		100.3	80	120	09/16/2024
Surr: Toluene-d8	*			50.5	50.00		101.0	80	120	09/16/2024

Units µg/L

Batch 228519 SampType: LCSD

Batch 228519 SampType: SampID: LCSD-AE240916A-2	LCSD		Units µg/L					RPD Limit:	20
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD
Benzene		0.5		48.4	50.00	0	96.8	48.18 0	.50
Surr: 1,2-Dichloroethane-d4	*			46.1	50.00		92.3		
Surr: 4-Bromofluorobenzene	*			50.7	50.00		101.3		
Surr: Dibromofluoromethane	*			49.6	50.00		99.1		
Surr: Toluene-d8	*			49.9	50.00		99.8		

Batch 228519 SampType: LCSG Units %REC

SampID: LCSG-AE240916A-2	Gent	DI	0.1
Analyses	Cert	RL	Qual

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Surr: 1,2-Dichloroethane-d4	*			46.7	50.00		93.3	80	120	09/17/2024
Surr: 4-Bromofluorobenzene	*			50.3	50.00		100.6	80	120	09/17/2024
Surr: Dibromofluoromethane	*			49.7	50.00		99.4	80	120	09/17/2024
Surr: Toluene-d8	*			51.4	50.00		102.8	80	120	09/17/2024

Date Analyzed

09/16/2024 09/16/2024 09/16/2024 09/16/2024

09/16/2024

Date



Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Work Order: 24091070

Report Date: 17-Sep-24

Client Project: PWY SEE 2024 Water Effluent	/ 60721927-7.2.2
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SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS												
Batch 228519 SampType:	LCSGD	Units %REC				RPD Limit: 0						
SampID: LCSGD-AE240916A-2									Date			
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val %RPD	Analyzed			
Surr: 1,2-Dichloroethane-d4	*			47.0	50.00		94.1		09/17/2024			
Surr: 4-Bromofluorobenzene	*			50.8	50.00		101.5		09/17/2024			
Surr: Dibromofluoromethane	*			49.3	50.00		98.6		09/17/2024			
Surr: Toluene-d8	*			51.6	50.00		103.1		09/17/2024			

Batch 228520 SampType: MBLK Units µg/L

SampID:	MBLK-AK240917A-1
---------	------------------

	Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1	Benzene		0.5		ND						09/17/2024
	Surr: 1,2-Dichloroethane-d4	*			49.8	50.00		99.5	80	120	09/17/2024
	Surr: 4-Bromofluorobenzene	*			49.5	50.00		99.1	80	120	09/17/2024
	Surr: Dibromofluoromethane	*			49.3	50.00		98.6	80	120	09/17/2024
	Surr: Toluene-d8	*			49.4	50.00		98.9	80	120	09/17/2024

Batch 228520 SampType: LCS Units µg/L

SampID: LCS-AK240917A-1

										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		50.9	50.00	0	101.8	81.6	120	09/17/2024
Surr: 1,2-Dichloroethane-d4	*			48.5	50.00		97.1	80	120	09/17/2024
Surr: 4-Bromofluorobenzene	*			49.2	50.00		98.4	80	120	09/17/2024
Surr: Dibromofluoromethane	*			49.0	50.00		98.1	80	120	09/17/2024
Surr: Toluene-d8	*			49.2	50.00		98.3	80	120	09/17/2024

SampType: LCSD Units µg/L RPD Limit: 20 Batch 228520 SampID: LCSD-AK240917A-1 Date Analyzed SPK Ref Val %REC RPD Ref Val %RPD Analyses Cert RL Qual Result Spike 0.5 52.5 Benzene 50.00 0 104.9 50.90 3.02 09/17/2024 Surr: 1,2-Dichloroethane-d4 48.9 50.00 97.9 09/17/2024 Surr: 4-Bromofluorobenzene 48.9 50.00 97.7 09/17/2024 Surr: Dibromofluoromethane 50.1 50.00 100.1 09/17/2024 Surr: Toluene-d8 . 49.1 50.00 98.3 09/17/2024



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Client: AECOM

Work Order: 24091070

Report Date: 17-Sep-24

RPD Limit: 40

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS Batch 228520 SampType: LCS Units µg/L

SampID: QCS-AK240917A-1										Dete
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		50.9	50.00	0	101.8	65	135	09/17/2024
Surr: 1,2-Dichloroethane-d4	*			48.5	50.00		97.1	80	120	09/17/2024
Surr: 4-Bromofluorobenzene	*			49.2	50.00		98.4	80	120	09/17/2024
Surr: Dibromofluoromethane	*			49.0	50.00		98.1	80	120	09/17/2024
Surr: Toluene-d8	*			49.2	50.00		98.3	80	120	09/17/2024

Batch 228520 SampType: LCSD

Sampid. QCSD-AK240917A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref	/al %RPD	Analyzed
Benzene		0.5		52.5	50.00	0	104.9	50.90	3.02	09/17/2024
Surr: 1,2-Dichloroethane-d4	*			48.9	50.00		97.9			09/17/2024
Surr: 4-Bromofluorobenzene	*			48.9	50.00		97.7			09/17/2024
Surr: Dibromofluoromethane	*			50.1	50.00		100.1			09/17/2024
Surr: Toluene-d8	*			49.1	50.00		98.3			09/17/2024

Units µg/L

Units µg/L

Batch 228520 SampType: MS

nnID [.]	2/001001 001aMS	

Com

SampiD. 24091091-001aMS										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		50.0		7640	5000	2858	95.7	74.1	118	09/17/2024
Surr: 1,2-Dichloroethane-d4	*			4960	5000		99.1	80	120	09/17/2024
Surr: 4-Bromofluorobenzene	*			4940	5000		98.8	80	120	09/17/2024
Surr: Dibromofluoromethane	*			5040	5000		100.7	80	120	09/17/2024
Surr: Toluene-d8	*			4940	5000		98.8	80	120	09/17/2024

Batch 228520 SampType: MSD

Units	µg/L	

RPD	l imit [.]	20

SamplD	24091091-001aMSD
Sampin.	24091091-0010000

SampID: 24091091-001aMSD										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref	Val %RPD	Analyzed
Benzene		50.0		7350	5000	2858	89.9	7641	3.83	09/17/2024
Surr: 1,2-Dichloroethane-d4	*			4880	5000		97.6			09/17/2024
Surr: 4-Bromofluorobenzene	*			4920	5000		98.4			09/17/2024
Surr: Dibromofluoromethane	*			4960	5000		99.2			09/17/2024
Surr: Toluene-d8	*			4970	5000		99.4			09/17/2024



Receiving Check List

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091070 Report Date: 17-Sep-24

Carrier: Employee	Receiv)			
Completed by: On: 16-Sep-24 Laura E Henson	Revi O 16-Se		Elled Hopke Ellie Hopkins	nd	
Pages to follow: Chain of custody 1	Extra pages included	0			
Shipping container/cooler in good condition?	Yes 🗸	No	Not Present	Temp °C	17.5
Type of thermal preservation?	None	Ice 🗸	Blue Ice	Dry Ice	
Chain of custody present?	Yes 🔽	No 🗌		2.9.100	
Chain of custody signed when relinquished and received?	Yes 🖌	No 🗌			
Chain of custody agrees with sample labels?	Yes 🖌	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🖌	No 🗌			
All samples received within holding time?	Yes 🖌	No 🗌			
Reported field parameters measured:	Field	Lab	NA 🗹		
Container/Temp Blank temperature in compliance?	Yes 🗸	No 🗌			
When thermal preservation is required, samples are complian 0.1° C - 6.0° C, or when samples are received on ice the same		between			
Water – at least one vial per sample has zero headspace?	Yes 🖌	No	No VOA vials		
Water - TOX containers have zero headspace?	Yes	No 🗌	No TOX containers 🗹		
Water - pH acceptable upon receipt?	Yes 🖌	No 🗌	NA 🗌		
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗌	NA 🗹		
Any No responses r	must be detailed belo	w or on the	COC.		

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100 N. Broadway	- 20th Floor;	ST. LOU	IS, MO 6310	2					Samu	el Fisher	, AECO	0 M, S t.	Louis			314-296	1969		sam	uel.fish	er@aec	om.com		
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TEMPERATURE ON RECEIPT C* Cooler #1	Cooler #2			Cooler	#3															-	r I			¢°
SPECIAL INSTRUCTIONS OR NOTES :									8260												÷			0
Email reports to: samuel.fisher@aecom			STATE	REIMBU	RSEMENT	APPLIES	PLIES		ě									A Carl	400	8				
wendy.pennington@aecom.com; brett.howelk@	aecom.com			ot need Pt verif		REQUEST	ED		Benzene							TET .	ϕ^{\ddagger}	\$ \$						
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14Dec15



http://www.teklabinc.com/

September 25, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969



RE: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24091782

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 9/24/2024 08:52:00 for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

(long)

Aaron Renner Project Manager (630)324-6855 arenner@teklabinc.com



Report Contents

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091782 Report Date: 25-Sep-24

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	8
Receiving Check List	10
Chain of Custody	Appended

eklab, Inc.

Definitions

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091782

Report Date: 25-Sep-24

Abbr Definition

- * Analytes on report marked with an asterisk are not NELAP accredited
- CCV Continuing cal bration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
 - DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
- DNI Did not ignite
- DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
- ICV Initial calibration verification is a check of a standard to determine the state of cal bration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- NC Data is not acceptable for compliance purposes
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
 - PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
 - RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
 - RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
 - SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
 - Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
 - TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a l brary search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count (> 200 CFU)

eklab. Inc.

Definitions

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

- # Unknown hydrocarbon
- C RL shown is a Client Requested Quantitation Limit
- H Holding times exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside recovery limits
- X Value exceeds Maximum Contaminant Level

Work Order: 24091782

Report Date: 25-Sep-24

Qualifiers

- B Analyte detected in associated Method Blank
- E Value above quantitation range
- I Associated internal standard was outside method criteria
- M Manual Integration used to determine area response
- R RPD outside accepted recovery limits
- T TIC(Tentatively identified compound)



Case Narrative

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Cooler Receipt Temp: 13.9 °C

Work Order: 24091782 Report Date: 25-Sep-24

			Locations		
	Collinsville		Springfield		Kansas City
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		Lenexa, KS 66214
hone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
ax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com
	Collinsville Air		Chicago		
ddress	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.		
	Collinsville, IL 62234-7425		Downers Grove, IL 60515		
Phone	(618) 344-1004	Phone	(630) 324-6855		
Fax	(618) 344-1005	Fax			
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com		



Accreditations

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091782 Report Date: 25-Sep-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2025	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2025	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2025	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2025	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	UST	0073		1/31/2025	Collinsville
Mississippi	MSDH			4/30/2025	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville



Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Lab ID: 24091782-001

Matrix: AQUEOUS

Work Order: 24091782

Report Date: 25-Sep-24

Client Sample ID: PWYSEE-WaterEffluent-092424

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch							
SW-846 5030, 8260B, VOLATII	W-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS														
Benzene	NELAP	0.1	0.5		ND	µg/L	1	09/24/2024 12:42 228826							
Surr: 1,2-Dichloroethane-d4	*	0	80-120		100.2	%REC	1	09/24/2024 12:42 228826							
Surr: 4-Bromofluorobenzene	*	0	80-120		100.2	%REC	1	09/24/2024 12:42 228826							
Surr: Dibromofluoromethane	*	0	80-120		99.1	%REC	1	09/24/2024 12:42 228826							
Surr: Toluene-d8	*	0	80-120		97.9	%REC	1	09/24/2024 12:42 228826							



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Client: AECOM

Work Order: 24091782

Report Date: 25-Sep-24

RPD Limit: 20

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS												
Batch 228826 SampType:	MBLK		Units µg/L									
SampID: MBLK-AK240924A-1										Date		
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed		
Benzene		0.5		ND						09/24/2024		
Surr: 1,2-Dichloroethane-d4	*			49.7	50.00		99.4	80	120	09/24/2024		
Surr: 4-Bromofluorobenzene	*			49.7	50.00		99.5	80	120	09/24/2024		
Surr: Dibromofluoromethane	*			49.8	50.00		99.7	80	120	09/24/2024		
Surr: Toluene-d8	*			49.3	50.00		98.5	80	120	09/24/2024		

Batch 228826 SampType: LCS

SampID: LCS-AK240924A-1

										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		50.8	50.00	0	101.7	81.6	120	09/24/2024
Surr: 1,2-Dichloroethane-d4	*			48.4	50.00		96.8	80	120	09/24/2024
Surr: 4-Bromofluorobenzene	*			49.4	50.00		98.8	80	120	09/24/2024
Surr: Dibromofluoromethane	*			50.3	50.00		100.5	80	120	09/24/2024
Surr: Toluene-d8	*			49.0	50.00		98.0	80	120	09/24/2024

Units µg/L

Units µg/L

Units µg/L

Batch 228826 SampType: LCSD

SampID: LCSD-AK240924A-1	
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Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	al %RPD	Date Analyzed
Benzene		0.5		48.4	50.00	0	96.7	50.84	4.98	09/24/2024
Surr: 1,2-Dichloroethane-d4	*			49.5	50.00		99.0			09/24/2024
Surr: 4-Bromofluorobenzene	*			49.5	50.00		99.0			09/24/2024
Surr: Dibromofluoromethane	*			50.5	50.00		101.0			09/24/2024
Surr: Toluene-d8	*			49.4	50.00		98.7			09/24/2024

Batch 228826 SampType: LCS

SampID: QCS-AK240924A-1

Sampid. QCS-AK240924A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Benzene		0.5		50.8	50.00	0	101.7	65	135	09/24/2024
Surr: 1,2-Dichloroethane-d4	*			48.4	50.00		96.8	80	120	09/24/2024
Surr: 4-Bromofluorobenzene	*			49.4	50.00		98.8	80	120	09/24/2024
Surr: Dibromofluoromethane	*			50.3	50.00		100.5	80	120	09/24/2024
Surr: Toluene-d8	*			49.0	50.00		98.0	80	120	09/24/2024



Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Work Order: 24091782

Report Date: 25-Sep-24

Client Project: PWY SEE 2024 Water Effluent / 6072	1927-7.2.2
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SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS														
Batch 228826 SampType:	LCSD		Units µg/L				RPD Limit: 40							
SampID: QCSD-AK240924A-1									Date					
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val %RPD	Analyzed					
Benzene		0.5		48.4	50.00	0	96.7	50.84 4.98	09/24/2024					
Surr: 1,2-Dichloroethane-d4	*			49.5	50.00		99.0		09/24/2024					
Surr: 4-Bromofluorobenzene	*			49.5	50.00		99.0		09/24/2024					
Surr: Dibromofluoromethane	*			50.5	50.00		101.0		09/24/2024					
Surr: Toluene-d8	*			49.4	50.00		98.7		09/24/2024					

Batch 228826 SampType: LCSG Units %REC

SampID: LCSG-AK240924A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
Surr: 1,2-Dichloroethane-d4	*			49.1	50.00		98.2	80	120	09/24/2024
Surr: 4-Bromofluorobenzene	*			49.2	50.00		98.3	80	120	09/24/2024
Surr: Dibromofluoromethane	*			49.8	50.00		99.5	80	120	09/24/2024
Surr: Toluene-d8	*			49.9	50.00		99.8	80	120	09/24/2024

Batch 228826 SampType: LCSGD Units %REC RPD Limit: 0 SampID: LCSGD-AK240924A-1 Date Analyzed SPK Ref Val %REC RPD Ref Val %RPD Spike Analyses Cert RL Qual Result * 49.4 98.7 09/24/2024 Surr: 1,2-Dichloroethane-d4 50.00 * Surr: 4-Bromofluorobenzene 49.6 50.00 99.2 09/24/2024 Surr: Dibromofluoromethane * 50.00 100.4 09/24/2024 50.2 * Surr: Toluene-d8 49.9 50.00 99.8 09/24/2024

Batch 228826 SampType: MS Units µg/L

SampID: 24091709-008AMS

							N/DE0	1	11	Analyzed
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzeu
Benzene		125	S	16800	12500	8065	69.8	74.1	118	09/24/2024
Surr: 1,2-Dichloroethane-d4	*			12300	12500		98.2	80	120	09/24/2024
Surr: 4-Bromofluorobenzene	*			12100	12500		97.2	80	120	09/24/2024
Surr: Dibromofluoromethane	*			12300	12500		98.5	80	120	09/24/2024
Surr: Toluene-d8	*			12300	12500		98.7	80	120	09/24/2024

Date



Receiving Check List

http://www.teklabinc.com/

Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2

Work Order: 24091782 Report Date: 25-Sep-24

Carrier: Brooks Pfeiffer	Rece	Received By: JMD						
Completed by: On: 24-Sep-24 Laura E Henson	C	ep-24	Elizabeth A. Hurley	lag				
Pages to follow: Chain of custody 1	Extra pages include	d 0						
Shipping container/cooler in good condition?	Yes 🗸	No	Not Present	Temp °C	13.9			
Type of thermal preservation?	None	Ice 🗹	Blue Ice	Dry Ice				
Chain of custody present?	Yes 🗹	No 🗌		519 100				
Chain of custody signed when relinguished and received?	Yes 🗸	No 🗌						
Chain of custody agrees with sample labels?	Yes 🖌	No 🗌						
Samples in proper container/bottle?	Yes 🖌	No 🗌						
Sample containers intact?	Yes 🖌	No 🗌						
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌						
All samples received within holding time?	Yes 🖌	No 🗌						
Reported field parameters measured:	Field	Lab	NA 🔽					
Container/Temp Blank temperature in compliance?	Yes 🗸	No 🗌						
When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam		between						
Water – at least one vial per sample has zero headspace?	Yes 🖌	No	No VOA vials					
Water - TOX containers have zero headspace?	Yes	No	No TOX containers 🗹					
Water - pH acceptable upon receipt?	Yes 🔽	No	NA 🗌					
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗌	NA 🗹					
Any No responses	must be detailed bel	ow or on the	e COC.					

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