

December 3, 2024

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
Springfield, Illinois 62794-9276Illinois 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
November 2024 Analytical**

To Whom It May Concern:

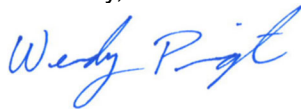
AECOM Technical Services, Inc. (AECOM), on behalf of Shell Oil Products US (Shell), is submitting this letter as required by Water Pollution Control Permit No. 2023-EE-68012, Special Condition 8(B). This Permit is for the pre-treatment and discharge of the steam enhanced extraction (SEE) wastewater to 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 November 2024, one (1) treated wastewater analytical sample of discharged water was analyzed. Due to system downtime, water was not continuously generated or discharged in November 2024. The table below summarizes the samples and corresponding results of water discharged in November 2024.

Sample ID	Sample Date	Benzene (mg/L)
PWYSEE-WaterEffluent-112224	11/22/2024	0.0006

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

Sincerely,

Wendy Pennington, P.E.
Compliance Manager
AECOMSamuel Fisher, CHMM
Task Manager
AECOM**encl:** Teklab Work Order 24112072**cc:** Buddy Bealer (Shell)
Scott Schmidt (Village of Roxana)
Jason Woody (Village of Roxana)
Project File

November 25, 2024

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



Illinois	100226
Illinois	1004652024-2
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: ROX PWY SEE / 60721927-7.2.2

WorkOrder: 24112072

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 11/22/2024 16:10:00 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,



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



Report Contents

<http://www.teklabinc.com/>

Client: AECOM

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-24

This reporting package includes the following:

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Client: AECOM

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-24

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration 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 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 library 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)

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Report Date: 25-Nov-24

Qualifiers

- # - 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
- 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

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-24

Cooler Receipt Temp: 10.5 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com



Accreditations

<http://www.teklabinc.com/>

Client: AECOM

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-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



Laboratory Results

<http://www.teklabinc.com/>

Client: AECOM

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-24

Lab ID: 24112072-001

Client Sample ID: PWYSEE-WaterEffluent-112224

Matrix: AQUEOUS

Collection Date: 11/22/2024 15:25

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		0.6	µg/L	1	11/24/2024 14:10	231624
Surr: 1,2-Dichloroethane-d4	*	0	80-120		91.7	%REC	1	11/24/2024 14:10	231624
Surr: 4-Bromofluorobenzene	*	0	80-120		94.1	%REC	1	11/24/2024 14:10	231624
Surr: Dibromofluoromethane	*	0	80-120		104.8	%REC	1	11/24/2024 14:10	231624
Surr: Toluene-d8	*	0	80-120		97.6	%REC	1	11/24/2024 14:10	231624

Client: AECOM

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-24

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

Batch 231624		SampType: MBLK		Units µg/L						
SampID: MBLK-AE241124A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		ND						11/24/2024
Surr: 1,2-Dichloroethane-d4	*			45.5	50.00		90.9	80	120	11/24/2024
Surr: 4-Bromofluorobenzene	*			47.2	50.00		94.4	80	120	11/24/2024
Surr: D bromofluoromethane	*			50.9	50.00		101.8	80	120	11/24/2024
Surr: Toluene-d8	*			48.7	50.00		97.4	80	120	11/24/2024

Batch 231624		SampType: LCS		Units µg/L						
SampID: LCS-AE241124A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		50.4	50.00	0	100.9	81.6	120	11/24/2024
Surr: 1,2-Dichloroethane-d4	*			45.2	50.00		90.3	80	120	11/24/2024
Surr: 4-Bromofluorobenzene	*			47.4	50.00		94.7	80	120	11/24/2024
Surr: D bromofluoromethane	*			50.8	50.00		101.6	80	120	11/24/2024
Surr: Toluene-d8	*			49.0	50.00		98.0	80	120	11/24/2024

Batch 231624		SampType: LCSD		Units µg/L							RPD Limit: 20	
SampID: LCSD-AE241124A-1												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Benzene		0.5		50.0	50.00	0	100.0	50.43	0.82	11/24/2024		
Surr: 1,2-Dichloroethane-d4	*			46.7	50.00		93.4			11/24/2024		
Surr: 4-Bromofluorobenzene	*			46.8	50.00		93.5			11/24/2024		
Surr: D bromofluoromethane	*			52.9	50.00		105.8			11/24/2024		
Surr: Toluene-d8	*			47.7	50.00		95.4			11/24/2024		

Batch 231624		SampType: LCSG		Units %REC						
SampID: LCSG-AE241124A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*			45.7	50.00		91.4	80	120	11/24/2024
Surr: 4-Bromofluorobenzene	*			46.3	50.00		92.6	80	120	11/24/2024
Surr: D bromofluoromethane	*			51.6	50.00		103.1	80	120	11/24/2024
Surr: Toluene-d8	*			50.3	50.00		100.5	80	120	11/24/2024



Quality Control Results

<http://www.teklabinc.com/>

Client: AECOM

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-24

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

Batch 231624		SampType: LCSGD		Units %REC				RPD Limit: 0		
SampID: LCSGD-AE241124A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*			46.3	50.00		92.5			11/24/2024
Surr: 4-Bromofluorobenzene	*			45.8	50.00		91.6			11/24/2024
Surr: D bromofluoromethane	*			50.3	50.00		100.6			11/24/2024
Surr: Toluene-d8	*			49.2	50.00		98.4			11/24/2024

Batch 231624		SampType: MS		Units µg/L				RPD Limit: 0		
SampID: 24111933-002AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		5.0		404	500.0	0	80.8	74.1	118	11/24/2024
Surr: 1,2-Dichloroethane-d4	*			474	500.0		94.8	80	120	11/24/2024
Surr: 4-Bromofluorobenzene	*			460	500.0		92.0	80	120	11/24/2024
Surr: Toluene-d8	*			479	500.0		95.7	80	120	11/24/2024

Batch 231624		SampType: MSD		Units µg/L				RPD Limit: 20		
SampID: 24111933-002AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Benzene		5.0		408	500.0	0	81.5	403.8	0.94	11/24/2024
Surr: 1,2-Dichloroethane-d4	*			464	500.0		92.9			11/24/2024
Surr: 4-Bromofluorobenzene	*			464	500.0		92.8			11/24/2024
Surr: Toluene-d8	*			481	500.0		96.2			11/24/2024



Receiving Check List

<http://www.teklabinc.com/>

Client: AECOM

Work Order: 24112072

Client Project: ROX PWY SEE / 60721927-7.2.2

Report Date: 25-Nov-24

Carrier: Employee

Received By: NR

Completed by:

Laura E Henson

Reviewed by:

Ellie Hopkins

On:

22-Nov-24

Laura E Henson

On:

22-Nov-24

Ellie Hopkins

Pages to follow: Chain of custody

Extra pages included

- | | | | | |
|---|---|---|--|----------------------------------|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> | Temp °C 10.5 |
| Type of thermal preservation? | None <input type="checkbox"/> | Ice <input checked="" type="checkbox"/> | Blue Ice <input type="checkbox"/> | Dry Ice <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Reported field parameters measured: | Field <input type="checkbox"/> | Lab <input type="checkbox"/> | NA <input checked="" type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- | | | | |
|---|---|-----------------------------|---|
| Water – at least one vial per sample has zero headspace? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | No VOA vials <input type="checkbox"/> |
| Water - TOX containers have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No TOX containers <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Any No responses must be detailed below or on the COC.

24/12072



Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
 ACCUTEST
 CALSCIENCE
 TESTAMERICA (Pensacola)
 Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
 Lab Vendor # Dropdown

Please Check Appropriate Box:

<input type="checkbox"/> SGW FDG	<input type="checkbox"/> PIPELINE	<input type="checkbox"/> RETAIL
<input type="checkbox"/> CHEMICALS	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> TRANSPORTATION	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: Samuel Fisher
 PO # 1638912
 PlaNet Site or Project ID: 25278
 GSAP Project ID
 USPC/0014/R/02/08
 CHECK IF NO INCIDENT # APPLIES
 DATE: 11/22/24
 PAGE: 1 of 1

SAMPLING COMPANY: AECOM LOG CODE: STATE: IL
 ADDRESS: 100 N. Broadway - 20th Floor; ST. LOUIS, MO 63102
 PROJECT CONTACT (Hardcopy or PDF Report to): Samuel Fisher
 TEL: 314-429-0100 FAX: 314-429-0462 E-MAIL: samuel.fisher@aecom.com
 TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND
 LA - RWQCB REPORT FORMAT UST AGENCY:
 DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY)
 TEMPERATURE ON RECEIPT C°: Cooler #1 Cooler #2 Cooler #3
 SPECIAL INSTRUCTIONS OR NOTES:
 Email reports to: samuel.fisher@aecom.com; wendy.pennington@aecom.com; brett.howell@aecom.com
 SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED
 PROVIDE LEDD DISK
 AECOM Project / Task Number: PWY SEE 2024 Water Effluent / 60721927-7.2.2
 E-MAIL: samuel.fisher@aecom.com
 Sampler Name(s): B. Howell
 LAB USE ONLY: QHS 11/22
 REQUESTED ANALYSIS: UNIT COST NON-UNIT COST
 FIELD NOTES:
 TEMPERATURE ON RECEIPT C°: 10.5 LTGHS
 Container PID Readings or Laboratory Notes
 *** 24-HOUR TURNAROUND

Benzene 8260

ONE DAY TA

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	X	24/12072-09
		DATE	TIME		HCL	HNO3	H2SO4	NONE	H2SO4			
	PWYSEE-WaterEffluent- 112224	11/22/24	1525	AQUEOUS	2					2	X	

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 11/22/24	Time: 1530
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 11/22/24	Time: 1610
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time: