

August 2, 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
July 2024 Analytical**

To Whom It May Concern:

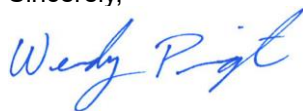
AECOM Technical Services, Inc. (AECOM), on behalf of Shell Oil Products US (Shell), is submitting this letter as required by Water Pollution Control Permit No. 2023-EE-68012, Special Condition 8(B). This Permit is for the pre-treatment and discharge of the steam enhanced extraction (SEE) wastewater to 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 operation in July 2024, five (5) treated wastewater analytical samples were collected. The table below summarizes the samples and corresponding results.

Sample ID	Sample Date	Benzene (mg/L)
PWYSEE-WaterEff-070224	7/2/2024	<0.0005 (not detected)
PWYSEE-WaterEff-070924	7/9/2024	<0.0005 (not detected)
PWYSEE-WaterEff-071624	7/16/2024	<0.0005 (not detected)
PWYSEE-WaterEff-072324	7/23/2024	0.0003 J
PWYSEE-WaterEff-073024	7/30/2024	<0.0005 (not detected)

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

Sincerely,



Wendy Pennington, P.E.
Compliance Manager
AECOM



Samuel Fisher, CHMM
Task Manager
AECOM

encl: Teklab Work Orders 24070183, 24070574, 24071252, 24071848, 24072466

cc: Buddy Bealer (Shell)
Scott Schmidt (Village of Roxana)
Jason Woody (Village of Roxana)
Project File

July 03, 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: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24070183

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 7/2/2024 12:00:00 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: 24070183

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

Report Date: 03-Jul-24

This reporting package includes the following:

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

Client: AECOM

Work Order: 24070183

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

Report Date: 03-Jul-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)

Client: AECOM

Work Order: 24070183

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

Report Date: 03-Jul-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: 24070183

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

Report Date: 03-Jul-24

Cooler Receipt Temp: 12.5 °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

Client: AECOM

Work Order: 24070183

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

Report Date: 03-Jul-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	8/31/2024	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: 24070183

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

Report Date: 03-Jul-24

Lab ID: 24070183-001

Client Sample ID: PWYSEE-WaterEff-070224

Matrix: AQUEOUS

Collection Date: 07/02/2024 08:20

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	07/02/2024 16:04	225201
Surr: 1,2-Dichloroethane-d4	*	0	80-120		96.8	%REC	1	07/02/2024 16:04	225201
Surr: 4-Bromofluorobenzene	*	0	80-120		100.3	%REC	1	07/02/2024 16:04	225201
Surr: Dibromofluoromethane	*	0	80-120		99.9	%REC	1	07/02/2024 16:04	225201
Surr: Toluene-d8	*	0	80-120		97.6	%REC	1	07/02/2024 16:04	225201

Client: AECOM

Work Order: 24070183

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

Report Date: 03-Jul-24

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

Batch 225201		SampType: MBLK		Units µg/L						
SampID: MBLK-AM240702A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		ND						07/02/2024
Surr: 1,2-Dichloroethane-d4	*			47.3	50.00		94.5	80	120	07/02/2024
Surr: 4-Bromofluorobenzene	*			49.8	50.00		99.7	80	120	07/02/2024
Surr: D bromofluoromethane	*			50.2	50.00		100.4	80	120	07/02/2024
Surr: Toluene-d8	*			48.9	50.00		97.7	80	120	07/02/2024

Batch 225201		SampType: LCS		Units µg/L						
SampID: LCS-AM240702A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		50.2	50.00	0	100.5	81.6	120	07/02/2024
Surr: 1,2-Dichloroethane-d4	*			46.7	50.00		93.5	80	120	07/02/2024
Surr: 4-Bromofluorobenzene	*			49.8	50.00		99.5	80	120	07/02/2024
Surr: D bromofluoromethane	*			50.8	50.00		101.6	80	120	07/02/2024
Surr: Toluene-d8	*			48.7	50.00		97.5	80	120	07/02/2024

Batch 225201		SampType: LCSD		Units µg/L							RPD Limit: 20	
SampID: LCSD-AM240702A-1												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Benzene		0.5		51.0	50.00	0	101.9	50.25	1.40	07/02/2024		
Surr: 1,2-Dichloroethane-d4	*			45.9	50.00		91.7			07/02/2024		
Surr: 4-Bromofluorobenzene	*			49.7	50.00		99.5			07/02/2024		
Surr: D bromofluoromethane	*			51.0	50.00		101.9			07/02/2024		
Surr: Toluene-d8	*			48.8	50.00		97.6			07/02/2024		

Batch 225201		SampType: MS		Units mg/L						
SampID: 24062331-006AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.050		5.02	5.000	0	100.3	74.1	118	07/02/2024
Surr: 1,2-Dichloroethane-d4	*			4.81	5.000		96.2	80	120	07/02/2024
Surr: 4-Bromofluorobenzene	*			4.96	5.000		99.1	80	120	07/02/2024
Surr: D bromofluoromethane	*			5.08	5.000		101.6	80	120	07/02/2024
Surr: Toluene-d8	*			4.88	5.000		97.7	80	120	07/02/2024

Client: AECOM

Work Order: 24070183

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

Report Date: 03-Jul-24

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

Batch 225201		SampType: MSD		Units mg/L				RPD Limit: 20			
SampID: 24062331-006AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Benzene		0.050		4.79	5.000	0	95.7	5.016	4.67	07/02/2024	
Surr: 1,2-Dichloroethane-d4	*			4.78	5.000		95.7			07/02/2024	
Surr: 4-Bromofluorobenzene	*			4.93	5.000		98.7			07/02/2024	
Surr: D bromofluoromethane	*			5.08	5.000		101.5			07/02/2024	
Surr: Toluene-d8	*			4.88	5.000		97.6			07/02/2024	

Batch 225201		SampType: MS		Units µg/L							
SampID: 24062348-001BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		1250		121000	125000	550.0	96.2	74.1	118	07/02/2024	
Surr: 1,2-Dichloroethane-d4	*			119000	125000		95.6	80	120	07/02/2024	
Surr: 4-Bromofluorobenzene	*			124000	125000		99.4	80	120	07/02/2024	
Surr: D bromofluoromethane	*			126000	125000		101.0	80	120	07/02/2024	
Surr: Toluene-d8	*			122000	125000		97.7	80	120	07/02/2024	

Batch 225201		SampType: MSD		Units µg/L				RPD Limit: 20			
SampID: 24062348-001BMSSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Benzene		1250		124000	125000	550.0	99.0	120800	2.86	07/02/2024	
Surr: 1,2-Dichloroethane-d4	*			118000	125000		94.5			07/02/2024	
Surr: 4-Bromofluorobenzene	*			122000	125000		97.7			07/02/2024	
Surr: D bromofluoromethane	*			127000	125000		101.3			07/02/2024	
Surr: Toluene-d8	*			122000	125000		97.5			07/02/2024	



Receiving Check List

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

Client: AECOM

Work Order: 24070183

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

Report Date: 03-Jul-24

Carrier: Employee

Received By: LM

Completed by:

Reviewed by:

On:

02-Jul-24

Paul Schultz

On:

02-Jul-24

Ellie Hopkins

Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C **12.5**
- 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 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 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.

24070183



Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

ACCUTEST ()

CALSCIENCE ()

TESTAMERICA (Pensacola)

Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

SGW FDG PIPELINE RETAIL

CHEMICALS CONSULTANT LUBES

TRANSPORTATION OTHER ()

Print Bill To Contact Name: PlaNet Site or Project ID

Samuel Fisher 25278

PO # GSAP Project ID

1638912 USPC/0014/R/02/08

CHECK IF NO INCIDENT # APPLIES

DATE: 7/2/24

PAGE: 1 of 1

SAMPLING COMPANY: AECOM LOG CODE: 4

ADDRESS: 100 N. Broadway - 20th Floor; ST. LOUIS, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Samuel Fisher

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact 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

SITE ADDRESS: Street and City State: IL AECOM Project / Task Number: PWY SEE 2024 Water Effluent / 60721927-7.2.2

EDF DELIVERABLE TO (Name, Company, Office Location): Samuel Fisher, AECOM, St. Louis PHONE NO.: 314-296-1969 E-MAIL: samuel.fisher@aecom.com AECOM Other ID

Sampler Name(s): Brett Howell LAB USE ONLY

REQUESTED ANALYSIS		UNIT COST	NON-UNIT COST	FIELD NOTES:
Benzene 8260				TEMPERATURE ON RECEIPT 12.5° #3 ice
				Container PID Readings or Laboratory Notes
				*** 24-HOUR TURNAROUND

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	
		DATE	TIME		HCL	HNO3	H2SO4	NONE	H2SO4		
	PWYSEE-WaterEff-070224	7/2/24	0810	Aqueous	2					2	X

ONE DAY TAT

Relinquished by: (Signature)	Received by: (Signature)	Date: 7/2/24	Time: 1130
Relinquished by: (Signature)	Received by: (Signature)	Date: 7/1/24	Time: 1200
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

OK HS LM 7/2

July 10, 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: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24070574

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 7/9/2024 09:38:00 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.

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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: 24070574

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

Report Date: 10-Jul-24

This reporting package includes the following:

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Work Order: 24070574

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

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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)

Client: AECOM

Work Order: 24070574

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

Report Date: 10-Jul-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)

Client: AECOM

Work Order: 24070574

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

Report Date: 10-Jul-24

Cooler Receipt Temp: 17.3 °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: 24070574

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

Report Date: 10-Jul-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	8/31/2024	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: 24070574

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

Report Date: 10-Jul-24

Lab ID: 24070574-001

Client Sample ID: PWYSEE-WaterEff-070924

Matrix: AQUEOUS

Collection Date: 07/09/2024 08:15

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	07/09/2024 12:06	225463
Surr: 1,2-Dichloroethane-d4	*	0	80-120		114.5	%REC	1	07/09/2024 12:06	225463
Surr: 4-Bromofluorobenzene	*	0	80-120		102.3	%REC	1	07/09/2024 12:06	225463
Surr: Dibromofluoromethane	*	0	80-120		105.5	%REC	1	07/09/2024 12:06	225463
Surr: Toluene-d8	*	0	80-120		100.3	%REC	1	07/09/2024 12:06	225463

Client: AECOM

Work Order: 24070574

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

Report Date: 10-Jul-24

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

Batch 225463		SampType: MBLK		Units µg/L							
SampleID: MBLK-AK240709A-1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		0.5		ND						07/09/2024	
Surr: 1,2-Dichloroethane-d4	*			56.6	50.00		113.3	80	120	07/09/2024	
Surr: 4-Bromofluorobenzene	*			51.8	50.00		103.6	80	120	07/09/2024	
Surr: Dibromofluoromethane	*			52.6	50.00		105.2	80	120	07/09/2024	
Surr: Toluene-d8	*			49.9	50.00		99.8	80	120	07/09/2024	

Batch 225463		SampType: LCS		Units µg/L							
SampleID: LCS-AK240709A-1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		0.5		55.4	50.00	0	110.8	81.6	120	07/09/2024	
Surr: 1,2-Dichloroethane-d4	*			55.0	50.00		110.1	80	120	07/09/2024	
Surr: 4-Bromofluorobenzene	*			50.7	50.00		101.4	80	120	07/09/2024	
Surr: Dibromofluoromethane	*			52.2	50.00		104.4	80	120	07/09/2024	
Surr: Toluene-d8	*			49.8	50.00		99.5	80	120	07/09/2024	

Batch 225463		SampType: LCSD		Units µg/L							
SampleID: LCSD-AK240709A-1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Benzene		0.5		54.6	50.00	0	109.3	55.41	1.38	07/09/2024	
Surr: 1,2-Dichloroethane-d4	*			54.9	50.00		109.8			07/09/2024	
Surr: 4-Bromofluorobenzene	*			51.4	50.00		102.9			07/09/2024	
Surr: Dibromofluoromethane	*			51.9	50.00		103.8			07/09/2024	
Surr: Toluene-d8	*			50.3	50.00		100.6			07/09/2024	

Batch 225463		SampType: LCSG		Units %REC							
SampleID: LCSG-AK240709A-1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Surr: 1,2-Dichloroethane-d4	*			55.2	50.00		110.3	80	120	07/09/2024	
Surr: 4-Bromofluorobenzene	*			51.3	50.00		102.7	80	120	07/09/2024	
Surr: Dibromofluoromethane	*			51.8	50.00		103.6	80	120	07/09/2024	
Surr: Toluene-d8	*			51.0	50.00		101.9	80	120	07/09/2024	



Quality Control Results

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

Client: AECOM

Work Order: 24070574

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

Report Date: 10-Jul-24

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

Batch 225463		SampType: LCSGD		Units %REC			RPD Limit: 0			
SampID: LCSGD-AK240709A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*			54.3	50.00		108.6			07/09/2024
Surr: 4-Bromofluorobenzene	*			51.1	50.00		102.3			07/09/2024
Surr: Dibromofluoromethane	*			51.4	50.00		102.8			07/09/2024
Surr: Toluene-d8	*			50.2	50.00		100.5			07/09/2024

Batch 225463		SampType: MS		Units mg/L			RPD Limit: 0			
SampID: 24070534-001AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.050		5.50	5.000	0	110.0	74.1	118	07/09/2024
Surr: 1,2-Dichloroethane-d4	*			5.66	5.000		113.1	80	120	07/09/2024
Surr: 4-Bromofluorobenzene	*			5.13	5.000		102.6	80	120	07/09/2024
Surr: Dibromofluoromethane	*			5.30	5.000		106.0	80	120	07/09/2024
Surr: Toluene-d8	*			4.96	5.000		99.1	80	120	07/09/2024

Batch 225463		SampType: MSD		Units mg/L			RPD Limit: 20			
SampID: 24070534-001AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Benzene		0.050		5.43	5.000	0	108.5	5.498	1.30	07/09/2024
Surr: 1,2-Dichloroethane-d4	*			5.67	5.000		113.4			07/09/2024
Surr: 4-Bromofluorobenzene	*			5.18	5.000		103.7			07/09/2024
Surr: Dibromofluoromethane	*			5.24	5.000		104.9			07/09/2024
Surr: Toluene-d8	*			4.98	5.000		99.6			07/09/2024



Receiving Check List

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

Client: AECOM

Work Order: 24070574

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

Report Date: 10-Jul-24

Carrier: Employee

Received By: NR

Completed by:

Reviewed by:

On:

09-Jul-24

Paul Schultz

On:

09-Jul-24

Ellie Hopkins

Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C **17.3**
- 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 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 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.



Shell Oil Products US Chain Of Custody Record

24070574

AECOM

LAB (LOCATION)

ACCUTEST (_____)

CALSCIENCE (_____)

TESTAMERICA (Pensacola_____)

Other (Teldeb, 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # _____ Dropdown

Please Check Appropriate Box:

SGW FDG PIPELINE RETAIL

CHEMICALS CONSULTANT LUBES

TRANSPORTATION 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: 7/9/24

PAGE: 1 of 1

SAMPLING COMPANY: AECOM

LOG CODE: _____

SITE ADDRESS: Street and City _____ State IL

AECOM Project / Task Number: PWY SEE 2024 Water Effluent / 60721927-7.2.2

ADDRESS: 100 N. Broadway - 20th Floor; ST. LOUIS, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Samuel Fisher, AECOM, St. Louis

PHONE NO.: 314-296-1969

E-MAIL: samuel.fisher@aecom.com

AECOM Other ID _____

PROJECT CONTACT (Hardcopy or PDF Report to): Samuel Fisher

Sampler Name(s): B. Howell

LAB USE ONLY

TELEPHONE: 314-429-0100 FAX: 314-429-0462

B/E To Contact 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

REQUESTED ANALYSIS

UNIT COST	NON-UNIT COST
Benzene 8260	

FIELD NOTES:

LA - RWQCB REPORT FORMAT UST AGENCY:

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

UNIT COST	NON-UNIT COST
Benzene 8260	

TEMPERATURE ON RECEIPT

TEMPERATURE ON RECEIPT C° Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

ice °
17.7°C UATB

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

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	X	*** 24-HOUR TURNAROUND
		DATE	TIME		HCL	HNO3	H2SO4	NONE	H2SO4			
	PWYSEE-WaterEff- 070924	7/9/24	0815	Aqueous	2					2	X	24070574-001

ONE DAY TA!

Relinquished by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Date: 7/9/24

Time: 0915

Relinquished by: (Signature) *[Signature]*

Received by: (Signature) *Rich Reed*

Date: 7/9/24

Time: 938

Relinquished by: (Signature) _____

Received by: (Signature) _____

Date: _____

Time: _____

QHS

LT 7/9/24

July 17, 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: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24071252

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 7/16/2024 12:35:00 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: 24071252

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

Report Date: 17-Jul-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

Client: AECOM

Work Order: 24071252

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

Report Date: 17-Jul-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)

Client: AECOM

Work Order: 24071252

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

Report Date: 17-Jul-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: 24071252

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

Report Date: 17-Jul-24

Cooler Receipt Temp: 16.3 °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: 24071252

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

Report Date: 17-Jul-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	8/31/2024	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: 24071252

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

Report Date: 17-Jul-24

Lab ID: 24071252-001

Client Sample ID: PWYSEE-WaterEff-071624

Matrix: AQUEOUS

Collection Date: 07/16/2024 10:20

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	07/17/2024 08:49	225836
Surr: 1,2-Dichloroethane-d4	*	0	80-120		113.8	%REC	1	07/17/2024 08:49	225836
Surr: 4-Bromofluorobenzene	*	0	80-120		104.3	%REC	1	07/17/2024 08:49	225836
Surr: Dibromofluoromethane	*	0	80-120		104.4	%REC	1	07/17/2024 08:49	225836
Surr: Toluene-d8	*	0	80-120		99.7	%REC	1	07/17/2024 08:49	225836

Client: AECOM

Work Order: 24071252

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

Report Date: 17-Jul-24

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

Batch 225836		SampType: MBLK		Units µg/L						
SampleID: MBLK-AK240717A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		ND						07/17/2024
Surr: 1,2-Dichloroethane-d4	*			56.3	50.00		112.6	80	120	07/17/2024
Surr: 4-Bromofluorobenzene	*			51.6	50.00		103.2	80	120	07/17/2024
Surr: D bromofluoromethane	*			52.4	50.00		104.8	80	120	07/17/2024
Surr: Toluene-d8	*			50.0	50.00		100.1	80	120	07/17/2024

Batch 225836		SampType: LCS		Units µg/L						
SampleID: LCS-AK240717A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		48.2	50.00	0	96.5	81.6	120	07/17/2024
Surr: 1,2-Dichloroethane-d4	*			55.6	50.00		111.3	80	120	07/17/2024
Surr: 4-Bromofluorobenzene	*			52.0	50.00		104.1	80	120	07/17/2024
Surr: D bromofluoromethane	*			51.6	50.00		103.2	80	120	07/17/2024
Surr: Toluene-d8	*			50.7	50.00		101.3	80	120	07/17/2024

Batch 225836		SampType: LCSD		Units µg/L							RPD Limit: 20	
SampleID: LCSD-AK240717A-1												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Benzene		0.5		48.8	50.00	0	97.6	48.23	1.13	07/17/2024		
Surr: 1,2-Dichloroethane-d4	*			55.4	50.00		110.9			07/17/2024		
Surr: 4-Bromofluorobenzene	*			51.2	50.00		102.4			07/17/2024		
Surr: D bromofluoromethane	*			51.7	50.00		103.5			07/17/2024		
Surr: Toluene-d8	*			50.3	50.00		100.7			07/17/2024		

Batch 225836		SampType: LCS		Units µg/L						
SampleID: QCS-AK240717A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		48.2	50.00	0	96.5	65	135	07/17/2024
Surr: 1,2-Dichloroethane-d4	*			55.6	50.00		111.3	80	120	07/17/2024
Surr: 4-Bromofluorobenzene	*			52.0	50.00		104.1	80	120	07/17/2024
Surr: D bromofluoromethane	*			51.6	50.00		103.2	80	120	07/17/2024
Surr: Toluene-d8	*			50.7	50.00		101.3	80	120	07/17/2024

Client: AECOM

Work Order: 24071252

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

Report Date: 17-Jul-24

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

Batch 225836		SampType: LCSD		Units µg/L				RPD Limit: 40			
SampID: QCSD-AK240717A-1											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Benzene		0.5		48.8	50.00	0	97.6	48.23	1.13	07/17/2024	
Surr: 1,2-Dichloroethane-d4	*			55.4	50.00		110.9			07/17/2024	
Surr: 4-Bromofluorobenzene	*			51.2	50.00		102.4			07/17/2024	
Surr: D bromofluoromethane	*			51.7	50.00		103.5			07/17/2024	
Surr: Toluene-d8	*			50.3	50.00		100.7			07/17/2024	

Batch 225836		SampType: MS		Units mg/L				RPD Limit: 20			
SampID: 24070994-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		0.050		5.20	5.000	0	104.0	74.1	118	07/17/2024	
Surr: 1,2-Dichloroethane-d4	*			5.62	5.000		112.4	80	120	07/17/2024	
Surr: 4-Bromofluorobenzene	*			5.23	5.000		104.7	80	120	07/17/2024	
Surr: D bromofluoromethane	*			5.24	5.000		104.7	80	120	07/17/2024	
Surr: Toluene-d8	*			4.93	5.000		98.6	80	120	07/17/2024	

Batch 225836		SampType: MSD		Units mg/L				RPD Limit: 20			
SampID: 24070994-001AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Benzene		0.050		5.09	5.000	0	101.8	5.198	2.14	07/17/2024	
Surr: 1,2-Dichloroethane-d4	*			5.65	5.000		113.0			07/17/2024	
Surr: 4-Bromofluorobenzene	*			5.22	5.000		104.4			07/17/2024	
Surr: D bromofluoromethane	*			5.20	5.000		104.0			07/17/2024	
Surr: Toluene-d8	*			5.01	5.000		100.3			07/17/2024	

Batch 225836		SampType: MS		Units mg/L				RPD Limit: 20			
SampID: 24071123-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		0.050		5.19	5.000	0	103.8	74.1	118	07/17/2024	
Surr: 1,2-Dichloroethane-d4	*			5.64	5.000		112.8	80	120	07/17/2024	
Surr: 4-Bromofluorobenzene	*			5.19	5.000		103.9	80	120	07/17/2024	
Surr: D bromofluoromethane	*			5.22	5.000		104.5	80	120	07/17/2024	
Surr: Toluene-d8	*			4.96	5.000		99.3	80	120	07/17/2024	



Receiving Check List

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

Client: AECOM

Work Order: 24071252

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

Report Date: 17-Jul-24

Carrier: Employee

Received By: NR

Completed by:

Reviewed by:

On:

16-Jul-24

Paul Schultz

On:

16-Jul-24

Ellie Hopkins

Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C **16.3**
- 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 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 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.

July 24, 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: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24071848

Dear Samuel Fisher:

TEKLAB, INC received 1 sample on 7/23/2024 11:15:00 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: 24071848

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

Report Date: 24-Jul-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

Client: AECOM

Work Order: 24071848

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

Report Date: 24-Jul-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)

Client: AECOM

Work Order: 24071848

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

Report Date: 24-Jul-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: 24071848

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

Report Date: 24-Jul-24

Cooler Receipt Temp: 8.5 °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: 24071848

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

Report Date: 24-Jul-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	8/31/2024	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: 24071848

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

Report Date: 24-Jul-24

Lab ID: 24071848-001

Client Sample ID: PWYSEE-WaterEff-072324

Matrix: AQUEOUS

Collection Date: 07/23/2024 08:45

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	J	0.3	µg/L	1	07/23/2024 13:23	226083
Surr: 1,2-Dichloroethane-d4	*	0	80-120		108.6	%REC	1	07/23/2024 13:23	226083
Surr: 4-Bromofluorobenzene	*	0	80-120		99.1	%REC	1	07/23/2024 13:23	226083
Surr: Dibromofluoromethane	*	0	80-120		106.5	%REC	1	07/23/2024 13:23	226083
Surr: Toluene-d8	*	0	80-120		100.6	%REC	1	07/23/2024 13:23	226083

Client: AECOM

Work Order: 24071848

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

Report Date: 24-Jul-24

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

Batch 226083		SampType: MBLK		Units µg/L						
SampID: MBLK-AM240723A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		ND						07/23/2024
Surr: 1,2-Dichloroethane-d4	*			53.6	50.00		107.1	80	120	07/23/2024
Surr: 4-Bromofluorobenzene	*			48.4	50.00		96.8	80	120	07/23/2024
Surr: D bromofluoromethane	*			53.6	50.00		107.2	80	120	07/23/2024
Surr: Toluene-d8	*			50.3	50.00		100.6	80	120	07/23/2024

Batch 226083		SampType: LCS		Units µg/L						
SampID: LCS-AM240723A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		48.5	50.00	0	96.9	81.6	120	07/23/2024
Surr: 1,2-Dichloroethane-d4	*			54.3	50.00		108.6	80	120	07/23/2024
Surr: 4-Bromofluorobenzene	*			48.1	50.00		96.1	80	120	07/23/2024
Surr: D bromofluoromethane	*			53.3	50.00		106.6	80	120	07/23/2024
Surr: Toluene-d8	*			51.2	50.00		102.3	80	120	07/23/2024

Batch 226083		SampType: LCSD		Units µg/L							RPD Limit: 20	
SampID: LCSD-AM240723A-1												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Benzene		0.5		49.0	50.00	0	98.0	48.46	1.13	07/23/2024		
Surr: 1,2-Dichloroethane-d4	*			54.4	50.00		108.7			07/23/2024		
Surr: 4-Bromofluorobenzene	*			47.8	50.00		95.7			07/23/2024		
Surr: D bromofluoromethane	*			53.5	50.00		107.0			07/23/2024		
Surr: Toluene-d8	*			51.0	50.00		102.0			07/23/2024		

Batch 226083		SampType: MS		Units mg/L						
SampID: 24071643-004AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.050		4.61	5.000	0	92.2	74.1	118	07/23/2024
Surr: 1,2-Dichloroethane-d4	*			5.29	5.000		105.8	80	120	07/23/2024
Surr: 4-Bromofluorobenzene	*			4.93	5.000		98.6	80	120	07/23/2024
Surr: D bromofluoromethane	*			5.28	5.000		105.6	80	120	07/23/2024
Surr: Toluene-d8	*			5.02	5.000		100.3	80	120	07/23/2024



Quality Control Results

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

Client: AECOM

Work Order: 24071848

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

Report Date: 24-Jul-24

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

Batch 226083		SampType: MS		Units mg/L							
SampID: 24071647-003AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		0.050		4.70	5.000	0	94.0	74.1	118	07/23/2024	
Surr: 1,2-Dichloroethane-d4	*			5.42	5.000		108.4	80	120	07/23/2024	
Surr: 4-Bromofluorobenzene	*			4.94	5.000		98.8	80	120	07/23/2024	
Surr: D bromofluoromethane	*			5.35	5.000		107.0	80	120	07/23/2024	
Surr: Toluene-d8	*			5.05	5.000		101.1	80	120	07/23/2024	

Batch 226083		SampType: MS		Units mg/L							
SampID: 24071648-003AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		0.050		4.57	5.000	0	91.4	74.1	118	07/23/2024	
Surr: 1,2-Dichloroethane-d4	*			5.26	5.000		105.3	80	120	07/23/2024	
Surr: 4-Bromofluorobenzene	*			4.80	5.000		96.0	80	120	07/23/2024	
Surr: D bromofluoromethane	*			5.32	5.000		106.4	80	120	07/23/2024	
Surr: Toluene-d8	*			4.95	5.000		99.0	80	120	07/23/2024	

Batch 226083		SampType: MS		Units mg/L							
SampID: 24071649-002AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Benzene		0.050		4.05	5.000	0	81.1	74.1	118	07/23/2024	
Surr: 1,2-Dichloroethane-d4	*			5.18	5.000		103.7	80	120	07/23/2024	
Surr: 4-Bromofluorobenzene	*			4.86	5.000		97.2	80	120	07/23/2024	
Surr: D bromofluoromethane	*			5.30	5.000		106.0	80	120	07/23/2024	
Surr: Toluene-d8	*			4.96	5.000		99.3	80	120	07/23/2024	

Batch 226083		SampType: MSD		Units mg/L				RPD Limit: 20		Date Analyzed
SampID: 24071649-002AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Benzene		0.050		4.18	5.000	0	83.7	4.053	3.20	07/23/2024
Surr: 1,2-Dichloroethane-d4	*			5.20	5.000		104.0			07/23/2024
Surr: 4-Bromofluorobenzene	*			4.83	5.000		96.6			07/23/2024
Surr: D bromofluoromethane	*			5.29	5.000		105.7			07/23/2024
Surr: Toluene-d8	*			4.96	5.000		99.1			07/23/2024

Client: AECOM

Work Order: 24071848

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

Report Date: 24-Jul-24

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

Batch **226083** SampType: **MS** Units **mg/L**

SamplD: 24071728-001AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.050		15.6	5.000	10.57	101.0	74.1	118	07/23/2024
Surr: 1,2-Dichloroethane-d4	*			5.58	5.000		111.6	80	120	07/23/2024
Surr: 4-Bromofluorobenzene	*			4.98	5.000		99.6	80	120	07/23/2024
Surr: D bromofluoromethane	*			5.29	5.000		105.8	80	120	07/23/2024
Surr: Toluene-d8	*			5.07	5.000		101.3	80	120	07/23/2024



Receiving Check List

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

Client: AECOM

Work Order: 24071848

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

Report Date: 24-Jul-24

Carrier: Employee

Received By: LEH

Completed by:

Reviewed by:

On:

23-Jul-24

On:

23-Jul-24

Paul Schultz

Elizabeth A. Hurley

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 8.5 |
| 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.

24071848
AECOM

LAB (LOCATION)

- ACCUTEST (_____)
- CALSCIENCE (_____)
- TESTAMERICA (____Pensacola_____)
- Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown



Shell Oil Products US Chain Of Custody Record

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	PlaNet Site or Project ID: 25278	CHECK IF NO INCIDENT # APPLIES DATE: <u>7/23/24</u>
PO # 1638912	GSAP Project ID USPC/0014/R/02/08	

SAMPLING COMPANY: AECOM	LOG CODE:	SITE ADDRESS: Street and City 100 N. Broadway - 20th Floor; ST. LOUIS, MO 63102	State IL	AECOM Project / Task Number: PWY SEE 2024 Water Effluent / 60721927-7.2.2
ADDRESS: 100 N. Broadway - 20th Floor; ST. LOUIS, MO 63102		EDP DELIVERABLE TO (Name, Company, Office Location): Samuel Fisher, AECOM, St. Louis	PHONE NO.: 314-296-1969	E-MAIL: samuel.fisher@aecom.com
PROJECT CONTACT (Hardcopy or PDF Report to): Samuel Fisher	TELEPHONE: 314-429-0100	FAX: 314-429-0462	Bill To Contact E-MAIL: samuel.fisher@aecom.com	
TURNAROUND TIME (CALENDAR DAYS): <input type="checkbox"/> STANDARD (14 DAY) <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 2 DAYS <input checked="" type="checkbox"/> 24 HOURS <input type="checkbox"/> RESULTS NEEDED ON WEEKEND		SAMPLER NAME(S): B. Howell		

REQUESTED ANALYSIS UNIT COST NON-UNIT COST (Empty grid for analysis details)	FIELD NOTES: TEMPERATURE ON RECEIPT <u>8.5 °C</u> <u>49.3 °F</u> <u>once</u> Container PID Readings or Laboratory Notes *** 24-HOUR TURNAROUND
---	--

LAB USE ONLY	- Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	X
	DATE	TIME	DATE	TIME		HCL	HNO3	H2SO4	NONE	H2SO4		
	PWYSEE-WaterEff-	072324	7/23/24	0845	Aqueous	2					2	

ONE DAY TAT

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 7/23/24	Time: 1045
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 7/23/24	Time: 1115
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

045 7/23

July 31, 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: PWY SEE 2024 Water Effluent / 60721927-7.2.2

WorkOrder: 24072466

Dear Samuel Fisher:

TEKLAB, INC received 2 samples on 7/30/2024 15:00:00 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: 24072466

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

Report Date: 31-Jul-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	9
Receiving Check List	10
Chain of Custody	Appended

Client: AECOM

Work Order: 24072466

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

Report Date: 31-Jul-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)

Client: AECOM

Work Order: 24072466

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

Report Date: 31-Jul-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: 24072466

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

Report Date: 31-Jul-24

Cooler Receipt Temp: 5.7 °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: 24072466

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

Report Date: 31-Jul-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	8/31/2024	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: 24072466

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

Report Date: 31-Jul-24

Lab ID: 24072466-001

Client Sample ID: PWYSEE-WaterEff-073024

Matrix: AQUEOUS

Collection Date: 07/30/2024 08:30

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	07/31/2024 11:08	226469
Surr: 1,2-Dichloroethane-d4	*	0	80-120		101.2	%REC	1	07/31/2024 11:08	226469
Surr: 4-Bromofluorobenzene	*	0	80-120		94.5	%REC	1	07/31/2024 11:08	226469
Surr: Dibromofluoromethane	*	0	80-120		106.5	%REC	1	07/31/2024 11:08	226469
Surr: Toluene-d8	*	0	80-120		98.1	%REC	1	07/31/2024 11:08	226469



Laboratory Results

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

Client: AECOM

Work Order: 24072466

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

Report Date: 31-Jul-24

Lab ID: 24072466-002

Client Sample ID: PWYSEE-WaterInf-073024

Matrix: AQUEOUS

Collection Date: 07/30/2024 11:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS									
Benzene	NELAP	50.0	500		54200	µg/L	1000	07/31/2024 13:13	226469
Surr: 1,2-Dichloroethane-d4	*	0	80-120		106.3	%REC	1000	07/31/2024 13:13	226469
Surr: 4-Bromofluorobenzene	*	0	80-120		98.3	%REC	1000	07/31/2024 13:13	226469
Surr: Dibromofluoromethane	*	0	80-120		106.0	%REC	1000	07/31/2024 13:13	226469
Surr: Toluene-d8	*	0	80-120		98.8	%REC	1000	07/31/2024 13:13	226469

Client: AECOM

Work Order: 24072466

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

Report Date: 31-Jul-24

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

Batch 226469		SampType: MBLK		Units µg/L						
SampID: MBLK-AM240731A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		ND						07/31/2024
Surr: 1,2-Dichloroethane-d4	*			50.6	50.00		101.3	80	120	07/31/2024
Surr: 4-Bromofluorobenzene	*			47.3	50.00		94.7	80	120	07/31/2024
Surr: D bromofluoromethane	*			52.9	50.00		105.8	80	120	07/31/2024
Surr: Toluene-d8	*			49.0	50.00		98.0	80	120	07/31/2024

Batch 226469		SampType: LCS		Units µg/L						
SampID: LCS-AM240731A-1										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.5		48.8	50.00	0	97.5	81.6	120	07/31/2024
Surr: 1,2-Dichloroethane-d4	*			51.5	50.00		102.9	80	120	07/31/2024
Surr: 4-Bromofluorobenzene	*			46.7	50.00		93.4	80	120	07/31/2024
Surr: D bromofluoromethane	*			53.4	50.00		106.7	80	120	07/31/2024
Surr: Toluene-d8	*			50.0	50.00		100.1	80	120	07/31/2024

Batch 226469		SampType: LCSD		Units µg/L							RPD Limit: 20	
SampID: LCSD-AM240731A-1												
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
Benzene		0.5		43.6	50.00	0	87.2	48.76	11.20	07/31/2024		
Surr: 1,2-Dichloroethane-d4	*			52.2	50.00		104.4			07/31/2024		
Surr: 4-Bromofluorobenzene	*			47.8	50.00		95.6			07/31/2024		
Surr: D bromofluoromethane	*			53.5	50.00		106.9			07/31/2024		
Surr: Toluene-d8	*			51.0	50.00		102.1			07/31/2024		

Batch 226469		SampType: MS		Units mg/L						
SampID: 24071837-001AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene		0.050		4.88	5.000	1.001	77.6	74.1	118	07/31/2024
Surr: 1,2-Dichloroethane-d4	*			5.22	5.000		104.4	80	120	07/31/2024
Surr: 4-Bromofluorobenzene	*			4.83	5.000		96.7	80	120	07/31/2024
Surr: D bromofluoromethane	*			5.32	5.000		106.4	80	120	07/31/2024
Surr: Toluene-d8	*			4.94	5.000		98.8	80	120	07/31/2024



Receiving Check List

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

Client: AECOM

Work Order: 24072466

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

Report Date: 31-Jul-24

Carrier: Employee

Received By: PRS

Completed by:

Amber Dilallo

Reviewed by:

Ellie Hopkins

On:

30-Jul-24

Amber Dilallo

On:

30-Jul-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 5.7 |
| 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.

