

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

August 2, 2024

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

Shell Oil Products US Steam Enhanced Extraction Pretreatment System - Treated Water Analytical Data Village of Roxana Wastewater Treatment Plant Water Pollution Control Permit No. 2023-EE-68012 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 pretreatment and discharge of the steam enhanced extraction (SEE) wastewater to the Village of Roxana Wastewater Treatment Plant (WWTP). Special Condition 8(B) of the Permit requires monitoring of the system discharges and submittal of analytical results to the Illinois Environmental Protection Agency (IEPA). Wastewater treated through the pretreatment system is sampled on a weekly basis in accordance with Condition 13 of the August 22, 2022 letter from Illinois EPA, Permit Section, Division of Land Pollution Control (Log N. B-43R-CA-107).

During 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 (<u>wendy.pennington@aecom.com</u>; 314-452-8929) with any questions.

Sincerely,

Wendy Pennington, P.E. Compliance Manager

AECOM

Samuel Fisher, CHMM

Samuel Fisher

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

Oklahoma



July 03, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor

St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969 TNI TNI TNI

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

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:

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



Definitions

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

Abbr Definition

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



Definitions

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

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 Sp ke Recovery outside recovery limits
 - X Value exceeds Maximum Contaminant Level

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



Case Narrative

http://www.teklabinc.com/

Work Order: 24070183 Client: AECOM Report Date: 03-Jul-24

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

Cooler Receipt Temp: 12.5 °C

Locations

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



Accreditations

http://www.teklabinc.com/

Work Order: 24070183 Client: AECOM 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, VOLATII	LE ORGANIC C	OMPOU	INDS 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



Quality Control Results

http://www.teklabinc.com/

Report Date: 03-Jul-24

Client: AECOM Work Order: 24070183

							_		_	
SW-846 5030, 8260B, VOLATI				S BY GC/MS						
Batch 225201 SampType: SampID: MBLK-AM240702A-1	MBLK	U	Inits µg/L							
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	U	Inits µg/L							
SamplD: 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	U	Inits µg/L					RPD Lir	nit: 20	
SamplD: LCSD-AM240702A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref V	al %RPD	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	U	Inits mg/L							
SamplD: 24062331-006AMS										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val			High Limit	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



Benzene

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: D bromofluoromethane

Surr: Toluene-d8

Quality Control Results

http://www.teklabinc.com/

Client: AECOM Work Order: 24070183

1250

Client Project: PWY SEE 202	24 Water	Effluer	nt / 60721	927-7.2.2			1	Report Date	e: 03-Jul-2	24
SW-846 5030, 8260B, VOLATI	LE ORGA	NIC CO	OMPOUND	S BY GC/MS						
$Batch \ \ \textbf{225201} \hspace{1cm} \textbf{SampType:}$	MSD		Units mg/L					RPD Lin	nit: 20	
SamplD: 24062331-006AMSD										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	l %RPD	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: SampID: 24062348-001BMS	MS		Units µg/L							
Sampid. 24002340-00 fbivis										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
·	Cert	RL 1250	Qual	Result 121000	Spike 125000		%REC 96.2	Low Limit 74.1	High Limit	
Analyses	Cert *		Qual							Analyzed
Analyses Benzene			Qual	121000	125000		96.2	74.1	118	Analyzed 07/02/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4	*		Qual	121000 119000	125000 125000		96.2 95.6	74.1 80	118 120	Analyzed 07/02/2024 07/02/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	*		Qual	121000 119000 124000	125000 125000 125000		96.2 95.6 99.4	74.1 80 80	118 120 120	07/02/2024 07/02/2024 07/02/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane	* *		Qual Units µg/L	121000 119000 124000 126000	125000 125000 125000 125000		96.2 95.6 99.4 101.0	74.1 80 80 80	118 120 120 120 120	07/02/2024 07/02/2024 07/02/2024 07/02/2024

124000

118000

122000

127000

122000

125000 550.0

125000

125000

125000

125000

99.0

94.5

97.7

101.3

97.5

120800

2.86

07/02/2024

07/02/2024

07/02/2024

07/02/2024

07/02/2024



Client: AECOM

Receiving Check List

http://www.teklabinc.com/

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: On: 02-Jul-24 02-Jul-24 Paul Schultz Ellie Hopkins Extra pages included 0 Pages to follow: Chain of custody Shipping container/cooler in good condition? Yes 🗸 No 🗔 Not Present Temp °C 12.5 Type of thermal preservation? Ice 🗹 Blue Ice None Dry Ice Chain of custody present? **~** No 🗌 Yes Chain of custody signed when relinquished and received? **~** Yes No L **~** Chain of custody agrees with sample labels? No 🗀 Yes **~** Samples in proper container/bottle? Yes No 🗀 **V** Sample containers intact? Yes No Sufficient sample volume for indicated test? Yes **~** No **✓** No \square All samples received within holding time? Yes NA 🗸 Field Lab \square Reported field parameters measured: Yes 🗸 No 🗌 Container/Temp Blank temperature in compliance? 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. Yes 🗸 No VOA vials Water - at least one vial per sample has zero headspace? No 🗀 No TOX containers Water - TOX containers have zero headspace? Yes No 🗌 Yes 🗹 No 🗌 Water - pH acceptable upon receipt? NA 🗸 NPDES/CWA TCN interferences checked/treated in the field? Yes No 🗀 Any No responses must be detailed below or on the COC.

24070183

LAB (LOCATION)				6		SI	nell	Oil	Pr	od	uct	s U	SC	Cha	in (Of C	us	too	l yk	Re	CO	rd				AECOM
		Plea	se Check	Appro	priate	Box:				Р	rint E	ill To	Cont	tact I	lame			Pl	aNet	Site	or l	Proje	ct ID	1 200		HECK IF NO INCIDENT # APPLIES
CALSCIENCE ()	SGW FC	G		PIPELINE			RETAIL	-				Same	uel Fis	hor						2	5278	• • • • •	·		-	ATE: 7/2/24
TESTAMERICA (Pensacola)	СНЕМІС	ALS		ONSULTA	NT		LUBES				and jar		20 #	1141		apagaga i		jr ;;;	G			ect II	· :	7 .	┪ ~	VIE. 17 hours Garage
✓ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)	TRANSP	OGTATION	7	OTHER							<u> </u>		· · ·							7/	- i Op	ect it		11 11 11 11	PA	AGE:1 of1
Lab Vendor # Dropdown	LI TRANSF	ORTATION											38912	:					us	PC/0	014/F	2/02/08			<u> </u>	
SAMPLING COMPANY: AECOM				roe cop	E:	£,			SITE	ADDRE	ESS: Stre	et and C	ity					State		ı						t / Task Number:
ADDRESS:									EDF D	ELIVERA	BLE TO (N	fame, Com	pany, Office	e Location	1:	[PHO	NE NO.:		<u>IL</u>		PWY E-MAIL:		2024 V	Vater E	ffluer	nt / 60721927-7.2.2
100 N. Broadway	- 20th Floor	; ST. LOL	JIS, MO 6310)2					Sam	uel Fis	her, AE	COM,	St. Louis	s		314	-296-1	969			samu	el fishe	r@aecc	om.com		
PROJECT CONTACT (Kerdcopy or PDF Report to):	Samuel Fi	sher							San	noler	Name	(S) [,]												1.4	B USE	ONLY:
TELEPHONE: FAX:		Bill To Conta							٠		. 1		1		./											
314-429-04 TURNAROUND TIME (CALENDAR DAYS):	62		samu	el.fisher	@aecon				1	DCE	2-1-1		170:	<u> </u>		o er c r	FD 4	NI KITSI	CIC	•••••				3.4	27.4	
STANDARD (14 DAY) 5 DAYS 3 DAYS	; <u> </u>	DAYS	24 HC	SURS			S NEEDE WEEKEN					UNI	T COS	ST	REC	UEST	ED A	NALY		NON	-UNI	T CO	ST			i e
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:																Т	\top							T	T	FIELD NOTES:
DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3	3 LEVEL 4	ſ	OTHER (SPEC	IFY)					1																	
TEMPERATURE ON RECEIPT C° Cooler #1	Cooler#2		. ,	Cooler#	13				┨																	TEMPERATURE ON RECEIPT
	500/6/ #2			Cooler#					8260												***************************************					12.5° #3
SPECIAL INSTRUCTIONS OR NOTES : Email reports to: samuel.fisher@aecor	m com:		SHELL						82														Į			ice
wendy pennington@aecom.com; brett.howell		1	☐ EDD N	KOT NEEDS					ŭ																	
				PT VERIFI IDE LEDD	ICATION R DISK	EQUEST	ED		Benzene							-					***		and or the state of			Container PID Readings
				Т					<u> </u>		-+	+		\vdash	-+	+	┿	-			_	-		-		or Laboratory Notes
LAB Field Sample Identification	SAMP	LING	MATRIX	L	PRESER	VATIVE		NO. OF	<u></u>								<u> </u>	<u>. </u>								*** 24-HOUR TURNAROUNE
USE	DATE	TIME		HCL H	NO3 H2SO	4 NONE	H2S04	CONT.								***************************************										
PWYSEE-WaterEff- 070224	7/2/24	275	Aqueous	2				2	х			-														24670193-001
WHOLE-WARE CHI- O TO Z Z Y	11667	0000	Ayaeous	+					H	\vdash			+				\vdash			\dashv	\dashv		-	+		~ a (015) 201
				+		+			\vdash	\vdash		+				D	A V	1			\$ 1		_	+		
										11				8 🔻	in the second		200	*	8 4	2	*			Щ		
																\top		T								
				+-+	\dashv	<u> </u>						+	+		\dashv						$\neg \uparrow$		_	+		
22.2												_														
									╁┈			_						 					_	+	\vdash	<u></u>
						1			_								<u> </u>						_			

	1					\top							+				T				1		$\neg \vdash$	+	\Box	
Button about 15 (Secondary)	<u> </u>	L	Construction (C)						<u> </u>											Date:						_
Resinquished by: (Signature)			Received by: (Sig	griature)	/	1	,													Date.	1	1	,	l	Time:	1130
<u> </u>					1		a-													Į	(Z.	124				
-Resinquished by (Signature)			Received by: (Sig	gnature)		_		<u> </u>												Date:			,		Time:	
my			>	X	YV	V^{\sim}	X	ノ												1	-/	1	2.4	(/	1200
Relinquished by: (Signature)			Received by: (Sig	gnature)																Date:	***************************************	***************************************			Time:	
E																									ŧ	

0kHS um 7/2

Version: 14Dec15

Oklahoma



July 10, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor

St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969 TNI TNI TNI

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

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.

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: 24070574
Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2 Report Date: 10-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



Definitions

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

Abbr Definition

- * Analytes on report marked with an asterisk are not NELAP accredited
- CCV Continuing cal bration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
 - DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
 - DNI Did not ignite
- DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
- ICV Initial calibration verification is a check of a standard to determine the state of cal bration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- NC Data is not acceptable for compliance purposes
- ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a l brary search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count (> 200 CFU)



Definitions

http://www.teklabinc.com/

Report Date: 10-Jul-24

Client: AECOM Work Order: 24070574

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

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/

Report Date: 10-Jul-24

Client: AECOM Work Order: 24070574

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

Cooler Receipt Temp: 17.3 °C

Locations

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



Accreditations

http://www.teklabinc.com/

Report Date: 10-Jul-24

Client: AECOM Work Order: 24070574

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



Lab ID: 24070574-001

Laboratory Results

http://www.teklabinc.com/

Work Order: 24070574 Client: AECOM

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2 Report Date: 10-Jul-24

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, VOLATI	LE ORGANIC C	омроц	INDS 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



Quality Control Results

http://www.teklabinc.com/

Report Date: 10-Jul-24

Client: AECOM Work Order: 24070574

CW 946 5020 9260B VOLATI	LE OBCA	NIC C	OMBOLIND	e by colle						
SW-846 5030, 8260B, VOLATI Batch 225463 SampType:		IVIC C	Units µg/L	S BT GC/MS						
SamplD: MBLK-AK240709A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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							
SamplD: LCS-AK240709A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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					RPD Lin	nit: 20	
SamplD: LCSD-AK240709A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	al %RPD	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	:						
SamplD: LCSG-AK240709A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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/

Report Date: 10-Jul-24

Client: AECOM Work Order: 24070574

SW-846 5030, 8260B, VOLATII	LE ORGA	NIC CO	MPOUND	S BY GC/MS						
Batch 225463 SampType:	LCSGD	ι	Jnits %REC	:				RPD Lim	nit: O	
SamplD: LCSGD-AK240709A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	NRPD	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	l	Jnits mg/L							
SamplD: 24070534-001AMS										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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	ı	Jnits mg/L					RPD Lin	nit: 20	
SamplD: 24070534-001AMSD										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	I %RPD	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



Client: AECOM

Receiving Check List

http://www.teklabinc.com/

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: On: 09-Jul-24 09-Jul-24 Paul Schultz Ellie Hopkins Extra pages included 0 Pages to follow: Chain of custody Shipping container/cooler in good condition? Yes **V** No 🗔 Not Present Temp °C 17.3 Type of thermal preservation? Ice 🗹 Blue Ice None Dry Ice Chain of custody present? **~** No 🗌 Yes Chain of custody signed when relinquished and received? **~** Yes No L **~** Chain of custody agrees with sample labels? No 🗀 Yes **~** Samples in proper container/bottle? Yes No 🗀 **V** Sample containers intact? Yes No L Sufficient sample volume for indicated test? Yes No **✓** No \square All samples received within holding time? Yes NA 🗸 Field Lab \square Reported field parameters measured: Yes 🗸 No 🗌 Container/Temp Blank temperature in compliance? 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. Yes 🗸 No VOA vials Water - at least one vial per sample has zero headspace? No 🗀 No TOX containers Water - TOX containers have zero headspace? Yes No 🗌 Yes 🗹 No 🗌 Water - pH acceptable upon receipt? Yes NA 🗸 NPDES/CWA TCN interferences checked/treated in the field? No 🗀 Any No responses must be detailed below or on the COC.

	LAB (LOCATION))	Sh	ell	Oil	Pr	od	luc	ts l	JS	Ch	ain	ı O	f C	ust	od	y R	ec	orc	1 2	!4(ידע	05	THAEC	OM
	JTEST ()		Plea	se Check	Аррг	ropri							Print						200						oject			CHECK IF NO INCIDENT # APPLIES		
	SCIENCE ()	SGW FD	G		IPELIN	E			RETAI					San	nuel F	isher	,						252	78				D	ATE: 7/9/2	4
_	TAMÉRICA (_Pensacola)	CHEMIC	ALS		ONSUL	TANT			LUBES		1	7 7		¥74	PO							GS/	P Pr		t ID		ji er :	1		
⊡ Oth	er (Teklab; 5445 Horseshoe Lake Rd; Collinsville, 11.) Lab Vendor # Dropdown	TRANSPO	ORTATION		THER						il	للين											0/004	4/5/6				P/	of1	
SAMPLING	COMPANY:				LOG C	ODE:					Sm	E AODF	RESS: S		16389 City	12			!		State	USP	C/001-	4/FC/O	2/08	AEC	COM	Projec	t / Task Number:	.4 .8
	AECOM				İ																	IL.	P\	NY S	EE 202	24 Wa	ater E	fflue	nt / 60721927-7.1	
ADDRESS	: 100 N. Broadwa	ıy - 20th Floor	; ST. LOL	JIS, MO 6310	2								isher, A				tion):		214-2	: NO.: 296-191	39		e-Maiu: samuel.fisher@aecom.com				n.com	ţ	AECOM Other ID	
		Samuel Fis									Sai	mplei	r Nam	e(s):					,							-	LA	B USE	ONLY	
TELEPHO	NE: FAX: 314-429-0100 314-429-0	462	Bill To Conta		el.fish	er@a	ecom.	com			12	Ш	ni	م	i															
	ROUND TIME (CALENDAR DAYS): NDARD (14 DAY)		DAYS	☑ 24 HO				ESULTS	NEEDE VEEKE!						VIT C	OST	R	EQU	ESTE	D AN	ALYS		ON-U	NIT	COST					
<u> </u>	RWQCB REPORT FORMAT UST AGENCY:										十	T	T		T		T	Т	Τ			T.		T		\Box	T		FIELD N	OTES:
DELIVER		.3 LEVEL 4	[OTHER (SPEC	IFY)						1								1										TEMPERATURE	ON RECEIPT
	ATURE ON RECEIPT C° Cooler#1	Cooler #2			Coole	er#3					1		1																1Ce 0	1
		1		<u>.</u>	<u>. </u>						8260																			V 1764
SPE	CIAL INSTRUCTIONS OR NOTES: Email reports to: <u>samuel.fisher@aec</u>	om.com;		SHELL			ATÉ APP MENT RA		LIES		8 9																		<u> </u>	×
	wendy.pennington@aecom.com; brett.howe		1	EDD N	OT NE	EDED			_		zen												-		***************************************					
				☐ PROVI				ا (مادی)			Benzene													ĺ	-				Container Pli or Laborate	
4000		SAMP	LING	DDESERVATIVE								_	1		\top	T	1	*** 24-HOUR T	A											
LAB USE	Field Sample Identification		1	MATRIX	-	T	1			NO. OF CONT.	\vdash	+		\vdash	╌	-	 	+-	-			\dashv	-+	+	+	+	 	+-	<u> </u>	<u> </u>
ONLY		DATE	TIME		HCL	ниоз	H2SO4	NONE	H2S04	1	╁	┼	 			+	_	+-	┼	<u> </u>		-	+		_	-	+	-	DELATOR	il am 1
	PWYSEE-WaterEff- 070924	7/9/24	<u>08/5</u>	Aqueous	2		<u> </u>			2_	X	<u> </u>								ļ	$\sqcup \downarrow$		_				_	ļ	0710/05	(1-01)
																							80°	1				D'		Ĭ.
												T						7			Ţ		1	7 8	%	1 10	Sporting 8	1 100	ster .	
			 		 		-		_	 	T	†	 			\top	+	1	1				-				1			
4003544F		 	1	 	-	-				-	╂	+-	-		-	+		+-	+	<u> </u>		\dashv	-1	75		\vdash	+	+		
				<u> </u>	<u> </u>				<u> </u>	 	\bot	 	—		_		_	-}-	 	<u> </u>	_	-		+		₩	 	\vdash	 	
10.05																											<u> </u>			
			1						<u> </u>		T																Г			
			+		╁──	1-	-		 		+	╁	 		-	1		+-	+			_	\neg	_	\top	 	\vdash	+	<u> </u>	
					<u> </u>		<u> </u>			<u> </u>	╄			<u> </u>	_			4_	<u> </u>	ļ	$\vdash \downarrow$				_	 	╄-	 		

Refinquis	hed by: (Signature)	<u> </u>		Received by: (Si	gnature)		,	<u> </u>	<u></u>			`	1										Date:			-		Time		
				96		_				X		》	8										7/	191	24	ſ		(0915	
Rélinquis	hed by Joignature)			Received by: (Sig	gnature)																	\dashv	Date:					Time		
10	44 - 401	}_			4	1	, 1	- 11	4	Л	40	o sh	1											10	12	r.			978	
Beinquis	hed by. (Signature)	~~~~~		Received by: (Si			-																Date:		-	-f		Time		

9HS 4+7/9ky



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



Definitions

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

Abbr Definition

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



Definitions

http://www.teklabinc.com/

Report Date: 17-Jul-24

Client: AECOM Work Order: 24071252

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

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 Sp ke Recovery outside recovery limits
 - X Value exceeds Maximum Contaminant Level

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



Case Narrative

http://www.teklabinc.com/

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



Accreditations

http://www.teklabinc.com/

Report Date: 17-Jul-24

Client: AECOM Work Order: 24071252

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, VOLATI	LE ORGANIC C	омроц	JNDS 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



Quality Control Results

http://www.teklabinc.com/

Report Date: 17-Jul-24

Client: AECOM Work Order: 24071252

SW-846 5030, 8260B, VOLATI										
Batch 225836 SampType: SampID: MBLK-AK240717A-1	MBLK		Units µg/L							
	C	DI	0.1	D 1	G 1	SPK Ref Val	% DEC	Lou Limit	High Limit	Date Analyzed
Analyses	Cert	RL 0.5	Qual	Result ND	Spike	SPK Rei Vai	%REC	LOW LIMIT	mign Limit	
Benzene	*	0.5			E0.00		442.6	00	400	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							
SamplD: 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 Lir	nit: 20	
SamplD: LCSD-AK240717A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref V	al %RPD	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							
SamplD: QCS-AK240717A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed
		0.5	-	48.2	50.00	0	96.5	65	135	07/17/2024
Benzene		0.5								
	*	0.5		55.6	50.00		111.3	80	120	07/17/2024
Benzene		0.5		55.6 52.0	50.00 50.00		111.3 104.1	80 80	120 120	
Benzene Surr: 1,2-Dichloroethane-d4	* *	0.5								07/17/2024 07/17/2024 07/17/2024



Quality Control Results

http://www.teklabinc.com/

Report Date: 17-Jul-24

Client: AECOM Work Order: 24071252

CW 946 5020 9260B VOLATI	II E OBCA	NIC CO	MBOLIND	S DV CC/MS						
SW-846 5030, 8260B, VOLATI Batch 225836 SampType:			Inits µg/L	S BT GC/IVIS				RPD Lir	nit: 40	
SamplD: QCSD-AK240717A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref V	al %RPD	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: SampID: 24070994-001AMS	MS	l	Jnits mg/L							Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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	ι	Jnits mg/L					RPD Lir	nit: 20	
SamplD: 24070994-001AMSD Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref V	al %RPD	Date Analyzed
Benzene	CCIT	0.050	Quai	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	ι	Jnits mg/L							
SamplD: 24071123-001AMS										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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 Or	der: 24071	252	
Client Project: PWY SEE 2024 Water Effluent / 6072192		Report I	Date: 17-Jul	-24	
Carrier: Employee	Receiv	ved By: NR			
Outrier Employee	Recei	rea By. TVIC			
Completed by: On: 16-Jul-24 Paul Schultz	Revi Oi 16-Ju	ıl-24	Ellee Hopkins	ns	
Pages to follow: Chain of custody 1	Extra pages included	0			
Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present?	Yes ✓ None ☐ Yes ✓	No ☐ Ice ✔ No ☐	Not Present Blue Ice	Temp °C Dry Ice	16.3
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 0.1°C - 6.0°C, or when samples are received on ice the same of		between			
Water – at least one vial per sample has zero headspace?	Yes 🗹	No	No VOA vials		
Water - TOX containers have zero headspace?	Yes	No 🗌	No TOX containers ✓		
Water - pH acceptable upon receipt?	Yes 🗸	No 🗌	NA 🗆		
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No \square	NA 🗹		
Any No responses mu	ust be detailed belo	w or on the	COC.		

LAB (LOCATION)				Q		Shel	l Oil	Pro	oduc	ts L	IS C	hair	Of C	usto	dy R	eco	rd	24	0/1	25	^L AECOM
		Please	Check A	Approp	riate B	ox:			Print	Bill To	Conta	ict Nar	ne:	F	PlaNet S	ite or l	Proje	ct ID		CHE	ECK IF NO INCIDENT # APPLIES
	SGW FDG		☐ PI	PELINE		☐ RETA	IL			Sam	uel Fish	er				25278				DA	TE: 7/16/24
TESTAMERICA (Pensacola) Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)	CHEMICALS	5		ONSULTAN	-	LUSES	5				°0 #	HERA.			GSA	P Proj	ect II)			
Lab Vendor# Dropdown	TRANSPORT	TATION	□ oī	THER			_		<u> </u>	<u></u>	538912				USPO	C/0014/F	2/02/0	3		PA	GE:1 of1
SAMPUNG COMPANY:				LOG CODE:				SITE #	ADDRESS: S					Stat					COM Pr	roject	/ Task Number:
AECOM								EDE DEL	LIVERABLE TO	/Name Corr	many Office I	ocation):	IPHON	E NO.:	IL	PWY	SEE	2024 W	ater Ef	fluent	t / 60721927-7.2.2
ADDRESS: 100 N. Broadway -	20th Floor; S	T. LOUIS,	MO 63102	2				1	el Fisher,				1	-296-1969		samu	el fishe	ന്തി ഭേദ	m.com		
PROJECT CONTACT (Hardeopy or PDF Report to):	Samuel Fishe	er						Sam	pler Nar	ne(s):									LAB	USE C	DNLY
TELEPHONE: FAX:		Bill To Contact E-M		d finhae/	\aaaaa			F	4	rone e	اام										
314-429-0100 314-429-046. TURNAROUND TIME (CALENDAR DAYS):			samue	a.iisiiea (o	aecom.c	SULTS NEED	DED	1	ノ \ (4 11	R	EQUEST	ED ANAL	YSIS				1000	V () - 10	
STANDARD (14 DAY) 5 DAYS 3 DAYS	☐ 2 DA	YS		JR\$	سبه	ON WEEK				UN	T COS		7 7			INU-NC	T CO	ST			<u> </u>
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:]												-	FIELD NOTES:
DELIVERABLES: LEVEL 1 V LEVEL 2 LEVEL 3	LEVEL 4	o	THER (SPECI	FY)																l	TEMPERATURE ON RECEIPT
TEMPERATURE ON RECEIPT C* Cooler #1	Cooler#2			Cooler #3				မ္တ													16.3 476#
SPECIAL INSTRUCTIONS OR NOTES :					RATE APP			8260												-	10.7 -16.8
Email reports to: samuel.fisher@aecom wendy.gecom.gecom.com ; brett.howeli@gecom.com ; <a <="" href="mailto:brett.howeli@gecom.howel</td><td></td><td></td><td>EDD NO</td><td>OT NEEDEL</td><td>)</td><td>TE APPLIES</td><td></td><td>ene</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>***</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>✓ RECEIP</td><td></td><td></td><td>UESTED</td><td></td><td>Benzene</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Container PID Readings
or Laboratory Notes</td></tr><tr><td>**************************************</td><td>SAMPLIN</td><td>ıc I</td><td></td><td><u> </u></td><td>PRESERVA</td><td>TIVE</td><td>1</td><td>ш</td><td></td><td> </td><td></td><td></td><td></td><td></td><td>1</td><td>_</td><td></td><td></td><td></td><td>-</td><td>*** 24-HOUR TURNAROUN</td></tr><tr><td>LAB Field Sample Identification</td><td></td><td></td><td>MATRIX</td><td><u> </u></td><td></td><td></td><td>NO. OF
CONT.</td><td>H</td><td></td><td> </td><td></td><td>-</td><td>+</td><td></td><td></td><td>_</td><td>-</td><td></td><td>+</td><td><math>\dashv</math></td><td></td></tr><tr><td>ONLY</td><td></td><td>TIME</td><td></td><td>HCL HNO</td><td>3 H2SO4</td><td>NONE H2S0</td><td>4</td><td></td><td></td><td>╄</td><td></td><td>-</td><td> </td><td>+</td><td></td><td></td><td></td><td>_</td><td></td><td>-</td><td>111110 120 201</td></tr><tr><td>PWYSEE-WaterEff- D71 624</td><td>7/16/24/1</td><td>020 4</td><td>Aqueous</td><td>2</td><td></td><td></td><td>2</td><td>X</td><td></td><td></td><td></td><td></td><td><math>\bot</math></td><td></td><td></td><td></td><td></td><td></td><td></td><td><math>\dashv</math></td><td>4407 1927-100 I</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>. </td><td></td><td></td><td></td><td>10</td><td></td><td></td><td></td><td>14</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>1 </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>32. 33</td><td>98 3880</td><td>Sittes</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>******</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td></tr><tr><td></td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>- Territoria</td><td></td><td></td><td>:</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>***</td><td></td><td></td><td></td><td></td><td><u> </u></td><td>" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>:</td>									:												
									_						-	-			+	\dashv	
										<u> </u>									\perp	_	
		***************************************							1												
				 	-					+		-			-				-		
Resinquished by: (Signature)			eceived by: (Sig			1									5	ate			******	Time:	:
194 Hand			ON	W	W	z 🛭										07-	16	-24	-		12-10
Reinfürshed by (Signature)		Re	eceived by: (Sig	nature)	7	• /			200	0					C	2.55	1 (Time:	12:2=
(Mensaux					le	N	/		9	4						07-	Ne.	21]	15:32
Reinquished by: (Signature)		Re	eceived by: (Sig	(nature)											5	iste:			***************************************	ime:	
																					Version: 14Dec15

ONS NO 7616

Oklahoma



July 24, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor

St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969 TNI TNI TNI

 Illinois
 100226

 Illinois
 1004652024-2

 Kansas
 E-10374

 Louisiana
 05002

 Louisiana
 05003

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



Definitions

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

Abbr Definition

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



Definitions

http://www.teklabinc.com/

Report Date: 24-Jul-24

Client: AECOM Work Order: 24071848

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

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 Sp ke Recovery outside recovery limits
 - X Value exceeds Maximum Contaminant Level

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



Case Narrative

http://www.teklabinc.com/

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



Accreditations

http://www.teklabinc.com/

Report Date: 24-Jul-24

Client: AECOM Work Order: 24071848

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



Lab ID: 24071848-001

Laboratory Results

http://www.teklabinc.com/

Client Sample ID: PWYSEE-WaterEff-072324

Client: AECOM Work Order: 24071848

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2 Report Date: 24-Jul-24

Matrix: AQUEOUS Collection Date: 07/23/2024 08:45

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 5030, 8260B, VOLATI	LE ORGANIC C	омроц	JNDS 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



http://www.teklabinc.com/

Report Date: 24-Jul-24

Client: AECOM Work Order: 24071848

SW-846 5030, 8260B, VOLATI	LE ORGA	NIC CO	MPOUND	S BY GC/MS						
Batch 226083 SampType:	MBLK	l	Units µg/L							
SamplD: MBLK-AM240723A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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	l	Units µg/L							
SamplD: 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	ı	Units µg/L					RPD Lir	nit: 20	
SamplD: LCSD-AM240723A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref V	al %RPD	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	ı	Units mg/L							
SamplD: 24071643-004AMS										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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



http://www.teklabinc.com/

Report Date: 24-Jul-24

Client: AECOM Work Order: 24071848

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS													
Batch 226083 SampType:			Jnits ma/L	S BT GC/IVIS									
SamplD: 24071647-003AMS										Date			
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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	ι	Jnits mg/L										
SamplD: 24071648-003AMS										Date			
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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	ι	Jnits mg/L										
SamplD: 24071649-002AMS										Date			
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val		Low Limit	High Limit	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	ι	Jnits mg/L					RPD Lir	nit: 20				
SamplD: 24071649-002AMSD										Date			
Analyses	Cert		Qual	Result	Spike			RPD Ref V		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			



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	ı	Jnits mg/L											
SamplD: 24071728-001AMS										Date				
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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				



NPDES/CWA TCN interferences checked/treated in the field?

Receiving Check List

http://www.teklabinc.com/

Work Order: 24071848 Client: AECOM Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2 Report Date: 24-Jul-24 Carrier: Employee Received By: LEH Elizabeth a thurley Completed by: Reviewed by: On: On: 23-Jul-24 23-Jul-24 Paul Schultz Elizabeth A. Hurley Extra pages included 0 Pages to follow: Chain of custody Shipping container/cooler in good condition? Yes 🗸 No 🗔 Not Present Temp °C 8.5 Type of thermal preservation? Ice 🗹 Blue Ice None Dry Ice Chain of custody present? **~** No 🗌 Yes Chain of custody signed when relinquished and received? **~** Yes No L **~** Chain of custody agrees with sample labels? No 🗀 Yes **~** Samples in proper container/bottle? Yes No 🗀 **V** Sample containers intact? Yes No Sufficient sample volume for indicated test? Yes **~** No **✓** No \square All samples received within holding time? Yes NA 🗸 Field Lab \square Reported field parameters measured: Yes 🗹 No 🗌 Container/Temp Blank temperature in compliance? 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. Yes 🗸 No VOA vials Water - at least one vial per sample has zero headspace? No 🗀 No TOX containers Water - TOX containers have zero headspace? Yes No 🗌 Yes 🗹 No 🗌 Water - pH acceptable upon receipt?

Yes

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

No 🗀

NA 🗸

_	LAB (LOCATION)					(Sł	nell	Oil	Pr	od	uct	s l	JS (Cha	ain	Of •	Cus	sto	dy	Re	CO	rd				Ó	1407/848 AECOM
	:UTEST {			Plea	se Check	Approp	riate	Box:	. :	: :	2.0	P	rint E	ill To	с Сол	tact	Name	.		F	laNe	t Site	or	Proje	ect l	D .		CHEC	CK IF NO INCIDENT # APPLIES
	LSCIENCE (SGW FD	3	□ □ p	IPELINE			RETAIL					Sam	uel Fi	cher			丅			2	5278			·		DAT	E: 7/23/24
	STAMERICA (Pensacola_		☐ CHEMIC	ALS		ONSULTAN	ī		LUBES			Lan.	434		PO #		41)1501	5.6565	1		G	SAP			D	1711		ŲΛi	<u>1/ / 1 - 3</u>
<u> </u>		shoe Lake Rd; Collinsville, IL)	TRANSPO	MOTTATION	=	THER					1				<u> </u>			11.777	+									PAG	E:1 of1
AMEN INC	Lab Vendor	# Dropdown	Lineari	ATATION .	ے ا	LOG CODE:					eme	ADDDE	SS: Stre		63891:	2				Stat		SPC/0	014/6	₹/02/0		AFCC	M Pro	viect (Task Number:
VIII LIIV	AEC	OM									""	MODAL	.55. 500	ot and t	-My					300	IL		PWY	SEE					/ 60721927-7.2.2
ADDRES	\$:	100 N. Broadwa	y - 20th Floor	ST. LOU	IS, MO 6310	2					i				St. Lou		n):		ONE NO:	1969			E-MAIL:	:		ecom.c			AECOM Other ID
	CONTACT (Hardcopy or PDF Repo		Samuel Fis										Name		, ,								<u></u>				LAB (USE ON	(LY
TELEPHO	314-429-0100	FAX: 314-429-0	462	Bill To Conta		el.fisher@					F	<u>3.</u>	Ho	W	- 11														
	AROUND TIME (CALENDA INDARD (14 DAY)	R DAYS): □ 5 DAYS □ 3 DAY	rs 🔲 2	DAYS	24 HO	URS		RESULT:	S NEEDEL WEEKEN		-		***************************************	UN	IT CO	ST	RE	UES	TED A	NAL		NON	-UN!	TCC	ST			\dashv	
☐ LA	- RWQCB REPORT FORMAT	UST AGENCY:									†			Ť		Ť		Τ.	╅	<u> </u>	T							1	FIELD NOTES:
	RABLES: LEVEL 1		3 LEVEL 4	ſ	OTHER (SPEC	IFY)					1															***************************************	Ì	I,	TEMPERATURE ON RECEIPT
	RATURE ON RECEIPT C°	Cooler #1	Cooler #2	-	-	Cooler #3					١,																		25°UG3
SPE		S OR NOTES: to: samuel.fisher@aecc aecom.com; brett.howel			STATE DEDD N RECEL	CONTRACT REIMBURS OT NEEDE PT VERIFIC DE LEDD D	SEMENT D CATION (RATE API			Benzene 8260	***************************************							***************************************			***************************************						***************************************	Container PID Readings or Laboratory Notes
LAB	- Field Samp	le Identification	SAMPL	.ING	MATRIX		PRESER	RVATIVE		NO. OF																			* 24-HOUR TURNAROUN
LAB USE ONLY	-i ieid danip	ie identinoation	DATE	TIME		HCL HN	03 H2S	O4 NONE	H2S04	CONT.	<u> </u>								_		_	<u> </u>						_	- 17
	PWYSEE-WaterEff-	072324	7/23/24	0845	Aqueous	2		ļ		2	X			_		ļ	-	_	+	-	-	-					_	- @	<u> 1497/848-00/</u>
						 	-	_							_			+	_	-	+	\vdash		7.0	٠.		-79 (4		
SAUCE Edmisse			1		•		-	-	-		+		+	+			╂╾╂	+	+	+	 	+				\dashv	-	╅	
						ļ <u>.</u>					_	ļļ				_			- TO		- 3		1	#_	22	A		+	
																				V		J.	**************************************	100	*		額		
	The state of the s																												

																										-			
Reinqui	shed by: (Signature)	Faul			Received by: (Sig	;nature)	2/	n	l.	1			,,	 ,	<u>1</u>		<u> </u>				<u>'</u>	Date:	7	17	50	/2 (4	Time.	1045
Relinqui	shed by: (Signature)	//			Received by: (Sig	nature	4	3				·,										Date	7/	1	5/.	24			1115
Relinqui	shed by: (Signature)				Received by: (Sig	pnature)													-			Date					Ī	Time;	

ØH5 8 7123

Version: 14Dec15

Oklahoma



July 31, 2024

Samuel Fisher AECOM 100 N. Broadway, 20th Floor

St. Louis, MO 63102 TEL: (314) 802-1152 FAX: (314) 296-1969

Dear Samuel Fisher:



 Illinois
 100226

 Illinois
 1004652024-2

 Kansas
 E-10374

 Louisiana
 05002

 Louisiana
 05003

9978

WorkOrder: 24072466

RE: PWY SEE 2024 Water Effluent / 60721927-7.2.2

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



Definitions

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

Abbr Definition

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



Definitions

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

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 Sp ke Recovery outside recovery limits
 - X Value exceeds Maximum Contaminant Level

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



Client: AECOM

Case Narrative

http://www.teklabinc.com/

Work Order: 24072466

Report Date: 31-Jul-24

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

Cooler Receipt Temp: 5.7 °C

Locations

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



Accreditations

http://www.teklabinc.com/

Report Date: 31-Jul-24

Client: AECOM Work Order: 24072466

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



Lab ID: 24072466-001

Laboratory Results

http://www.teklabinc.com/

Client Sample ID: PWYSEE-WaterEff-073024

Client: AECOM Work Order: 24072466

Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2 Report Date: 31-Jul-24

Matrix: AQUEOUS Collection Date: 07/30/2024 08:30

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 5030, 8260B, VOLATII	LE ORGANIC C	OMPOL	INDS 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 Ba	ıtch
SW-846 5030, 8260B, VOLATI	LE ORGANIC C	OMPOL	JNDS BY	GC/MS					
Benzene	NELAP	50.0	500		54200	μg/L	1000	07/31/2024 13:13 22	26469
Surr: 1,2-Dichloroethane-d4	*	0	80-120		106.3	%REC	1000	07/31/2024 13:13 22	26469
Surr: 4-Bromofluorobenzene	*	0	80-120		98.3	%REC	1000	07/31/2024 13:13 22	26469
Surr: Dibromofluoromethane	*	0	80-120		106.0	%REC	1000	07/31/2024 13:13 22	26469
Surr: Toluene-d8	*	0	80-120		98.8	%REC	1000	07/31/2024 13:13 22	26469



http://www.teklabinc.com/

Report Date: 31-Jul-24

Client: AECOM Work Order: 24072466

OW DAG FOOD DOCOR MOLATI	I E OBO 4	NIIO CO	MDOLING	C DV COMC						
SW-846 5030, 8260B, VOLATI Batch 226469 SampType:			Units µg/L	S BY GC/MS						
SamplD: MBLK-AM240731A-1			- Fer							Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	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							
SamplD: LCS-AM240731A-1 Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene	Cert	0.5	Quin	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:	pType: LCSD Units µg/L RPD Limit: 20									
ComplD: LOCD AMOA0704A 4										
SamplD: LCSD-AM240731A-1										Date
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Va	al %RPD	Date Analyzed
	Cert	RL 0.5	Qual	Result 43.6	Spike 50.00	SPK Ref Val	%REC 87.2	RPD Ref Vo	al %RPD 11.20	
Analyses	Cert *		Qual							Analyzed
Analyses Benzene			Qual	43.6	50.00		87.2			Analyzed 07/31/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4			Qual	43.6 52.2	50.00 50.00		87.2 104.4			Analyzed 07/31/2024 07/31/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene			Qual	43.6 52.2 47.8	50.00 50.00 50.00		87.2 104.4 95.6			Analyzed 07/31/2024 07/31/2024 07/31/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane Surr: Toluene-d8 Batch 226469 SampType:	* * *	0.5	Qual Units mg/ L	43.6 52.2 47.8 53.5	50.00 50.00 50.00 50.00		87.2 104.4 95.6 106.9			Analyzed 07/31/2024 07/31/2024 07/31/2024 07/31/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane Surr: Toluene-d8	* * *	0.5		43.6 52.2 47.8 53.5	50.00 50.00 50.00 50.00	0	87.2 104.4 95.6 106.9 102.1	48.76	11.20	Analyzed 07/31/2024 07/31/2024 07/31/2024 07/31/2024 Date
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane Surr: Toluene-d8 Batch 226469 SampType:	* * *	0.5		43.6 52.2 47.8 53.5 51.0	50.00 50.00 50.00 50.00 50.00 Spike	0 SPK Ref Val	87.2 104.4 95.6 106.9 102.1	48.76		Analyzed 07/31/2024 07/31/2024 07/31/2024 07/31/2024 07/31/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane Surr: Toluene-d8 Batch 226469 SampType: SampID: 24071837-001AMS	* * * *	0.5	Units mg/ L	43.6 52.2 47.8 53.5 51.0	50.00 50.00 50.00 50.00 50.00	0	87.2 104.4 95.6 106.9 102.1	48.76	11.20	Analyzed 07/31/2024 07/31/2024 07/31/2024 07/31/2024 Date
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane Surr: Toluene-d8 Batch 226469 SampType: SampID: 24071837-001AMS Analyses	* * * *	0.5	Units mg/ L	43.6 52.2 47.8 53.5 51.0	50.00 50.00 50.00 50.00 50.00 Spike	0 SPK Ref Val	87.2 104.4 95.6 106.9 102.1	48.76 Low Limit	11.20 High Limit	Analyzed 07/31/2024 07/31/2024 07/31/2024 07/31/2024 O7/31/2024 Date Analyzed
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane Surr: Toluene-d8 Batch 226469 SampType: SampID: 24071837-001AMS Analyses Benzene	* * * * * * * * * * * * *	0.5	Units mg/ L	43.6 52.2 47.8 53.5 51.0 Result	50.00 50.00 50.00 50.00 50.00 Spike 5.000	0 SPK Ref Val	87.2 104.4 95.6 106.9 102.1 %REC 77.6	48.76 Low Limit 74.1	11.20 High Limit 118	Analyzed 07/31/2024 07/31/2024 07/31/2024 07/31/2024 Date Analyzed 07/31/2024
Analyses Benzene Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: D bromofluoromethane Surr: Toluene-d8 Batch 226469 SampType: SampID: 24071837-001AMS Analyses Benzene Surr: 1,2-Dichloroethane-d4	* * * * * MS Cert	0.5	Units mg/ L	43.6 52.2 47.8 53.5 51.0 Result 4.88 5.22	50.00 50.00 50.00 50.00 50.00 Spike 5.000 5.000	0 SPK Ref Val	87.2 104.4 95.6 106.9 102.1 %REC 77.6 104.4	48.76 Low Limit 74.1 80	11.20 High Limit 118 120	Analyzed 07/31/2024 07/31/2024 07/31/2024 07/31/2024 Date Analyzed 07/31/2024 07/31/2024



NPDES/CWA TCN interferences checked/treated in the field?

Receiving Check List

http://www.teklabinc.com/

Work Order: 24072466 Client: AECOM Client Project: PWY SEE 2024 Water Effluent / 60721927-7.2.2 Report Date: 31-Jul-24 Carrier: Employee Received By: PRS Completed by: OMOON DILLALLO Reviewed by: On: On: 30-Jul-24 30-Jul-24 Amber Dilallo Ellie Hopkins Extra pages included 0 Pages to follow: Chain of custody Shipping container/cooler in good condition? Yes 🗸 No 🗔 Not Present Temp °C 5.7 Type of thermal preservation? Ice 🗹 Blue Ice None Dry Ice Chain of custody present? **~** No 🗌 Yes Chain of custody signed when relinquished and received? **~** Yes No L **~** Chain of custody agrees with sample labels? No 🗀 Yes **~** Samples in proper container/bottle? Yes No 🗀 **V** Sample containers intact? Yes No Sufficient sample volume for indicated test? Yes **~** No **✓** No \square All samples received within holding time? Yes NA 🗸 Field Lab \square Reported field parameters measured: Yes 🗸 No 🗌 Container/Temp Blank temperature in compliance? 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. Yes 🗸 No VOA vials Water - at least one vial per sample has zero headspace? No 🗀 No TOX containers Water - TOX containers have zero headspace? Yes No 🗌 Yes 🗹 No 🗌 Water - pH acceptable upon receipt? NA 🗸

Yes

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

No 🗀

24072466

	LAB (LOCATION)				Shell Oil Products US Chain Of Custody Record												A E COM													
	CUTEST ()	j Pi					Please Check Appropriate Box:							Print Bill To Contact Name: PlaNe								et Site or Project ID					ſ	CHECK IF NO INCIDENT # APPLIES		
	LSCIENCE ()	LL SGW FDG				☐ PIPELINE ☐ RETAIL					Samuel Fisher									25278						DA.	TE: 7/30/2024			
_	STAMERICA (_Pensacola)	CHEMICALS				TANT		Ωı	UBES		PO #								G			ject	:ID		\neg					
<u> </u>	ner (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL) Lab Vendor # Dropdown	ORTATION	OTHER															USPC/0014/R/02/08						PAC	GE:1 of1					
SAMPLING		LCG CODE:						1638912 U SITE ADDRESS: Street and City State										J. J.	<u> </u>		,,,,,	AE	COM Pr	Project / Task Number:						
																<u>IL</u>	L PWY SEE 2024 Water						fluent							
ADDRES	HS MO 63403						EDF DELIVERABLE TO (Name, Company, Office Location): PHONE NO.: PHONE NO.:										-		sher@)aecor	m.com		ACCOM Other ID							
PROJECT	CONTACT (Hardcopy or POF Report to):	sher								San	npler	Name	e(s):														LAB	USE O	NLY S	
TELEPHO	samuel.fisher@aecom.com						4	3	He		0														# <u>51</u>					
TURN	314-429-0100 314-429-040 AROUND TIME (CALENDAR DAYS):			RESULTS NEEDED					╁	<u> </u>	115	<i></i>	<u> </u>		F	EQL	EST	ED A	NAL'	/SIS										
STA	NDARD (14 DAY) 5 DAYS 3 DAYS	□ 2	DAYS		URŚ				EEKEN					UI	NIT CC	ST		,					NO	N-UN	IIT C	OST				
	- RWQCB REPORT FORMAT UST AGENCY:															•													_	FIELD NOTES:
DELIVER	RABLES: LEVEL 1 🗹 LEVEL 2 🗌 LEVEL 3	[OTHER (SPECIFY)							1					****		***************************************												TEMPERATURE ON RECEIPT	
TEMPER		Cooler #3						- 09							***************************************												ICE LT0-3			
SPE	ECIAL INSTRUCTIONS OR NOTES: Email reports to: samuel.fisher@aecon	· com:		SHELL CONTRACT RATE APPLIES						82					***************************************		***************************************											-	5. 7°C.	
	wendy pennington@aecom.com; brett.howell@		1	STATE REIMBURSEMENT RATE APPLIÉS EDD NOT NEEDED					ene							***************************************														
							Benzene			Ì	***************************************	******		***************************************			-									Container PID Readings or Laboratory Notes				
LAB Field Sample Identification		SAMPLING DATE TIME		<u> </u>	PRESERVATIVE					 	\Box	\dashv		1				<u> </u>	-		\top	十	†	┪	1	TT	7	*** 24-HOUR TURNAROUNE		
				MATRIX			NO. OF CONT.		CONT.				1		-									╁	111	+	\top			
ONLY		- DATE	1127112		HCL	HNO3	H2SO4	NONE	H2S04		-	 	\vdash	+		+	-	+	+	1		\vdash	-	+	-	+	+-	++	十	2. (
	PWYSEE-WaterEff-073024	7/30/2024	0830	Aqueous	2					2	X	 			_	_	+	-	-	┼	+	-		+	+	┼		++		740 15400 - 201
14-920	PWYSEE-WOTE- CT3024	7/30/24	1130	1	Z		-			2	X					_				_			1-		ļ	-	ــــــ	$\perp \perp$	4	240724660-CO1 CO2
																	\perp													
								-																						
5.42												1						***************************************		1			П	T	T					
7.557																T													\top	
					\vdash			\dashv			 	 	\vdash	1		3 8	VI E	.02	Ď,	A.	V		A		+	+	+		+	
10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					<u> </u>		-	\dashv				 		-			W E	-			*	8	Access 1		-	-	-	++	+	
											ļ	ļ	Щ	_				<u> </u>	<u> </u>			<u> </u>		<u> </u>				11	4	
51.75 31.723																		***************************************												
																													\top	
Relinquis	shed by: (Signature)			Received by: (Sig	gnature)					<u> </u>	<u></u>	.L						1				1	Oat				-i	+++	Time:	
-	En fert	Van Ogel																		7130/24						l	5.50			
Reinquis		Received by: (Sig	gnature))	t	;														•••••	Date:						Time:			

Relinquis	shed by: (Signature)	• • •		Received by: (Sig	Received by: (Signature)																		Date	ė.			•••••		Time:	

QHS in 2/2 vials for Eft vary 1/30 HS present in 1/2 vials for Inf