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Letter No. 12661-181-SL-IEPA-0004

May 7, 2024

Project No. File No. 12661-181

Re: Analytical Test Results for Existing Bypass Basin Liner

Mr. Mark Liska

Illinois EPA, Bureau of Water

1021 North Grand Avenue East

Springfield, IL 62702

Electronic copy submitted via email to Mark.Liska@Illinois.gov

Dear Mr. Liska:

On behalf of Midwest Generation, LLC (MWG), Sargent & Lundy is submitting the enclosed analytical test results demonstrating that, following the material removal and decontamination work described herein, the existing high-density polyethylene (HDPE) geomembrane liner in the Bypass Basin at the Powerton Generating Station ("Powerton" or the "Station") is not contaminated with coal combustion residual (CCR) constituents. In accordance with 35 Ill. Adm. Code 845.770(a)(4), these analytical test results are being submitted in support of MWG's request to re-use the Bypass Basin's existing geomembrane liner as a supplemental liner under the new composite liner system to be installed when the basin is retrofitted. Pursuant to 35 Ill. Adm. Code 845.770(a)(4), MWG will submit the following information under separate cover after the data becomes available:

1. Visual evidence that the existing geomembrane liner no longer contains CCR constituents.
2. Visual evidence that the existing geomembrane liner is competent.
3. Electrical leak location survey test results demonstrating that the existing geomembrane liner is competent.

The following sections describe relevant background information on the Bypass Basin Retrofit Project, material removal and liner decontamination procedures, and liner sample collection, testing procedures, and testing results.

BACKGROUND

Powerton's Bypass Basin is an existing CCR surface impoundment that was used by the Station as a settling pond when the Station's primary settling pond, the Ash Surge Basin, was being cleaned. When in service, the Bypass Basin received bottom ash transport water discharged from the Station's dewatering bins (which initially treat the Station's CCR sludge water by initial sedimentation of solids) and other process waste streams related to electric power-generating operations. In 2010, the Bypass Basin's original liner was replaced with a 60-mil HDPE geomembrane liner. To facilitate periodic removal of ash in accordance with historical cleaning practices, and to protect the liner during cleaning, the HDPE

geomembrane liner was covered with a non-woven geotextile, a 12-inch-thick sand cushion layer, and a 6-inch-thick gravel warning layer. In early October 2020, the Station took the Bypass Basin out of service to clean the basin, and the basin has not been used since.

On July 18, 2022, MWG submitted a construction permit application to the Illinois Environmental Protection Agency (Illinois EPA or “Agency”) to retrofit the Bypass Basin with a new composite liner system and a new leachate collection and removal system. Under MWG’s proposed retrofit design, both new systems would be installed over the basin’s existing HDPE geomembrane liner, which would be re-used as a supplemental liner in the retrofitted basin. Under the Illinois Pollution Control Board’s “Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments” (“Illinois CCR Rule”), an “existing competent geomembrane liner” may be re-used as “a supplemental liner by submitting visual inspection, and analytical testing results to demonstrate that the existing liner is not contaminated with CCR constituents.” 35 Ill. Adm. Code 845.770(a)(4).

On March 5, 2024, MWG submitted an amended written retrofit plan to the Agency to communicate changes to MWG’s planned sequencing and schedule for the Bypass Basin Retrofit Project, which were based on input that Illinois EPA provided MWG during an in-person meeting on February 27, 2024. Per the amended retrofit plan, MWG will retrofit the Bypass Basin in two phases. Phase 1 includes the following activities, which are necessary for MWG to submit the visual inspection and analytical test data Illinois EPA requires to approve re-using the Bypass Basin’s existing geomembrane liner under 35 Ill. Adm. Code 845.770(a)(4):

1. Remove the gravel, sand, and geotextile that were placed over the existing geomembrane liner.
2. Decontaminate the basin’s existing geomembrane liner.
3. Visually inspect the geomembrane liner for CCR and for damage (*i.e.*, tears, holes, *etc.*) and repair any observed damage.
4. Submit samples of the basin’s existing geomembrane liner to a certified laboratory for analytical testing to confirm the liner is not contaminated with CCR constituents.
5. Perform an electrical leak location survey to verify the basin’s existing geomembrane liner is competent and repair any identified damage.
6. Submit the visual inspection, laboratory test, and electrical leak location survey results to Illinois EPA for review.

As discussed in the following sections, items 1 through 4 have been completed or are nearly completed. Items 5 and 6 are expected to be completed this month.

LINER CLEANING

On March 11, 2024, the Station started carefully removing the gravel warning and sand cushion layers over the Bypass Basin’s existing geomembrane liner. The gravel and sand materials were removed via hydro-excavation, starting at the ends of the basin and working towards the middle of the basin. To prevent damage to the existing liner, the vacuum truck removing the gravel, sand, and washwater was positioned on top of the basin’s embankments. To date, almost all of the gravel, sand, and non-woven geotextile layers over the existing geomembrane liner have been removed; only the surfacing over the access ramp into the Bypass Basin remains to be removed, which is expected to be completed within the

next two weeks. After all gravel, sand, and non-woven geotextile layers over the basin's ramp have been removed, the Station will pressure wash the geomembrane liner.

LINER SAMPLING

On April 12, 2024, Station personnel collected three samples of the Bypass Basin's existing geomembrane liner that had been cleaned. As shown on the enclosed map, one sample was taken from the basin's west sideslope, and two samples were taken from the basin floor: one near the outlet structure and one near the inlet structure. Each sample was approximately 18-inches square, and each sample location was patched with 60-mil HDPE geomembrane fusion-welded to the existing geomembrane liner. The enclosed photographs show the three sample locations and the patches that were installed over these locations.

The three sample locations were selected to obtain representative samples of the entire existing geomembrane liner. These three locations collectively represent the range of ash loads typically present in a settling pond like the Bypass Basin. Larger ash particles tend to settle out closer to the inlet structure, while finer ash particles tend to settle out closer to the outlet structure. Meanwhile, the geomembrane liner along the Bypass Basin's sideslopes is exposed, while the liner was covered with a non-woven geotextile along the basin floor. Therefore, a liner sample was collected near the basin's inlet, near the basin's outlet, and along one of the basin's sideslopes.

On April 15, 2024, the Station shipped the three geomembrane liner samples to Eurofins Chicago's laboratory for analysis. Eurofins Chicago is an accredited laboratory in the State of Illinois under the National Environmental Laboratory Accreditation Program (NELAP). The laboratory received the samples on April 16, 2024.

ANALYTICAL TESTING PROCEDURES

To verify the geomembrane liner samples were not contaminated, each sample was analyzed for the eight metals with toxicity characteristics under the Resource Conservation and Recovery Act (RCRA), seven of which are constituents of concern to be analyzed during groundwater monitoring under the Illinois CCR Rule: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. 35 Ill. Adm. Code 845.600(a)(1). The analytical methods used to determine whether the liner samples contained these metals were selected and performed in accordance with U.S. EPA's SW-846, *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*. First, the Toxicity Characteristic Leaching Procedure (SW-846 Test Method 1311) was used to obtain an extraction fluid simulating leachate that could be released from the Bypass Basin's existing geomembrane liner. Then, to determine the concentrations of the noted metals except for mercury, the extraction fluid was prepared for analysis using Method 3010A (acid digestion) and subsequently analyzed using Method 6010D (inductively coupled plasma–optical emission spectrometry). To determine the concentration of mercury present on the samples, the extraction fluid specimen was prepared and analyzed in accordance with Method 7470A (cold-vapor atomic absorption).

ANALYTICAL TESTING RESULTS

Table 1 summarizes the analytical test results on the three samples from the Bypass Basin’s existing HDPE geomembrane liner for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. The complete analytical data package from which these test results were obtained is enclosed. Table 1 also compares the analytical test results to the default groundwater protection standards (GWPS) specified by 35 Ill. Adm. Code 845.600(a)(1), which are the Class I (drinking water) standards for groundwater under 35 Ill. Adm. Code 620.410. As shown in the table, there were only five total instances where an analyte was found above its method detection limit (MDL): barium (SP-3 only), cadmium (SP-1 only), and selenium (all three samples). However, it is important to note that the concentrations of all eight metals were determined to be less than the maximum concentrations permitted under Illinois Class I (drinking water) standards for groundwater for all three liner samples.

Table 1. Comparison Between Analytical Test Results for Bypass Basin Liner Samples and Default Illinois CCR Rule Groundwater Protection Standards.⁽¹⁾

Analyte	SW-846 Method	MDL	RL	Liner Sample ID No.			IL Class I GWPS ⁽²⁾
				SP-1	SP-2	SP-3	
Arsenic	6010D	0.010	0.050	<0.010	<0.010	<0.010	0.010
Barium	6010D	0.050	0.50	<0.050	<0.050	0.061 J	2.0
Cadmium	6010D	0.0020	0.0050	0.0036 J	<0.0020	<0.0020	0.005
Chromium	6010D	0.010	0.025	<0.010	<0.010	<0.010	0.1
Lead	6010D	0.0075	0.050	<0.0075	<0.0075	<0.0075	0.0075
Selenium	6010D	0.020	0.050	0.024 J B *+	0.024 J B *+	0.021 J B *+	0.05
Silver	6010D	0.010	0.025	<0.010 *+	<0.010 *+	<0.010 *+	0.05
Mercury	7470A	--	0.00020	<0.00020	<0.00020	<0.00020	0.002
Notes: (1) All units are mg/L. (2) 35 Ill. Adm. Code 845.600(a)(1).							
Qualifiers: *+ LCS and/or LCSD is outside acceptance limits, high biased. B Compound was found in the blank and sample. J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.							
Acronyms & Abbreviations: LCS Laboratory Control Sample LCSD Laboratory Control Sample Duplicate MDL Method Detection Limit RL Reporting Limit							

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CONCLUSIONS & NEXT STEPS

Based on the analytical test results, the procedures used by the Station to clean the basin's existing liner have successfully removed CCR and CCR-contaminated sediments from the liner. Per Table 1, the concentrations of arsenic, barium, cadmium, chromium, lead, selenium, silver, and mercury in all three samples were determined to be less than the maximum concentrations permitted under Illinois Class I (drinking water) standards for groundwater. Moreover, HDPE geomembranes are known to have high chemical resistance to heavy metals, with one study demonstrating that only negligible permeation of heavy metal ions in concentrated acid solutions was observed in HDPE geomembranes after four years of testing. This study concluded that HDPE geomembranes are "virtually ideal barriers for heavy metals."¹ Thus, leaving the Bypass Basin's existing HDPE geomembrane liner in-place as a supplemental liner under the new composite liner system in the retrofitted basin will not pose a threat to groundwater, and by extension, human health or the environment.

After the Station finishes cleaning and decontaminating the Bypass Basin's existing liner, a contractor will perform an electrical leak location survey to confirm the liner is competent. After the survey has been performed, MWG will submit the survey results and photographs of the decontaminated liner. Collectively, this forthcoming data and the data enclosed with this letter will demonstrate the Bypass Basin's existing HDPE geomembrane liner no longer contains CCR or CCR-contaminated sediments and is competent.

Following the Agency's review of the enclosed analytical test results and forthcoming data on the liner's competency, we kindly request Illinois EPA provide written approval for re-using the Bypass Basin's existing HDPE geomembrane liner as a supplemental liner in the retrofit construction. In the meantime, please do not hesitate to contact me directly at (312) 269-6373 or via email at tdehlin@sargentlundy.com if you have any questions on the enclosed analytical test results.

We appreciate Illinois EPA's feedback and support on the Bypass Basin Retrofit Project, and we look forward to continuing to work with the Agency on this matter.

Best regards,



Thomas Dehlin, P.E.
Manager / Consultant

¹ Sangam, H.P. and Rowe, R. K. "Migration of dilute aqueous organic pollutants through HDPE geomembranes." *Geotextiles and Geomembranes*. 19. (2001.) pp. 329–357.

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Enclosures:

1. Analytical Test Results
2. Sample Locations
3. Sample Photographs

Copies Furnished (via Email):

1. Lauren Hunt, Illinois EPA
2. Darin LeCrone, Illinois EPA
3. EPA.CCR.Part845.Coordinator@Illinois.gov
4. Sharene Shealey, MWG
5. Jill Buckley, MWG
6. Todd Mundorf, MWG

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Joseph Kotas
Midwest Generation EME LLC
13082 E Manito Road
Pekin, Illinois 61554

Generated 5/3/2024 9:14:06 AM Revision 1

JOB DESCRIPTION

Bypass Basin

JOB NUMBER

500-249025-1

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Authorized for release by
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Case Narrative

Client: Midwest Generation EME LLC
Project: Bypass Basin

Job ID: 500-249025-1

Job ID: 500-249025-1

Eurofins Chicago

Job Narrative 500-249025-1

Revision

The report being provided is a revision of the original report sent on 4/26/2024. The report (revision 1) is being revised due to: Client requesting results for metals by 6010 be reported between the RL and the MDL.

Receipt

The samples were received on 4/16/2024 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 5.4° C.

Metals

Method 6010D: The laboratory control sample (LCS) for prep batch 764583 recovered outside control limits for the following analytes: Ag and Se. These analytes were biased high in the LCS and were below the reporting limit in the associated samples; therefore, the data have been reported.

Method 6010D: The leachate blank for preparation batch 500-764205 and 500-764583 and analytical batch 500-764833 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Eurofins Chicago

Method Summary

Client: Midwest Generation EME LLC
Project/Site: Bypass Basin

Job ID: 500-249025-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CHI
7470A	Mercury	SW846	EET CHI
1311	TCLP Extraction	SW846	EET CHI
1311	Toxicity Characteristic Leaching Procedure	SW846	EET CHI
3010A	Preparation, Total Metals	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: Midwest Generation EME LLC
Project/Site: Bypass Basin

Job ID: 500-249025-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
500-249025-1	SP-1	Solid	04/12/24 10:00	04/16/24 09:45
500-249025-2	SP-2	Solid	04/12/24 10:12	04/16/24 09:45
500-249025-3	SP-3	Solid	04/12/24 10:35	04/16/24 09:45

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Client Sample Results

Client: Midwest Generation EME LLC
 Project/Site: Bypass Basin

Job ID: 500-249025-1

Client Sample ID: SP-1

Lab Sample ID: 500-249025-1

Date Collected: 04/12/24 10:00

Matrix: Solid

Date Received: 04/16/24 09:45

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		04/23/24 16:24	04/24/24 19:04	1
Barium	<0.050		0.50	0.050	mg/L		04/23/24 16:24	04/24/24 19:04	1
Cadmium	0.0036	J	0.0050	0.0020	mg/L		04/23/24 16:24	04/24/24 19:04	1
Chromium	<0.010		0.025	0.010	mg/L		04/23/24 16:24	04/24/24 19:04	1
Lead	<0.0075		0.050	0.0075	mg/L		04/23/24 16:24	04/24/24 19:04	1
Selenium	0.024	J B *+	0.050	0.020	mg/L		04/23/24 16:24	04/24/24 19:04	1
Silver	<0.010	*+	0.025	0.010	mg/L		04/23/24 16:24	04/24/24 19:04	1

Method: SW846 7470A - Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		04/25/24 11:45	04/26/24 09:52	1

Client Sample Results

Client: Midwest Generation EME LLC
 Project/Site: Bypass Basin

Job ID: 500-249025-1

Client Sample ID: SP-2

Lab Sample ID: 500-249025-2

Date Collected: 04/12/24 10:12

Matrix: Solid

Date Received: 04/16/24 09:45

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		04/23/24 16:24	04/24/24 19:07	1
Barium	<0.050		0.50	0.050	mg/L		04/23/24 16:24	04/24/24 19:07	1
Cadmium	<0.0020		0.0050	0.0020	mg/L		04/23/24 16:24	04/24/24 19:07	1
Chromium	<0.010		0.025	0.010	mg/L		04/23/24 16:24	04/24/24 19:07	1
Lead	<0.0075		0.050	0.0075	mg/L		04/23/24 16:24	04/24/24 19:07	1
Selenium	0.024	J B **	0.050	0.020	mg/L		04/23/24 16:24	04/24/24 19:07	1
Silver	<0.010	*+	0.025	0.010	mg/L		04/23/24 16:24	04/24/24 19:07	1

Method: SW846 7470A - Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		04/25/24 11:45	04/26/24 09:54	1



Client Sample Results

Client: Midwest Generation EME LLC
 Project/Site: Bypass Basin

Job ID: 500-249025-1

Client Sample ID: SP-3

Lab Sample ID: 500-249025-3

Date Collected: 04/12/24 10:35

Matrix: Solid

Date Received: 04/16/24 09:45

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		04/23/24 16:24	04/24/24 19:18	1
Barium	0.061	J	0.50	0.050	mg/L		04/23/24 16:24	04/24/24 19:18	1
Cadmium	<0.0020		0.0050	0.0020	mg/L		04/23/24 16:24	04/24/24 19:18	1
Chromium	<0.010		0.025	0.010	mg/L		04/23/24 16:24	04/24/24 19:18	1
Lead	<0.0075		0.050	0.0075	mg/L		04/23/24 16:24	04/24/24 19:18	1
Selenium	0.021	J B *+	0.050	0.020	mg/L		04/23/24 16:24	04/24/24 19:18	1
Silver	<0.010	*+	0.025	0.010	mg/L		04/23/24 16:24	04/24/24 19:18	1

Method: SW846 7470A - Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		04/25/24 11:45	04/26/24 10:01	1

Definitions/Glossary

Client: Midwest Generation EME LLC
Project/Site: Bypass Basin

Job ID: 500-249025-1

Qualifiers

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: Midwest Generation EME LLC
Project/Site: Bypass Basin

Job ID: 500-249025-1

Method: 6010D - Metals (ICP)

Lab Sample ID: LCS 500-764583/2-A
Matrix: Solid
Analysis Batch: 764833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 764583

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.102		mg/L		102	80 - 120
Barium	0.500	0.485	J	mg/L		97	80 - 120
Cadmium	0.0500	0.0578		mg/L		116	80 - 120
Chromium	0.200	0.197		mg/L		98	80 - 120
Lead	0.100	0.0881		mg/L		88	80 - 120
Selenium	0.100	0.125	*+	mg/L		125	80 - 120
Silver	0.0500	0.0618	*+	mg/L		124	80 - 120

Lab Sample ID: LB 500-764205/1-C
Matrix: Solid
Analysis Batch: 764833

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 764583

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		04/23/24 16:24	04/24/24 18:34	1
Barium	<0.050		0.50	0.050	mg/L		04/23/24 16:24	04/24/24 18:34	1
Cadmium	<0.0020		0.0050	0.0020	mg/L		04/23/24 16:24	04/24/24 18:34	1
Chromium	<0.010		0.025	0.010	mg/L		04/23/24 16:24	04/24/24 18:34	1
Lead	<0.0075		0.050	0.0075	mg/L		04/23/24 16:24	04/24/24 18:34	1
Selenium	0.0216	J	0.050	0.020	mg/L		04/23/24 16:24	04/24/24 18:34	1
Silver	<0.010		0.025	0.010	mg/L		04/23/24 16:24	04/24/24 18:34	1

Method: 7470A - Mercury

Lab Sample ID: MB 500-764931/12-A
Matrix: Solid
Analysis Batch: 765155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 764931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		04/25/24 11:45	04/26/24 09:29	1

Lab Sample ID: LCS 500-764931/14-A
Matrix: Solid
Analysis Batch: 765155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 764931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00201	0.00199		mg/L		99	80 - 120

Lab Chronicle

Client: Midwest Generation EME LLC
 Project/Site: Bypass Basin

Job ID: 500-249025-1

Client Sample ID: SP-1

Date Collected: 04/12/24 10:00

Date Received: 04/16/24 09:45

Lab Sample ID: 500-249025-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			764205		EET CHI	04/22/24 12:13 - 04/23/24 06:00 ¹
TCLP	Prep	3010A			764583	MC	EET CHI	04/23/24 16:24 - 04/23/24 22:24 ¹
TCLP	Analysis	6010D		1	764833	SJ	EET CHI	04/24/24 19:04
TCLP	Leach	1311			764205		EET CHI	04/22/24 12:13 - 04/23/24 06:00 ¹
TCLP	Prep	7470A			764931	MJG	EET CHI	04/25/24 11:45 - 04/25/24 13:45 ¹
TCLP	Analysis	7470A		1	765155	MJG	EET CHI	04/26/24 09:52

Client Sample ID: SP-2

Date Collected: 04/12/24 10:12

Date Received: 04/16/24 09:45

Lab Sample ID: 500-249025-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			764205		EET CHI	04/22/24 12:13 - 04/23/24 06:00 ¹
TCLP	Prep	3010A			764583	MC	EET CHI	04/23/24 16:24 - 04/23/24 22:24 ¹
TCLP	Analysis	6010D		1	764833	SJ	EET CHI	04/24/24 19:07
TCLP	Leach	1311			764205		EET CHI	04/22/24 12:13 - 04/23/24 06:00 ¹
TCLP	Prep	7470A			764931	MJG	EET CHI	04/25/24 11:45 - 04/25/24 13:45 ¹
TCLP	Analysis	7470A		1	765155	MJG	EET CHI	04/26/24 09:54

Client Sample ID: SP-3

Date Collected: 04/12/24 10:35

Date Received: 04/16/24 09:45

Lab Sample ID: 500-249025-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			764205		EET CHI	04/22/24 12:13 - 04/23/24 06:00 ¹
TCLP	Prep	3010A			764583	MC	EET CHI	04/23/24 16:24 - 04/23/24 22:24 ¹
TCLP	Analysis	6010D		1	764833	SJ	EET CHI	04/24/24 19:18
TCLP	Leach	1311			764205		EET CHI	04/22/24 12:13 - 04/23/24 06:00 ¹
TCLP	Prep	7470A			764931	MJG	EET CHI	04/25/24 11:45 - 04/25/24 13:45 ¹
TCLP	Analysis	7470A		1	765155	MJG	EET CHI	04/26/24 10:01

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Midwest Generation EME LLC
Project/Site: Bypass Basin

Job ID: 500-249025-1

Laboratory: Eurofins Chicago



The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-24

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Chain of Custody Record

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

Client Contact		Project Manager : Joseph Kotas			Site Contact: J. Kotas			Date: 4/15/24			COC No	
Midwest Generation- Powerton Generating Station		Tel/Fax:			Lab Contact: <i>MOCKLER</i>			Carrier: UPS <i>NDP</i>			1 of 1 COCs	
13082 E Manito Road		Analysis Turnaround Time			 500-249025 COC			 500-249025 COC			Job No	
Pekin, IL 61554		Calendar (C) or Work Days (W)									500-249025	
(8159016549 Phone		TAT if different from Below									<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	
(xxx) xxx-xxxx FAX												
Project Name Liner												
Site Bypass Basin												
P O #												
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample <i>SW-846 Method 1311</i> <i>BCRAB Metals</i>					Sample Specific Notes
SP-1		4/12/2024	10 00 AM	Solid	SOLID	1						
SP-2		4/12/2024	10 12 AM	Solid	SOLID	1						
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other											Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Special Instructions/QC Requirements & Comments:												
Relinquished by: <i>J. Kotas</i>		Company: <i>MW Gen</i>		Date/Time: <i>4/15/24 1600</i>		Received by: <i>Paulina</i>		Company: <i>EETA</i>		Date/Time: <i>04/16/24 0945</i>		
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:		
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:		



Chain of Custody Record

Client Contact		Project Manager : Joseph Kotas				Site Contact: J. Kotas				Date: 4/15/24				COC No						
Midwest Generation- Powerton Generating Station		Tel/Fax:				Lab Contact:				Carrier: UPS <i>VDA</i>				1 of 1 COCs						
13082 E Manito Road		Analysis Turnaround Time				Filtered Sample <i>SW-846 Method 1311 CACAA 8 Metals</i>				Job No				500-249025						
Pekin, IL 61554		Calendar (C) or Work Days (W) _____								SDG No										
(8159016549 Phone		TAT if different from Below _____																		
(xxx) xxx-xxxx FAX		<input type="checkbox"/> 2 weeks																		
Project Name Liner		<input type="checkbox"/> 1 week																		
Site Bypass Basin		<input type="checkbox"/> 2 days																		
P O #		<input type="checkbox"/> 1 day																		
Sample Identification						Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes									
SP-3						4/12/2024	10 35 AM	Solid	SOLID	1	✓									
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____																				
Possible Hazard Identification										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)										
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/>										<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months										
Special Instructions/QC Requirements & Comments:																				
<i>24 → 20</i>																				
Relinquished by: <i>[Signature]</i>		Company: <i>MWGEN</i>		Date/Time: <i>4/15/24 4:00pm</i>		Received by: <i>[Signature]</i>		Company: <i>EETA</i>		Date/Time: <i>04/16/24 0945</i>										
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:										
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:										



Login Sample Receipt Checklist

Client: Midwest Generation EME LLC

Job Number: 500-249025-1

Login Number: 249025

List Number: 1

Creator: Schmidt, Kara

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.4,2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	




Bypass Basin Liner Sample Locations

for Decontamination Analysis

Legend


● Liner Sample Location

 Bypass Basin Inlet Structure

SP-3

SP-2

SP-1

 Bypass Basin Outlet Structure



SAMPLE SP-1



SAMPLE SP-2



SAMPLE SP-3

