

The attached is the final annual inspection report for the Mitchell BAP Complex as a CCR unit.

The Mitchell BAP Complex was certified closed (Closure by Removal) as a CCR unit on January 15, 2025.

2025 Annual Dam and Dike Inspection Report

Wastewater Pond Complex
Formerly named Bottom Ash Pond Complex

Mitchell Plant
Wheeling Power Company & Kentucky Power Company
Marshall County, West Virginia

July 2025

Prepared by: American Electric Power Service Corporation
1 Riverside Plaza
Columbus, OH 43215



Document ID: GERS-25-009

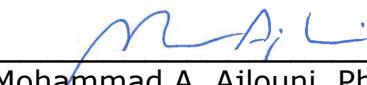
2025 Annual Dam and Dike Inspection Report

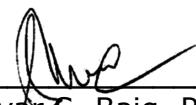
Mitchell Plant

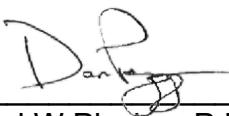
Wastewater Pond Complex

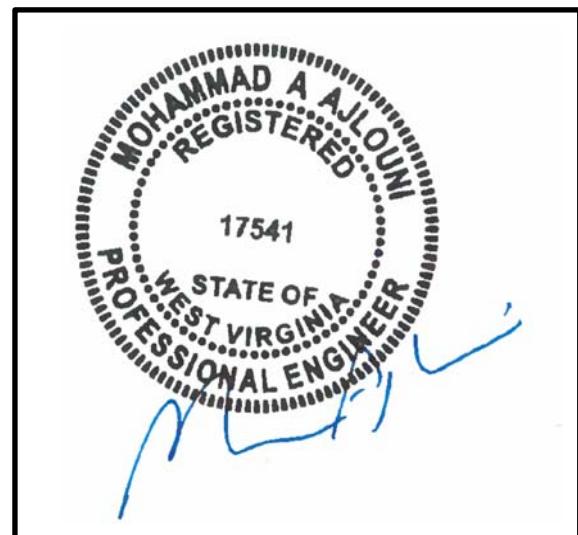
Formerly named Bottom Ash Pond Complex

Document Number: GERS-25-009

PREPARED BY  DATE 7/7/2025
Mohammad A. Ajlouni, Ph.D., P.E.

REVIEWED BY  DATE 7/11/2025
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APPROVED BY  DATE 8/8/2025
Daniel W Pizzino, P.E.
Director – Civil Engineering



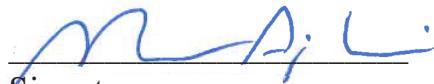
I certify to the best of my knowledge, information and belief the information contained in this report meets the requirements of 40 CFR § 257.83(b).

ENGINEER'S INSPECTION VERIFICATION STATEMENT

For Compliance with Dam Safety Rules §47-34-15.4.c

I hereby verify that I supervised the visual inspection of the Mitchell Wastewater Complex (ID# 05108) and its appurtenances on June 11, 2025. The attached signed and sealed inspection report documents:

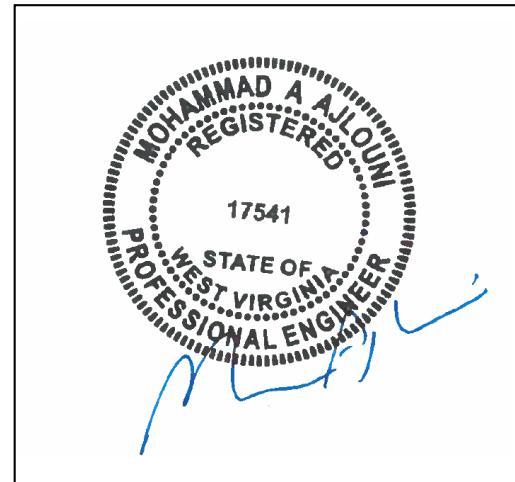
- 1) the current conditions as observed;
- 2) any maintenance items necessary to prolong safe functioning of the dam;
- 3) any conditions observed during the inspection which indicate that the dam has a serious problem⁽¹⁾;
- 4) any conditions that will not allow proper functioning of the dam during normal or maximum reservoir water level conditions.



Signature

Mohammad A. Ajlouni, P.E., Ph.D.
Engineer Staff
Geotechnical Engineering Services
American Electric Power Service Corporation

7/07/2025
Date



SEAL

⁽¹⁾ As defined in Section 2.47 of the Dam Safety Rules

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1.0 INTRODUCTION

This report was prepared by AEP- Geotechnical Engineering Services (GES) section, in part, to fulfill requirements of 40 CFR 257.83 for the CCR impoundments and to provide the Mitchell Plant an evaluation of the entire Wastewater Pond Complex.

The 2025 Annual Dike and Dam Inspection at the Mitchell Plant's Bottom Ash Complex was conducted on June 11, 2025. Mohammad Ajlouni, of AEPSC Civil Engineering & Geotechnical Services conducted the inspection and was accompanied by Mr. Dennis Henderson of the Mitchell Plant. This report is a summary of the inspection and an assessment of the general condition of the facility. Weather conditions were sunny, and the temperature was in the low 70°'s F. There were 1.22 inches of rainfall over the seven days prior to the inspection.

2.0 DESCRIPTION OF IMPOUNDMENTS

The Wastewater Pond (WWP) Complex (Formerly Bottom Ash Pond Complex) is comprised of the East and West Wastewater ponds and the Clear Water Pond as shown on Figure 1 –Inspection and Instrumentation Map. Within the WWP Complex, the East and West Wastewater ponds (EWWP and WWWP) are positioned immediately north of the Clear Water Pond and the south dike of the WWP separates the WWP from the Clear Water Pond.

The Mitchell WWP complex was constructed utilizing dikes comprised of compacted local sandy soils for the north, west and south perimeters and is partially incised into a natural hillside along the east side. The interior slopes of the WWPs are lined with double liner with an intermediate leak detection layer. The east WWP is additionally lined with a Fabri Form layer to allow dredging without damaging the Liner. The exterior and the interior CWP pond/dike slopes are vegetated above the pool level to minimize erosion.

In order to meet the requirement, set forth in the Coal Combustion Residual (CCR) Rule 40 CFR Part 257 and the Effluent Limit Guidelines (ELG) 40 CFR Part 423, the Bottom Ash Complex was modified with a new geomembrane liner and new inflow and outflow piping. These modifications were completed in October 2024 and Bottom Ash is no longer sluiced to the Mitchell Bottom Ash Complex. Due to the retrofit and change in operations, this pond complex was renamed as the Wastewater Pond complex

3.0 REVIEW OF AVAILABLE INFORMATION (257.83(b)(1)(i))

A review of available information regarding the status and condition of the Wastewater Pond Complex which include files available in the operating record, such as design and construction information, previous periodic structural stability assessments, previous 7 day and monthly inspection reports, and previous annual inspections has been conducted. Based on the review of the data there were no signs of actual or potential structural weakness or adverse conditions noted.

4.0 INSPECTION (257.83(b)(1)(ii))

4.1 CHANGES IN GEOMETRY SINCE LAST INSPECTION (257.83(b)(2)(i))

As mentioned in section 2, the pond complex is undergone construction activities in order to meet the CCR and ELG requirements. The changes affected the operation of the ponds; however, the geometry of the impoundments has remained essentially unchanged with the exception of lowering the height of the outer dikes of the WWPs by approximately 4 feet.

4.2 INSTRUMENTATION (257.83(b)(2)(ii))

There are four standpipe piezometers installed around WWP complex as shown on Figure 1. Regular readings are recorded for each piezometer at a monthly interval. All other piezometer readings exhibited minor fluctuations and were at safe levels. Table 1 includes the maximum reading of each piezometer since the last inspection.

Table 1 Maximum Recorded Instruments Readings (since the previous annual inspection)

Instrument	Type	Maximum Reading since last annual inspection	Date of reading
B-2	Piezometer	660.30	10/16/2024
B-3	Piezometer	665.58	3/5/2025
B-4	Piezometer	667.96	5/7/2025
B-5	Piezometer	663.62	5/7/2025

Figure 2 presents the pond water levels as well as the piezometers water levels. Changes in piezometers levels does not appear to be affected by the WWP level because of the presence of the liner.

4.3 IMPOUNDMENT CHARACTERISTICS (257.83(b)(2)(iii, iv, v))

Table 2 is a summary of the minimum, maximum, and present depth and elevation of the impounded water & CCR since the previous annual inspection; the storage capacity of the impounding structure at the time of the inspection; and the approximate volume of the impounded water and CCR at the time of the inspection.

Table 2 Summary of Relevant Storage Information

IMPOUNDMENT CHARACTERISTICS	
	Wastewater Pond
Approximate Minimum depth (elevation) of impounded water since last annual inspection	28 ft. (680 ft msl)
Approximate Maximum depth (elevation) of impounded water since last annual inspection	28 ft. (680.70 ft msl)
Approximate Present depth of impounded water at the time of the inspection	28 ft. (680ft msl)
Approximate Minimum depth (elevation) of CCR since last annual inspection	0 ¹ ft. (670.0 ft msl)

Approximate Maximum depth (elevation) of CCR since last annual inspection	0 ¹ ft. (652 ft msl)
Approximate Present depth (elevation) of CCR at the time of the inspection	0 ¹ ft. (652 ft msl)
Approximate Storage Capacity of impounding structure at the time of the inspection	145,000 C.Y.
Approximate volume of impounded water at the time of the inspection	50,000 C.Y.
Approximate volume of CCR at the time of the inspection	0,000 C.Y.

Notes:

1. All CCR material has been removed from the pond.

4.4 DEFINITIONS OF VISUAL OBSERVATIONS AND DEFICIENCIES

This summary of the visual observations uses terms to describe the general appearance or condition of an observed item, activity or structure. The meaning of these terms is as follows:

Good: A condition or activity that is generally better or slightly better than what is minimally expected or anticipated from a design or maintenance point of view.

Fair/Satisfactory: A condition or activity that generally meets what is minimally expected or anticipated from a design or maintenance point of view.

Poor: A condition or activity that is generally below what is minimally expected or anticipated from a design or maintenance point of view.

Minor: A reference to an observed item (e.g., erosion, seepage, vegetation, etc.) where the current maintenance condition is below what is normal or desired, but which is not currently causing concern from a structure safety or stability point of view.

Significant: A reference to an observed item (e.g. erosion, seepage, vegetation, etc.) where the current maintenance program has neglected to improve the condition. Usually conditions that have been identified in the previous inspections, but have not been corrected.

Excessive: A reference to an observed item (e.g., erosion, seepage, vegetation, etc.) where the current maintenance condition is above or worse than what is normal or desired, and which may have affected the ability of the observer to properly evaluate the structure or particular area being observed or which may be a concern from a structure safety or stability point of view.

This document also uses the definition of a “deficiency” as referenced in the CCR rule section §257.83(b)(5) Inspection Requirements for CCR Surface Impoundments. This definition has been assembled using the CCR rule preamble as well as guidance from MSHA, “Qualifications for Impoundment Inspection” CI-31, 2004. These guidance documents further elaborate on the definition of deficiency. Items not defined by deficiency are considered maintenance or items to be monitored.

A “deficiency” is some evidence that a dam has developed a problem that could impact the structural integrity of the dam. There are four general categories of deficiencies. These four categories are described below:

1. Uncontrolled Seepage

Uncontrolled seepage is seepage that is not behaving as the design engineer has intended. An example of uncontrolled seepage is seepage that comes through or around the embankment and is not picked up and safely carried off by a drain. Seepage that is collected by a drain can still be uncontrolled if it is not safely collected and transported. Seepage that is not clear and is turbid would also be considered as uncontrolled. Seepage that is unable to be measured and/or observed is considered uncontrolled seepage.

Note: Wet or soft areas are not considered as uncontrolled seepage but can lead to this type of deficiency. These areas should be monitored more frequently.

2. Displacement of the Embankment

Displacement of the embankment is large scale movement of part of the dam. Common signs of displacement are cracks, scarps, bulges, depressions, sinkholes and slides.

3. Blockage of Control Features

Blockage of Control Features is the restriction of flow at spillways, decant or pipe spillways, or drains.

4. Erosion

Erosion is the gradual movement of surface material by water, wind or ice. Erosion is considered a deficiency when it is more than a minor routine maintenance item.

4.5 VISUAL INSPECTION (257.83(b)(2)(i))

A visual inspection of the WWP Complex including the BAP and Clear Water Pond was conducted to identify any signs of distress or malfunction of the impoundment and appurtenant structures. Specific items inspected included all structural elements of the dam such as inboard and outboard slopes, crest, and toe; as well as appurtenances.

Overall, the facility is in Good condition. The impoundment is functioning as intended with no signs of potential structural weakness or conditions which are disrupting to the safe operation of the impoundment. Inspection photos are included in Attachment A. Additional pictures taken during the inspection are available. A map presenting locations of the inspection observations is included in Figure 1.

Wastewater Ponds (Photos 1 through 9)

1. The Wastewater Ponds were in service at the time of the inspection. Construction activities related to the Bottom Ash Pond repurposing were complete.
2. Plant inflows were entering the pond along the northeast side in the EWP. The pool was at 680 which is its normal operating level. The impounding area of the pond appeared in good condition.
3. The construction of the East portion of the pond was completed and approved by West Virginia Department of Environmental Protection (WVDEP).
4. There were no seepage or wet areas observed along the embankment.
5. Small area to the east and the west of the south outer slope of the Wastewater pond was recently seeded after completing construction activities.

Clear Water Pond (Photos 10 through 15)

1. The Clear Water Pond was in good operating condition during the time of the inspection. Inflows from the West side of WWP enters the CW pond through the newly constructed water conveyance system and the flow appeared to be unobstructed (Photos 10).
2. The interior slopes showed no signs of distress such as sloughing or bulges. The grass was recently mowed before the inspection. No animal burrows were observed during this inspection along the north and east interior dikes.
3. The splitter dike separating the Clear Water Pond and WWP appeared to be in good condition and showed no signs of distress.
4. The outboard slope of the Clear Water Pond was in good condition. There were no signs of movement or misalignment, sloughing or bulges.
5. There were no seepage or wet areas observed along the embankment.
6. The access road located at the crest of the pond appeared in good and stable condition with no signs of distress such as settlement or ruts.
7. The visible portions of the concrete discharge structure were in good condition and function properly. The concrete and metal stair structures were in good condition. There was a sediment curtain and boom installed just upstream and it appeared to be in good condition.

4.6 CHANGES THAT EFFECT STABILITY OR OPERATION (257.83(b)(2)(vii))

As mentioned in section 2, the pond complex has undergone construction activities to meet the CCR and ELG requirements. The changes effected the operation of the ponds; however, the outer geometry of the impoundments has remained essentially unchanged with the exception of slightly lowering the BAP dikes. The changes don't adversely affect the stability of the impounding structure.

5.0 SUMMARY OF FINDINGS

5.1 GENERAL OBSERVATIONS

The following general observations were identified during the visual inspection:

- 1) The outboard slopes, crest and inboard slopes and splitter dike of the impoundments were generally in Good condition. The embankments did not show any signs of structural weakness or instability. The vegetation along the embankments was recently mowed in all locations. The crest did not contain any ruts, cracks, depressions or other signs of instability. Specific maintenance items and items to monitor are described in the subsequent sections of this report.

5.2 MAINTENANCE ITEMS

The following maintenance items were identified during the visual inspection, see inspection map for locations. Contact GES for specific recommendations regarding repairs:

- Static water levels should continue to be measured on its current frequency for piezometers B-2, B-3, B-4, and B-5.
- The pond pool stages should continue to be recorded on a periodic basis.
- Maintain recently seeded areas downstream embankment slopes for animal burrows.

5.3 ITEMS TO MONITOR

The following items were identified during the visual inspection as items to be monitored, see inspection map for locations:

None.

5.4 DEFICIENCIES (257.83(b)(2)(vi))

The Wastewater Pond Complex (formerly Bottom Ash Pond Complex), consisting of the Bottom Ash Pond and Clear Water Pond, exhibited no signs of structural weakness or disruptive conditions during the inspection that would require additional investigation or remedial action. There were no deficiencies noted during this inspection or during any of the periodic 7-day or 30-day inspections. A deficiency is defined as either 1) uncontrolled seepage, 2) displacement of the embankment, 3) blockage of control features, or 4) erosion, more than minor maintenance. If any of these conditions occur before the next annual inspection contact AEP Geotechnical Engineering immediately.

FIGURES

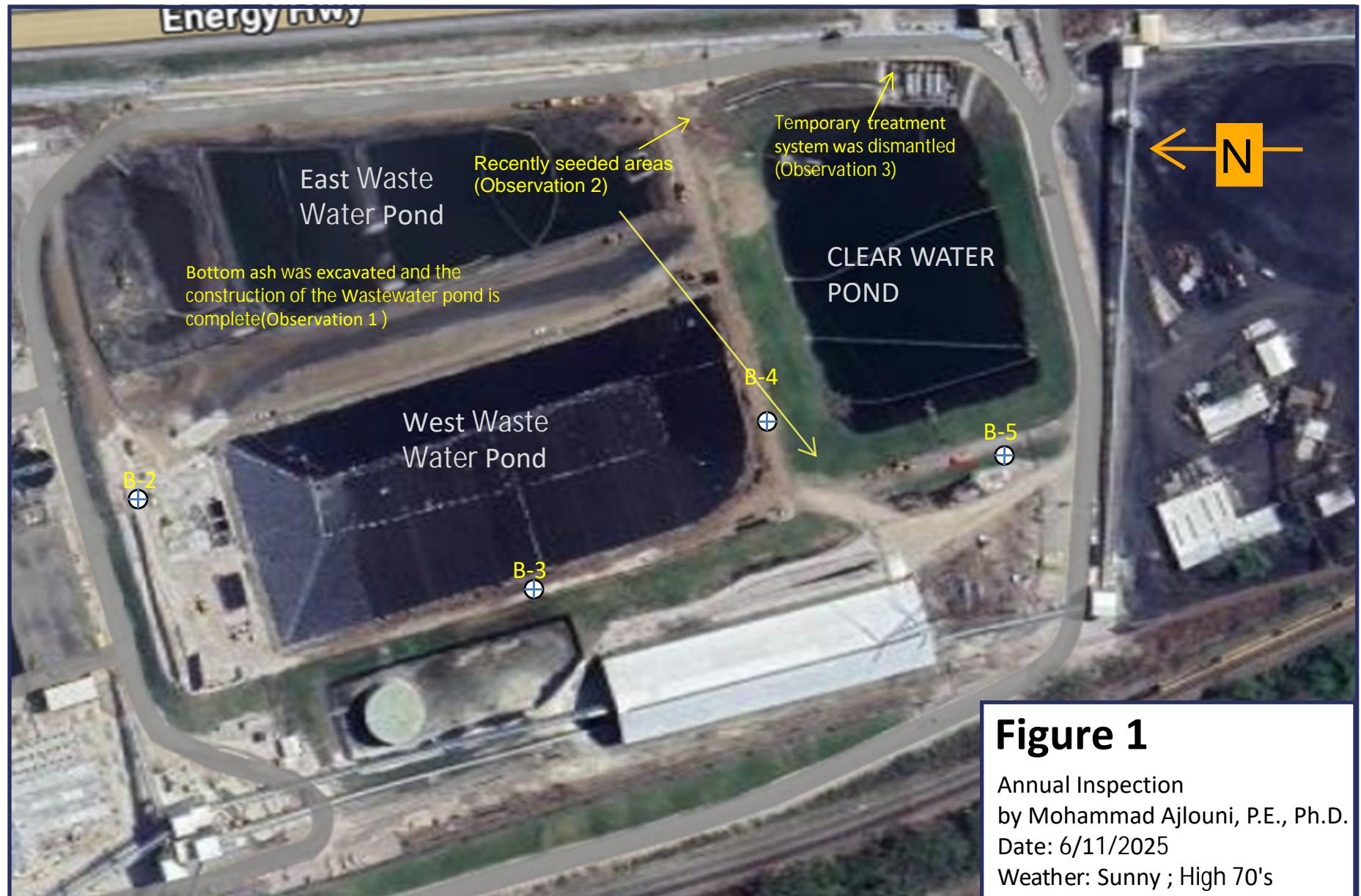


Figure 1

Annual Inspection
by Mohammad Ajlouni, P.E., Ph.D.
Date: 6/11/2025
Weather: Sunny ; High 70's

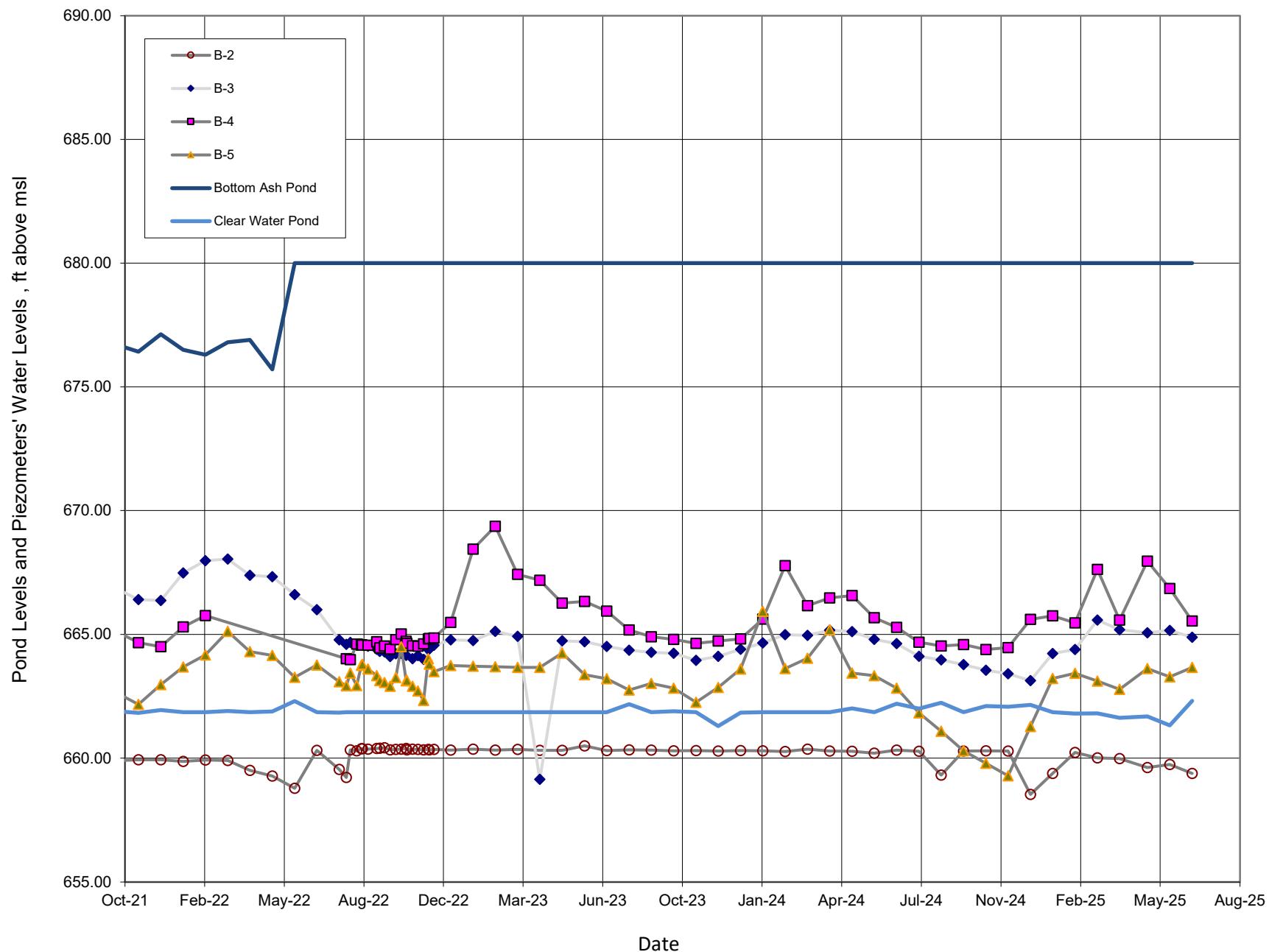


Figure 2 Wastewater Pond Complex Piezometers' & Ponds Level

ATTACHMENT A

Photos

APPENDIX B
Mitchell Power Plant, Wastewater Pond Complex Inspection
Photographic Log



Photo No. 1

East Wastewater Pond. Upstream North Slope. Note Good Condition of Fabriform Revetment.

General Overview



Photo No. 2

East Wastewater Pond. East Downstream Slope Looking North.

General Overview



Photo No. 3

East Wastewater Pond. South Downstream Slope Looking West. General Photo.

Note Recently Seeded local area and Gravel Surface on Crest.

APPENDIX B
Mitchell Power Plant, Wastewater Pond Complex Inspection
Photographic Log



Photo No. 4

West Wastewater Pond. Upstream East Slope looking North. Exposed Liner in good condition



Photo No. 5

West Wastewater Pond. Downstream South Slope. Looking East

General Photo, Typical Conditions.
Note Recently Seeded local area



Photo No. 6

West Wastewater Pond. Downstream West Slope. Looking North

General Photo, Typical Conditions.

APPENDIX B
Mitchell Power Plant, Wastewater Pond Complex Inspection
Photographic Log



Photo No. 7

West Wastewater Pond. Downstream North Slope. Looking East

Ground Cover, Typical Conditions.



Photo No. 8

Crest of Northern Perimeter Dam. Typical Conditions.



Photo No. 9

Landfill Runoff Collection Pond Dam Adjacent To Toe of Slope Looking East

Overview of Vegetation and General Conditions

APPENDIX B
Mitchell Power Plant, Wastewater Pond Complex Inspection
Photographic Log



Photo No. 10

Clear Water Pond. Upstream East Slope looking South.

General Photo, Typical Conditions.
Note Recently Seeded local area



Photo No. 11

Clear Water Pond. Upstream West Slope looking South.

Overview of Vegetation and General Conditions
Note Recently Seeded local area



Photo No. 12

Clear Water Pond. Upstream South Slope looking East.

Overview of Vegetation and General Conditions

APPENDIX B
Mitchell Power Plant, Wastewater Pond Complex Inspection
Photographic Log

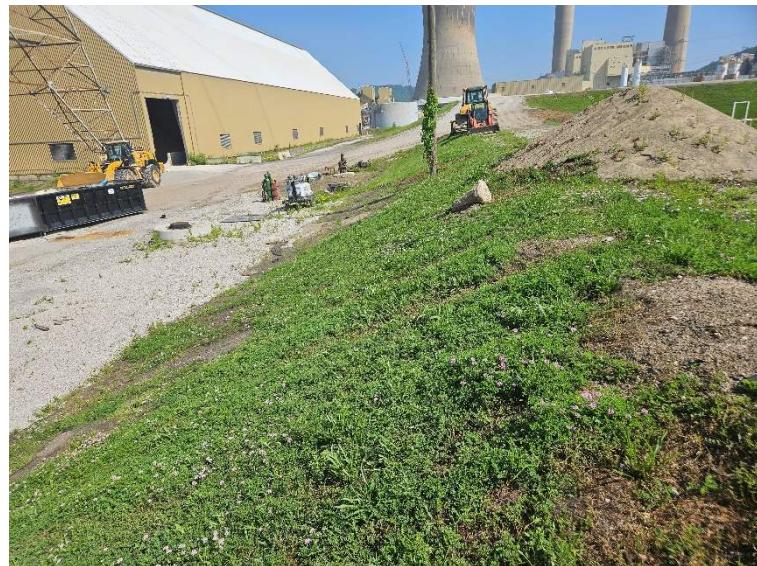


Photo No. 13

Clear Water Pond. Downstream West Slope looking North.

Ground Cover, Typical Conditions.



Photo No. 14

Clear Water Pond. Decant Structure / Control Mechanism. Water Elevation ~ 661.4



Photo No. 15

Clear Water Pond. Outlet Structure.

General Photo. Typical conditions