

2021 Annual Inspection Report

Gavin Power, LLC

Bottom Ash Pond

Gavin Power Plant
Cheshire, Ohio

7 January 2022



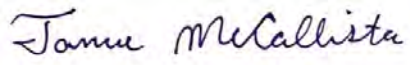
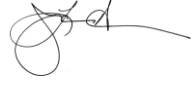

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Signature Page

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Gavin Power Plant
Cheshire, Ohio

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Acronyms and Abbreviations

BAC	Bottom Ash Complex
BAP	Bottom Ash Pond
BMPs	Best Management Practices
CCR	Coal Combustion Residual
CFR	Code of Federal Regulations
ERM	ERM Consulting & Engineering, Inc.
MSL	Mean Sea Level
PI	Plant's Information (System)
Plant	Gavin Power Plant
RWL	Residual Waste Landfill

1. INTRODUCTION

The Bottom Ash Pond (BAP) at the Gavin Power Plant (Plant) in Cheshire, Ohio is a surface impoundment subject to the Code of Federal Regulations (CFR) Title 40, Part 257, Subpart D, “Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments,” known as the Coal Combustion Residuals (CCR) Rule. The CCR Rule requires an annual inspection and reporting for surface impoundments.

This Annual Inspection Report for this impoundment has been prepared by ERM Consulting & Engineering, Inc. (ERM) to comply with these requirements of the CCR Rule, 40 CFR § 257.83(b).

1.1 Summary of Conditions of Annual Inspection

Mr. James Hemme, P.E., the certifying Professional Engineer, Mr. Tanner McCallister, E.I.T., and Mr. Luis Velasquez, E.I.T., performed the annual inspection and prepared this annual inspection report. Mr. Colin McKean, the Landfill Process Owner at Gavin Power, was the facility contact and provided support during the inspection process. Other members of the Gavin Power team also assisted with logistics and provided data for the completion of the inspection and report.

The inspection of the BAP was performed on 07 October 2021. Weather on that date consisted of partly overcast to clear skies, light wind, and temperatures ranging from 55 degrees Fahrenheit (°F) to 70°F. In the seven days prior to inspection, 5/16 inch of precipitation was recorded at the rain gauge at the Plant.

1.2 Regulatory Cross-Reference Table

Per 40 CFR § 257.83(b)(1), annual inspections must be completed on CCR surface impoundments by a qualified Professional Engineer. James Hemme, P.E., the certifying engineer, maintains a professional engineering license in the State of Ohio. Table 1, below, is a regulatory cross-reference table that describes the inspection requirements and the location in this report that addresses these requirements.

Table 1: Federal Regulatory Requirement Cross-Reference Table

Federal Regulatory Requirement Summary	Location in the Annual Report
§ 257.83(b)—Annual inspections by a qualified professional engineer	Sections 1.1 and 1.2
§ 257.83(b)(1)(i)—A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., CCR unit design and construction information, previous periodic structural stability assessments, the results of inspections by a qualified person, and results of previous annual inspections)	Section 5
§ 257.83(b)(1)(ii)—A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures	Section 3; Appendix A
§ 257.83(b)(1)(iii)—A visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation	Section 3; Appendix A
§ 257.83(b)(2)(i)—Any changes in geometry of the impounding structure since the previous annual inspection	Section 2.2
§ 257.83(b)(2)(ii)—The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection	Section 4; Appendix C
§ 257.83(b)(2)(iii)—The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection	Table 2
§ 257.83(b)(2)(iv)—The storage capacity of the impounding structure at time of inspection	Table 2
§ 257.83(b)(2)(v)—The approximate volume of the impounded water and CCR at time of the inspection	Table 2
§ 257.83(b)(2)(vi)—Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR and appurtenant structures	Section 3; Appendix A
§ 257.83(b)(2)(vii)—Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection	Section 3; Appendix A

2. GAVIN PLANT INFORMATION

2.1 Facility Overview

The Gavin Power Plant is a coal-fired power station located in Gallia County, Ohio, immediately south of Cheshire, Ohio, and adjacent to State Route 7, as depicted on **Figure 1**. The Plant is also adjacent to the western shoreline of the Ohio River. Nearby towns include Addison, Ohio and Point Pleasant, West Virginia.

2.2 Bottom Ash Pond

The BAP is adjacent to Ohio State Route 7, immediately south of the Plant and west of the Ohio River. The Reclaim Pond abuts and is located to the northwest of the Bottom Ash Pond. The two ponds comprise the Bottom Ash Complex (BAC). The Reclaim Pond was not designed to retain an accumulation of CCR and does not treat, store or dispose of CCR; thus, the Reclaim Pond is not considered a CCR Surface Impoundment under the CCR Rule. The location of the Bottom Ash Pond is depicted on **Figure 1**, and the general layout of the BAP is presented on **Figure 2**. Photographs of the Bottom Ash Pond at the time of the annual inspection are provided in **Appendix A**.

The BAP and the Reclaim Pond consist of continuous earthen embankments that surround the BAC on all four boundaries. Bottom ash slurry is pumped into the Bottom Ash Pond from the Plant. The water from the Bottom Ash Pond is then decanted through a reinforced concrete drop inlet structure into the Reclaim Pond. As part of ongoing maintenance of the BAP, regular material dredging is conducted around the pond inlets, along the eastern embankment. This material is stockpiled and later transported to the Residual Waste Landfill (RWL). Within the Reclaim Pond, stored water is pumped to the Plant for reuse or discharged to the Ohio River via an overflow structure, in conformance with the Plant National Pollutant Discharge Elimination System permit. **Table 2** provides current operational and geometry information for the BAP, as required by 40 CFR § 257.83(b)(2)(iii), (iv), and (v). ERM did not observe changes in the geometry of the BAP since the previous annual inspection conducted in 2020.

Table 2: 2021 Operation Information for the Bottom Ash Pond

Parameter	Value
Total Surface Area ¹	49.1 acres
Height of Perimeter Dikes ²	22 to 36 feet
Minimum Solids Elevation ³	549.7 feet (Mean Sea Level Datum (MSL))
Maximum Solids Elevation ²	585.03 feet MSL
Storage Capacity ⁴	1346 acre-feet
Elevation of Bottom Ash Pond Water and Water Depth ⁵	Most recent (10/06/21): +575.0 feet MSL (18.0 feet deep); Minimum: +575.0 feet MSL (18.0 feet deep); Maximum: +577.0 feet MSL (20.0 feet deep)
Approximate Volume of Impounded Water ⁶	422 acre-feet
Approximate Volume of CCR ⁷	678 acre-feet

¹ Based on a 2019 study, total surface area was calculated at 49.1 acres using available contour data in AutoCAD Civil 3D 208.

² Determined by the elevation distance from the pond embankment's crest to the exterior toe of slope and surrounding land surface. Height has not changed since 2020 annual inspection.

³ The values reported above are provided through cone penetrometer test (CPT) borings conducted between March 2020 and June 2020 across the interior of the BAP to extend through the ash/sediment materials and into the surface of the underlying clayey soils that forms the base of the BAP. The minimum solids elevation refers to the bottom of the ash/sediment materials while the maximum solids elevation refers to the top of the ash/sediment materials within the BAP. Referenced in 2021 Bottom Ash Pond Investigation Report, dated 13 July 2021.

⁴ The total storage capacity was estimated based on a maximum storage elevation of +586 feet MSL+ and available average surface area of about 49.1 acres in the Bottom Ash Pond.

⁵ The elevation of the pond bottom was approximately +550 to +554 feet MSL for the western portion of the pond and +558 to +564 feet MSL for the eastern portion of the pond based on the Bottom Ash Pond Investigation Report, dated 13 July 2021.

⁶ The approximate volume of impounded water for the Bottom Ash Pond was estimated based on the depth of water at the time of inspection, 06 October 2021, and an estimated volume based on solid surface contours in AutoCAD.

⁷ The approximate volume of CCR was calculated based on variable bottom depth and surfaces using AutoCAD methods. Referenced in the Bottom Ash Pond Investigation Report, dated 13 July 2021.

3. BOTTOM ASH POND VISUAL INSPECTION

The 2021 annual visual inspection conducted for the BAP is summarized below. All referenced photographs are in **Appendix A**; **Figure 3** shows the approximate locations where they were taken. Qualitative terms used to describe the inspection are summarized in **Appendix B**.

The annual inspection report discusses each embankment section of the BAP (i.e., west, south, east, and north embankments) separately. Although it is not regulated under the CCR Rule, this report also describes inspection of the Reclaim Pond since its structural integrity is relevant to the BAP. There were no appearances of actual or potential structural weakness in any component of the BAP during the 2021 inspection. In addition, there were no existing conditions⁸ that were visually observed to be disrupting or that had the potential to disrupt the operation and safety of the BAP and appurtenant structures.

3.1 Western Embankment Section

The western embankment section (including crest, slopes, and toes) was in satisfactory condition (i.e., well vegetated and in a stable condition) based on the visual inspection. There was no observable settlement, rutting, significant erosion, or misalignment identified (Photographs 1 through 15). The following is a summary of the inspection observations:

1. Bare earth cuts and localized areas of sparse vegetation reported in the 2020 Annual Inspection Report have been repaired by the time of the 2021 inspection. The western embankment contained no indications of slope instability and well vegetated, however overgrown grass along the embankment also hindered closer inspection of underlying ground conditions in some areas (Photograph 1).
2. On the exterior embankment slope, known and previously documented earthen bulges were observed halfway down the slope near the northwest and southwest corners of the BAP (Photographs 2 and 4, respectively). These existing earthen bulges were reported and described in previous Annual Inspection Reports since 2017, and have reportedly existed since original embankment construction. The earthen bulges appeared stable at the time of the 2021 inspection and did not appear to be active or expanding. These areas will continue to be monitored.
3. One animal burrow, approximately 3 inches in diameter, was observed along the top of the exterior embankment slope midway across the BAP (Photograph 3). This and any additional burrows identified during weekly inspections should be promptly backfilled and areas restored/reseeded as needed.
4. The drainage ditch along the exterior toe of the western embankment contained no indications of slope instability and was well vegetated (Photograph 6). The pipe culvert observed toward the end of the ditch in the southwestern corner appeared to be in good working condition and free of debris. Only a slight bend at the top of the pipe was observed in the SW corner culvert, which is not currently affecting its operation (Photograph 7).
5. The interior embankment slope exhibited no visible indication of settlement, rutting, or misalignment. The interior of the slope was generally well vegetated, with only several localized areas of sparse vegetation (Photographs 9 through 11). The spoils staging area in the SW corner of the BAP was observed to be only partially vegetated erosion rills and gullies were observed to be forming in bare areas down the interior slopes (Photographs 12 through 14).

⁸ For example, significant and developing erosion gullies, soil movement that could impact slope stability, or apparent seeps along exterior embankment.

6. The western embankment access road was found to be in a trafficable condition and remains well maintained (Photograph 15).

3.2 Southern Embankment Section

The southern embankment section was generally in satisfactory condition (i.e., mostly vegetated and in stable condition) during the annual inspection (Photographs 16 through 27). The following is a summary of this visual inspection:

1. The exterior slope exhibited no visual indications of significant misalignment, erosion, rutting or settlement. Slope vegetation was overgrown at the time of inspection. Effective revegetation of most sparse cover areas identified in the 2020 inspection was observed. A few additional areas of sparse vegetation coverage remain (Photographs 17 through 21).
2. Areas of sparse vegetation and some early indications of forming rills were observed along the top of the interior slope toward the southeast corner of the BAP (Photograph 26).
3. Previously documented areas of localized shallow hummocky terrain conditions and ground bulging along the interior embankment slope were monitored. These areas remain stable and well vegetated, and no sign of movement from previous year inspections was identified (Photographs 22 and 24).
4. The vegetated swale adjacent to the toe of the exterior slope appeared stable and well-vegetated. The pipe culvert near the center of the embankment draining to the south was functioning adequately by draining water from the swale (Photograph 18). Localized, small areas of shallow pooling water were observed, but with no signs of seepage from the embankment.
5. The southern embankment access road was found in stable condition and remains well maintained (Photograph 16).

3.3 Eastern Embankment Section

The eastern embankment section was in satisfactory condition (i.e., stable) with a few areas along the embankment of sparse vegetation and shallow hummocky terrain conditions. No visible indications of rutting, misalignment, or recent settlement were noted (Photographs 28 through 45). The following is a summary of this visual inspection:

1. The exterior slope appeared stable and the majority of the slope had well-established vegetative growth with isolated areas of sparse vegetation coverage (Photographs 28 through 30). The previously documented steep slope cuts near the SE corner of the exterior embankment were monitored. The slope cuts remain stable and well-vegetated, with no apparent signs of active movement or expansion (Photographs 35 and 36). The toe of the slope and swale along the fence line was well vegetated, and the swale was free of excess water and debris (Photograph 38). Overgrown grass was present at the time of inspection.
2. The pipe and support structures for the two nests of slurry pipelines entering the pond had surface rust in localized areas but appeared to be structurally sound and in satisfactory condition. Recent piping repairs were observed at the time of inspection (Photographs 32 and 33). Several pipes were discharging from the Plant into the BAP during the inspection and no signs of leaking from the pipes were observed along the eastern face of the embankment.
3. Active material deposition and dredging operations remain evident along the interior embankment slope. Portions of the interior slope continue to be buttressed by stockpiles of bottom ash; exposed surfaces are all contained within the embankment. Surface slopes appeared generally stable at the time of inspection. Some forming erosion gullies were observed near the SE corner of embankment (Photograph 40). The sparse vegetation coverage along the interior slope is a result of active

deposition activities in the area (Photographs 40 through 45). The inert nature of bottom ash and the associated lack of nutrients are likely additional contributors to the sparse vegetation in that area.

4. From the top of the interior embankment slope, the wooden platform, slated for removal in 2023, supporting the slurry lines at Unit 1 point of discharge was observed to have a few loose supports, and some instances of apparent missing supports, in addition to displaying general signs of material decay (Photograph 43).
5. The eastern embankment access road was found in stable condition and remains well maintained (Photograph 42).

3.4 Northern Embankment Section

The northern embankment section was in satisfactory condition (i.e., stable) with several spots of sparse vegetation and some minor rills/gullies. No visible indications of rutting or settling were noted. The terrain was slightly uneven along the exterior crest with occasional bare spots and some accumulations of bottom ash along the top due to spillage from the conveyor belt (Photographs 46 through 66). The following is a summary of the visual inspection:

1. The condition of the exterior slope appeared stable and generally well vegetated with some areas of sparse vegetation (Photographs 46 through 58). Starting signs of erosion (e.g., minor rills) were observed at some of the larger bare ground spots on the slope (Photographs 49 and 54). Some areas of coal fines accumulation were observed under the conveyor belt path along the top of the embankment (Photographs 50 and 53). The area of previously documented settlement repairs along the toe of the exterior slope exhibited no further indication of ground settlement. No evidence of seeps along the toe of the embankment were observed.
2. Two forming erosion rills, documented in the 2020 report, were observed on the exterior slope near the northwest corner of the embankment (Photographs 55 and 57). These rills follow the entire distance from the head to the toe of the slope, and may partially be a result of rainfall and runoff flow from the conveyor belt at the crest.
3. A slight ground bulge was observed within the channel of the vegetated ditch along the toe of the exterior embankment slope toward inlet. The ditch was found in stable condition and is well-vegetated. No water pooling was observed at time of inspection (Photograph 52).
4. An area of open excavation was observed at the toe of the exterior embankment slope near the NW corner (Photograph 58). These excavation activities were occurring for replacement of a water valve not associated with the BAP,
5. The interior embankment slope was stable and well vegetated with only a few areas of sparse vegetation coverage, and a few instances of shallow hummocky terrain. No settling, rutting, or misalignment of the slopes was identified (Photographs 60 through 65). Multiple areas of overgrown woody vegetation were observed along the toe of the interior slope, including vegetation growth within the pond (Photographs 63 and 64). The discharge pipes and support structures along the interior slope appeared functional and in satisfactory operating condition (Photographs 61 and 62).
6. The northern embankment access road was found to be in stable condition and remains well maintained (Photograph 59).

3.5 Reclaim Pond

The Reclaim Pond embankments were found to be in generally satisfactory condition. No visible indications of settlement or erosion were apparent. The crest, and slopes along the interior were vegetated (with only minor isolated bare spots) and the toe was armored with riprap. The riprap protected areas appeared to be in stable condition (Photograph 66).

4. ASSESSMENT OF RECENT INSTRUMENTATION DATA

4.1 Bottom Ash Pond

Two piezometers, labeled BAP-1, and BAP-2, are located at the BAC as indicated on **Figure 2**. Water level readings were obtained from piezometers BAP-1 and BAP-2, and the BAP. BAP-1 is near the drainage ditch along the western dike and BAP-2 is near the toe of the exterior slope of the southern dike. A plot of the monthly recorded readings from these piezometers and pond surfaces is presented in **Appendix C**, in accordance with 40 CFR § 257.83(b)(2)(ii). From November 2020 through October 2021, groundwater levels in BAP-1 and BAP-2 exhibited average elevations of +542.0 and +541.6 feet MSL, with standard deviations of 1.1 and 0.8 feet, respectively. Also, the maximum reading for BAP-1 was +543.0 MSL while the maximum reading for BAP-2 was +542.19 MSL.

The surface water levels in the BAP, collected by the Plant, had average elevations of +576.3 feet MSL, with a standard deviation of 0.9 feet. These results indicate that the recorded surface water levels in the ponds and piezometers have been relatively constant throughout the year. The 2021 results indicate a relatively higher average water level elevation compared with the 2020 average surface water elevation of +575.3 feet MSL in the BAP.

5. REVIEW OF CCR OPERATING RECORD DOCUMENTS AND PREVIOUS INSPECTION ITEMS

For this inspection report, the following documents were reviewed regarding the status and condition of the Bottom Ash Pond, in accordance with the requirements of 40 CFR § 257.83(b)(1)(i):

- 7-day inspection reports for the BAP for 2021.
- Monthly inspection reports for the BAP, which also include records of recent instrumentation data for 2021.
- The 2020 Annual Inspection Report, Bottom Ash Pond dated 07 January 2021.
- Other documents that contain information on the design, construction, operation, and condition of the CCR unit, including the Closure Plans, previous instrument data before 2021, and the 2015 through 2019 Annual Inspection Reports.
- The 2021 Bottom Ash Pond Investigation Report, dated 13 July 2021.

Based on the review of the available data related to this inspection, there were no identified indications of potential structural weakness, slope instability, drainage or seepage issues, or other adverse conditions that would impact the stability and operation of this CCR unit.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 2020 Annual Inspection Follow-Up

A review of photographs and repair items from the 2020 Annual Inspection Report included the following recommendations for the BAP: monitor northern embankment slope for resurgence of settlement holes, monitor western embankment for erosion around former culvert backfill, reseed indicated bare spots along slopes to re-establish vegetation, repair forming rills and gullies, monitor locations along slope where subsidence or sloughing might occur, inspect all toes for seepages, and continue weekly inspections BMPS.

Based on the 2021 annual inspection and a review of weekly and monthly inspection reports, most of the above-identified repair items from the 2020 annual inspection of the BAP have been addressed and recommendations followed. Reseeding of bare ground areas identified last year was documented during this year's inspection. Areas of previous years' maintenance, including settlement repairs and former culvert backfill, have been monitored and were observed to be stable during this year's inspection. Some areas of forming erosion rills/gullies documented in the 2020 inspection report were still observed during the 2021 inspection, and will be included again as part of this year's maintenance recommendations.

6.2 2021 Recommendations

6.2.1 Bottom Ash Pond

ERM recommends the following for the BAP based on the 2021 annual inspection:

1. Promptly repair identified erosion rills/gullies to prevent expansion and further erosion (Photographs 14, 26, 40, 55, and 57). Continue monitoring areas where rills and gullies have formed.
2. Continue to monitor locations along embankment slopes where subsidence or sloughing might occur, and inspect the toe of all slopes for potential seepage. Particular attention should be given to the areas identified in this report along the western and eastern exterior embankment slopes where ground bulging and steep slope cuts are known to be present (Photographs 2, 31, 35, and 36). Additional locations that are hummocky in nature should also be monitored for any new signs of soil movement.
3. Reseed identified localized bare spots along the slopes to re-establish vegetation. Revegetation and potential application of nutrients or pH adjustment may be applied as necessary to aid in addressing localized areas where bottom ash has been placed. Special attention should be given to areas along the exterior northern embankment slope where bare ground spots and early signs of erosion were observed (Photographs 48, 49, 54, and 56). Identified coal fines accumulation areas under conveyor belt path should also be cleared to prevent potential material washing down the slope (Photographs 50 and 53).
4. Monitor the drainage ditch along the toe of the northern embankment exterior slope. If the identified ground bulge is observed to be hindering positive flow drainage toward ditch inlet, efforts should be made to relocate or realign the ditch (Photograph 52).
5. Backfill and restore the animal burrow identified along the head of the western embankment exterior slope (Photograph 3). See **Figure 3 – Visual Inspection Map** for approximate location. Monitor embankment slopes for similar disturbances and promptly repair to prevent expanded erosion.
6. Continue to monitor the condition of the wooden platform structure supporting Unit 1 bottom ash sluice inlet on the eastern embankment of BAP. Decaying platform structure has been documented

since 2020 inspection report, and assessment is recommended to ensure the structure remains stable and able to support inlet piping until closure in 2023 (Photograph 43).

7. Ensure regular trimming of embankment slope vegetation. Grass was generally overgrown on all embankment slopes at the time of inspection. Particular attention should be given to tall woody vegetation growth documented along the northern embankment interior slope, which should continue to be mowed on a yearly basis (Photographs 60, 63, and 64). Woody vegetation on peninsula of bottom ash should be removed during closure activities in 2023.
8. The weekly and monthly inspections continue to point out any areas of the BAP that require attention, which in turn have been documented and addressed in a timely fashion. It is recommended that the Plant continue these Best Management Practices.
9. In reference to the area of open excavation located near toe of the exterior embankment slope near the NW corner (Section 3.4 Item 4), construction should be completed and backfilled as soon as practical.

6.3 CONCLUSIONS

Overall, the 2021 annual inspection indicated that the BAP CCR unit is in satisfactory operating condition and is stable. ERM identified several minor recommendations regarding repair and maintenance at the CCR unit, as listed above in Section 6.2.1. The weekly and monthly inspections have been effective at identifying and documenting areas requiring attention, and the Plant should continue the practice of promptly implementing the required maintenance. Recommendations for repair, while not immediately essential to the stability or the safe operation of the BAP, should be made as part of ongoing maintenance activities throughout 2022.

FIGURES



Legend

- Active Piezometer Location

NOTES:

1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
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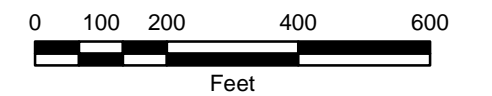


Figure 2: Bottom Ash Complex
Site Layout
Gavin Power LLC
Cheshire, Ohio





Legend

- # Photograph Location
- Active Piezometer Location

NOTES:

1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
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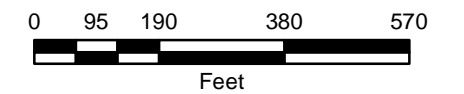





Figure 3: Visual Inspection Map
Bottom Ash Complex
Reservoir Site Layout
Gavin Power LLC
Cheshire, Ohio









APPENDIX A ANNUAL INSPECTION PHOTOGRAPHS




Bottom Ash Complex







(Photographs taken during 2021 CCR Inspection on 10/07/2021)




Photograph #1	
View of western embankment, from western side of Reclaim Pond. Slope is stable and well vegetated. Tall grass at the time of inspection (looking south).	
Photograph #2	
Drainage ditch and culvert along exterior base of western embankment, near west of the Reclaim Pond. Previously documented earthen bulge just above drainage line. Slope is stable and well vegetated (looking northeast).	
Photograph #3	
Animal burrow observed along top of slope midway across exterior western embankment slope, approximately 3 inches in diameter (top view).	

<p>Photograph #4</p>	
<p>Western embankment exterior slope and bottom ditch line toward south end of embankment. Previously documented earthen bulge location midway across slope face. Slope is stable and well vegetated (looking southeast).</p>	
<p>Photograph #5</p>	
<p>View of slope face from the bottom at exterior SW corner of BAP. Slope is stable and well vegetated (looking east).</p>	
<p>Photograph #6</p>	
<p>View of western embankment and bottom drainage ditch from SW corner of BAP. Slope and ditch channel are stable and well vegetated. Localized areas of slope cuts and bare ground documented last year have been properly restored (looking north).</p>	

<p>Photograph #7</p>	
<p>Photograph #8</p> <p>View of slope face and bottom from the top of embankment at exterior SW corner of BAP. Slope is stable and well vegetated with some areas of vegetation loss at the bottom from motorized equipment traffic (looking southwest).</p>	
<p>Photograph #9</p> <p>View of southern side of the Reclaim pond embankment. Slope is stable and well vegetated with minor areas of less vegetation coverage (looking east).</p>	

<p>Photograph #10</p> <p>View of interior slope of western embankment from NW corner of BAP. Slope is stable and well vegetated with minor areas of less vegetation coverage (looking south).</p>	
<p>Photograph #11</p> <p>View of interior slope of western embankment toward SW corner of BAP. Slope is stable and well vegetated with minor areas of less vegetation coverage (looking south).</p>	
<p>Photograph #12</p> <p>View of interior southwest corner embankment and spoils staging area. Partially vegetated. Some areas of downslope erosion from active maintenance activities (looking southeast).</p>	

<p>Photograph #13</p>	
<p>View of top southwest corner embankment and spoils staging area (looking south).</p>	
<p>Photograph #14</p>	
<p>View of interior southwest corner embankment and spoils staging area. Some areas of downslope erosion from active maintenance activities (looking northeast).</p>	
<p>Photograph #15</p>	
<p>View of western embankment access road from SW corner of BAP. Roadway surface is stable, clear and well maintained (looking north).</p>	

<p>Photograph #16</p>	
<p>View of southern embankment access road from SW corner of BAP. Roadway surface is stable, clear and well maintained (looking east).</p>	
<p>Photograph #17</p>	
<p>View of southern embankment exterior slope from SW corner of BAP. Slope is stable and well vegetated, with minor areas of sparse vegetation (looking east).</p>	
<p>Photograph #18</p>	
<p>Top view of drainage culvert located at the toe of the southern embankment exterior slope midway across BAP. Shallow pooling at culvert inlet. Densely vegetated slope with a few minor areas of sparse cover. Trimming is required (looking south).</p>	

Photograph #19

View down exterior slope of southern embankment toward SE corner of BAP. Slope appears stable and is densely vegetated with a few minor areas of sparse cover. Trimming is required (looking southeast).



Photograph #20

View down exterior embankment slope at SE corner of BAP. Slope is stable and well vegetated with minor areas of sparse cover (looking southeast).



Photograph #21

View of southern embankment exterior slope from SE corner of BAP. Slope is stable and well vegetated, with minor areas of sparse vegetation (looking southwest).



Photograph #22

View of interior southern embankment slope from SW corner of BAP. Slope is stable and well vegetated with small areas of sparse vegetation and hummocky terrain (looking east).



Photograph #23




Panoramic view of Bottom Ash Pond (BAP) from SW corner (looking northeast).






Photograph #24

View of interior southern embankment slope and previously documented small ground bulges. Slope is stable and well vegetated with small areas of sparse cover (looking west).



<p>Photograph #25</p>	
<p>View of interior southern embankment slope toward SE corner of BAP, with intentionally placed bottom ash along the toe to prevent wind erosion. Slope is stable and well vegetated with small areas of sparse cover (looking east).</p>	
<p>Photograph #26</p>	
<p>View of interior southern embankment slope toward SE corner of BAP. Sparse vegetation cover and indications of rill erosion observed in a few areas midway across BAP embankment (looking northeast).</p>	
<p>Photograph #27</p>	
<p>View of interior southern embankment slope from SE corner of BAP. Slope is stable and well vegetated with some areas of sparse vegetation cover. Exposed ash accumulation observed along toe (looking west).</p>	

Bottom Ash Pond Complex

Photograph #28	
Photograph #29	
Photograph #30	

Photograph #31

View of previously identified scarp along the bottom of exterior eastern embankment slope, near SE corner of BAP. Area observed stable and is well vegetated. Unchanged from previous inspections. (looking east).



Photograph #32




View of top exterior eastern embankment slope and BAP effluent pipelines. Slope is stable and well vegetated with some areas of sparse cover (looking north).









Photograph #33

View of recent pipeline repair/reinforcement observed along eastern embankment exterior slope (top view).



<p>Photograph #34</p> <p>View of bottom exterior eastern embankment slope halfway across BAP. Slope is stable and densely vegetated. Trimming is required (looking northeast).</p>	
<p>Photograph #35</p> <p>View of steep slope cut down bottom exterior eastern embankment slope, midway across BAP. Area remains stable without discernible signs of erosion (looking east).</p>	
<p>Photograph #36</p> <p>Front view of steep slope cut down bottom exterior eastern embankment slope, midway across BAP. Area remains stable and well vegetated without signs of erosion (looking west).</p>	

<p>Photograph #37</p> <p>View of top exterior eastern embankment slope and effluent pipelines from NE corner of BAP. Slope is stable and well vegetated with a few areas of sparse cover (looking south).</p>	
<p>Photograph #38</p> <p>View of bottom exterior eastern embankment slope from NE corner of BAP. Slope appears stable and well vegetated. Trimming is required (looking south).</p>	
<p>Photograph #39</p> <p>Front view of exterior NE corner slope of BAP. Slope is stable and well vegetated with a few areas of sparse cover (looking southwest).</p>	

<p>Photograph #40</p>	
<p>View of interior eastern embankment maintenance area from SE corner of BAP. Some forming minor erosion rills observed in bottom ash (looking northwest).</p>	
<p>Photograph #41</p>	
<p>Photograph #42</p>	

Photograph #43

View of Unit 1 bottom ash sluice inlet. Tall vegetation growth under platform and loose/broken platform frame members observed (looking west).



Photograph #44




View of dredging operations along interior eastern embankment of BAP. Ash stockpiles and bordering banks appear stable (looking northwest).



Photograph #45

View of coal reject and pyrite line discharges and access road expansion at NE corner of BAP. Access appears stable with a few forming erosion rills in ash observed at road bends (looking northwest).



<p>Photograph #46</p>	
<p>Photograph #47</p>	
<p>Photograph #48</p>	

Photograph #49

View of bare ground area along the top of exterior northern embankment slope (looking northwest).



Photograph #50

View of coal fines accumulation pile observed under conveyor belt along top of exterior northern embankment slope (top view).



Photograph #51

View of bare ground area and some loose wiring remnants observed by conveyor belt path along top exterior northern embankment slope (looking west).



Photograph #52

View of drainage ditch channel and drainage inlet along the bottom of the exterior northern embankment slope. Slight ground bulging observed within channel toward inlet (top view).



Photograph #53




View of coal fines accumulation and loose wiring observed under conveyor belt along top exterior northern embankment slope (looking east).



Photograph #54

View of exterior northern embankment slope near NW of BAP. Slope is stable and well vegetated with some areas of sparse cover along the top (looking east).



<p>Photograph #55</p> <p>View of bare ground area and forming erosion rill observed from top of exterior slope at NW corner of BAC (looking north).</p>	
<p>Photograph #56</p> <p>View of bare ground area on top of northern embankment at NW corner of BAC (looking west).</p>	
<p>Photograph #57</p> <p>View of erosion rills at NW corner of BAC, observed from the bottom of the exterior northern embankment slope (looking southwest).</p>	

Photograph #58

View of open excavation observed along bottom of northern embankment exterior slope (looking southwest).



Photograph #59

View of northern embankment main access road. Roadway is stable and well-maintained (looking west).



Photograph #60

View of interior northern embankment slope from NE corner of BAP. Slope is stable and well vegetated. Growing woody vegetation patch observed at toe (looking west).



Photograph #61

View of maintenance access road extension across northern effluent inlet from top of interior northern embankment slope (looking south).



Photograph #62




View of interior northern embankment slope and effluent inlet. Slope appears stable and densely vegetated. Trimming is required (looking east).



Photograph #63

View of ash accumulation and tall woody vegetation growing midway across BAP from top of interior northern embankment slope (looking south).



<p>Photograph #64</p>	
<p>Photograph #65</p>	
<p>Photograph #66</p>	

APPENDIX B QUALITATIVE INSPECTION TERMS

SUMMARY OF QUALITATIVE VISUAL INSPECTION TERMS

The terms described below are used to describe the overall condition and/or appearance of an observed embankment, structure, activity, or item. These terms are intended to give an overall qualitative judgment of the particular item. Please note, some of the terms described below were not used in this year's inspection, but are included as a comparative reference.

Satisfactory: A condition or activity that meets what would be minimally anticipated or expected from a stability, maintenance, or design viewpoint.

Poor: A condition or activity that does not meet what would be minimally anticipated or expected from a stability, maintenance, or design viewpoint. If a rating of "poor" is assigned, then corrective action is required in as timely a manner as possible.

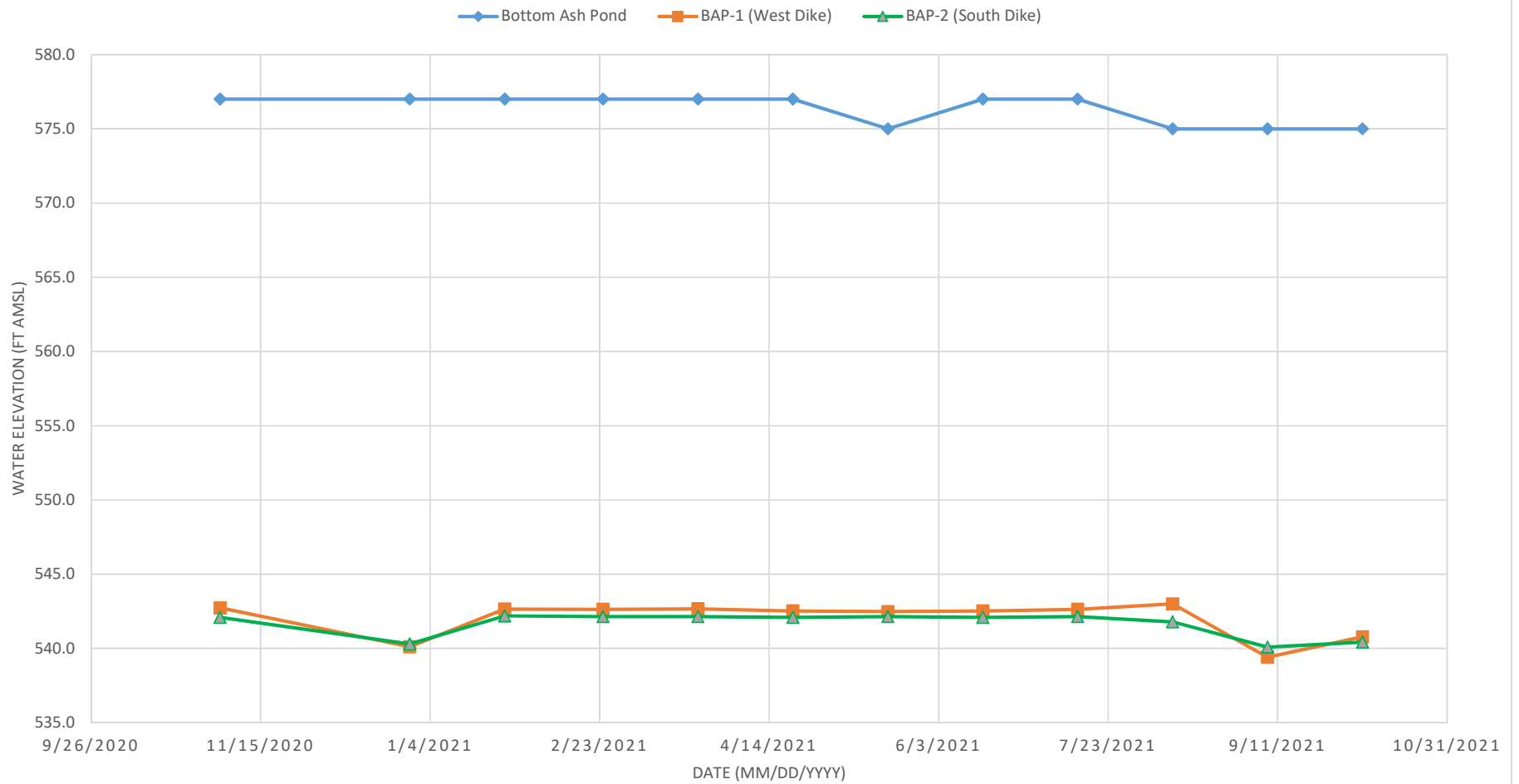
Minor: A reference to an item or activity where the current maintenance condition is below what is normally desired, but does not cause concern from a stability or safety viewpoint. Generally, these conditions would be identified and could be remedied through the normal maintenance process.

Significant: A reference to an item or activity which would impact the stability or daily operating conditions of the CCR unit. Generally, significant features develop over time and would likely be a result of maintenance not occurring when minor deficiencies were first noted. If left unchecked, such conditions could eventually be a concern for the stability and safety of the CCR unit.

Excessive: A reference to an item or activity that is much worse than what is normal or desired and is of immediate concern to the stability or safety of the CCR unit. Such a condition may also impact the ability of the inspector to properly evaluate the particular item or area.

APPENDIX C RECENT INSTRUMENTATION DATA

GAVIN BAP SURFACE WATER AND GROUNDWATER ELEVATIONS



APPENDIX D PROFESSIONAL ENGINEER CERTIFICATION

PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I or an agent under my review has prepared this Annual Inspection Report for the Residual Waste Landfill, and am familiar with the provisions of the final rule to regulate the disposal of coal combustion residuals (CCR). I attest that this report has been prepared in accordance with good engineering practices and meets the intent of 40 CFR 257.84. To the best of my knowledge, the information contained in this Report is true, complete, and accurate.



James A. Hemme, P.E.

Date: 7 January 2022

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