

**MT LBR Landfill Deficiency Corrective Measure Report
for
Area 3 Slip**

**Appalachian Power Company
Little Broad Run Landfill
Mountaineer Plant
New Haven, WV**

August 2020

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Area 3 Slip

Mountaineer Plant

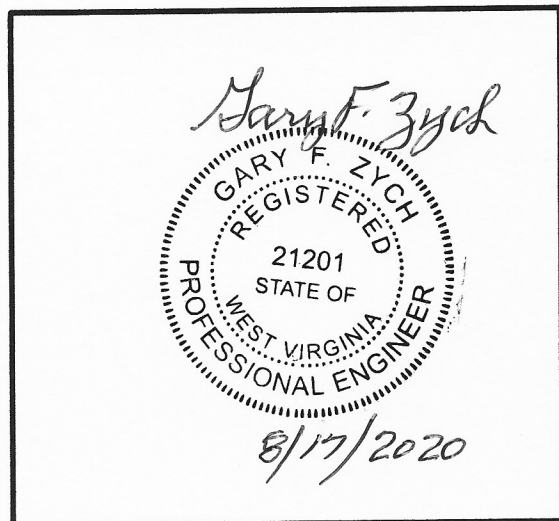
LBR Landfill

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I certify to the best of my knowledge, information and belief the information contained in this report meets the requirements of 40 CFR § 257.84(b).

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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 and to provide the Mountaineer Plant a report documenting the corrective measures associated with a deficiency.

This report specifically addresses the corrective action related to the deficiency for the MT LBR Landfill Area 3 slip repair.

This deficiency was initially identified during the Plant’s 7-day operation inspection on April 5, 2017. The repair work for this deficiency was performed by R.B. Jergens, the Landfill Operations Contractor. The corrective action activities were completed on December 19, 2018. The work activities were supervised by Chris Purdum (Mountaineer Landfill Supervisor) and Randall Brown (Plant Environmental Coordinator). Brett Dreger (PE, AEP GES) provided technical support and oversight.

2.0 DESCRIPTION OF LANDFILL

The Landfill is permitted for nine disposal areas (Areas 1 through 9) and a vertical expansion that is designed over the existing landfill area of approximately 209 acres. Areas 1-7 of the landfill are filled to the permitted grades. Areas 8 and 9 are permitted, but not constructed. The vertical expansion is currently divided into four development phases (Phases 1-4) and could be adjusted in acreages based on the operational needs. Figure 1 is the site location map which illustrates the major components of the landfill facility that includes the landfill, leachate collection ponds, ash pond complex, and gypsum stacker pad. Figure 1 is included in Appendix A.

The typical 7-day landfill inspection includes all of the fill areas (1-7) including vertical expansion, storm water management system, leachate collection management system, access roads and ditches, and conveyance channels.

3.0 DESCRIPTION OF DEFICIENCY (257.84(b)(5))

The deficiency was first identified on April 5, 2017 during a 7-day landfill operational inspection. Plant personnel noted that the soil cover had slipped in Area 3. There was cracking near the top and bulging near the bottom of the exterior slope located in Area 3. There was no sign of exposed ash. The area was put under monitoring and a repair plan was initiated. The area was monitored over the next several months while an investigation and repair plan was developed. The area was monitored daily until a final repair plan was developed and repair work began in September of 2018. The repair work was completed on December 19, 2018.

4.0 INVESTIGATION AND CORRECTIVE MEASURES (257.84(b)(5))

The Area 3 slip was under investigation and constant monitoring during the summer and fall of 2017 and winter and spring of 2018. Test pits were completed in March of 2018 to determine the subsurface conditions for the stability analysis and repair work. A topographic survey was performed in May of 2018 to evaluate slope stability and final grading and drainage plans. A slope stability analysis was performed and a new grading plan was developed in June/July of 2018.

After a complete investigation and slope stability analysis, and evaluating several options for a repair, it was decided that the best option was to regrade the slope and improve the surface drainage features. Final construction drawings were developed and repair work began in September 2018. An execution plan and revised construction drawings were developed in October 2018 due to field conditions encountered during construction. The Area 3 Slip Repair work was complete on December 19, 2018.

The Area 3 slope conditions have been stable and show no signs of cracks, slips or sloughs since the repair work was completed.

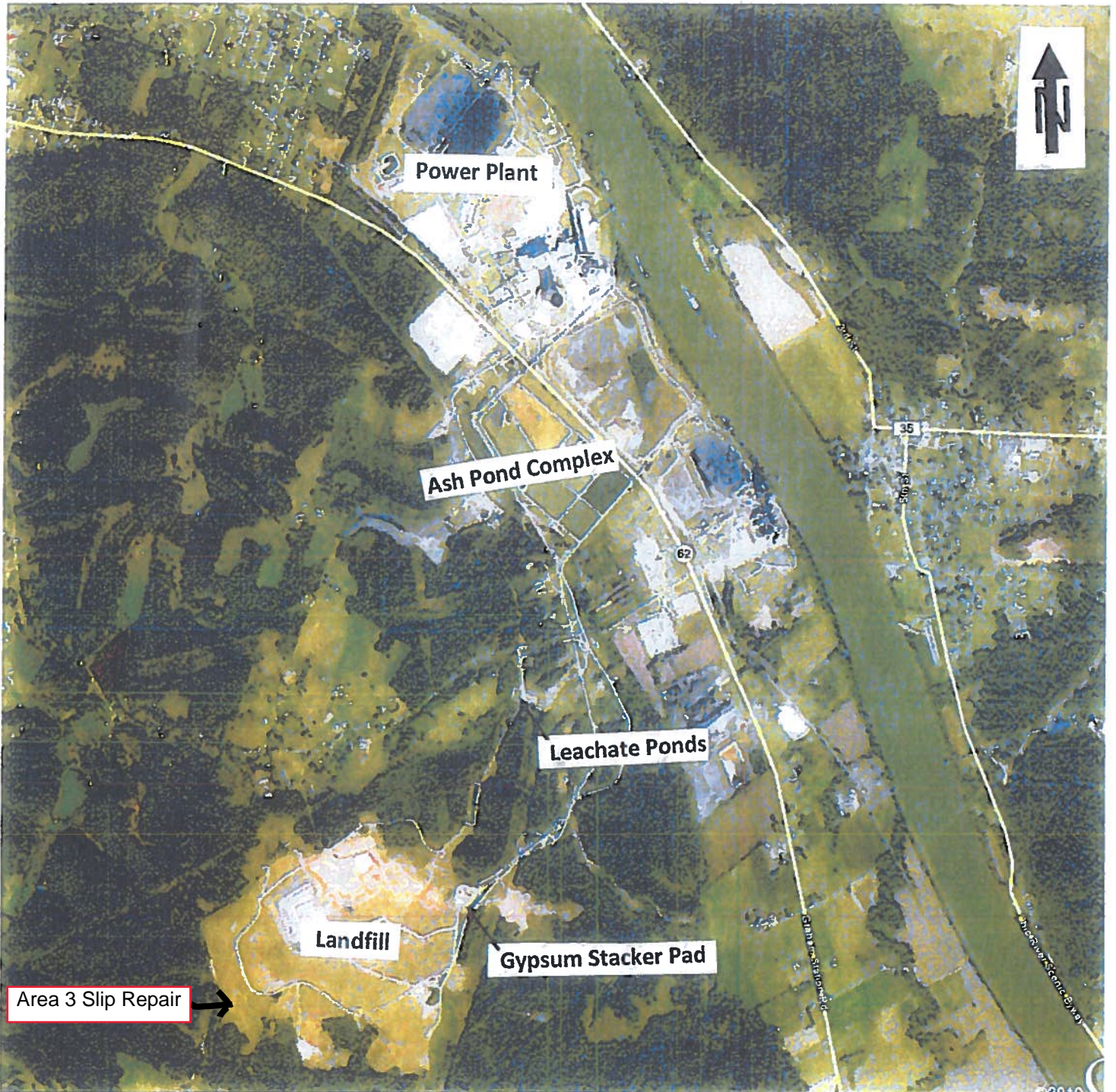
5.0 CONCLUSION

The overall slope conditions of Area 3 slope are stable. The slope cut back with geo-grid placement and re-grading the slope to a 3:1 has made the western slope of Area 3 stable. There have been no sign of cracks, slips or bulges during the 7-day inspection since the repair work was completed. The corrective measures taken to address the Area 3 slip at the Mountaineer LBR Landfill were implemented on April 5, 2017 and completed on December 19, 2018. The deficiency for the Mountaineer LBR Landfill Area 3 slip repair has been resolved in accordance with 40 CFR 257.

Appendix A

Site Map

Figure 1 – Site Location Map
Little Broad Run Landfill-Mountaineer Plant



Appendix B

Photos




<p>Photo # 1</p>	
<p>This photograph illustrates longitudinal crack along the Area 3 west slope.</p>	
<p>Photo # 2</p>	
<p>Typical condition of the Area 3 slope after clearing and grubbing all vegetation.</p>	
<p>Photo # 3</p>	
<p>Typical condition of the Area 3 west slope after stripping all soil cover.</p>	

Photo # 4

Typical condition of the Area 3 west slope after stripping all soil cover.



Photo # 5

Typical condition of the Area 3 west slope during slope cut back and geo-grid placement.



Photo # 6

Typical condition of the Area 3 west slope during slope cut back and geo-grid placement.



Photo # 7

Typical condition of the Area 3 west slope during slope cut back and geo-grid placement.



Photo # 8

Typical condition of the Area 3 west slope during slope cut back and geo-grid placement.



Photo # 9

Overview of Area 3 west during final grading cover.



Photo # 10

Overall view of Area 3 west slope during final grading.



Photo # 11

Overall view of Area 3 west slope during final seeding and mulching.



Photo # 12

Overall view of Area 3 west slope during initial vegetation growth on final cover.

