MT LBR Landfill Deficiency Corrective Measure Report
for
Area 7 Leachate Collection System High TSS Levels

Appalachian Power Company

Little Broad Run Landfill

Mountaineer Plant

New Haven, WV

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Prepared by: American Electric Power Service Corporation

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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 Mountaineer Little Broad Run (LBR) Landfill.

This report specifically addresses the corrective actions related to the deficiency for Area 7 Leachate Collection System High TSS Levels.

This deficiency was initially identified during the Plant's 7-day operation inspection on March 20, 2019. The corrective actions for this deficiency were performed by the North American Industrial Services, Quest Integrity Video Inspection services and R.B. Jergens, the Landfill Operations Contractor. The corrective action activities were completed on August 14, 2019. The work activities were supervised by Chris Purdum (Mountaineer Landfill Supervisor) and Randal 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 March 20, 2019 during a 7-day landfill operational inspection. Plant personnel noted that there were high levels of TSS in the Area 7 Leachate Collection Lines at Manhole #1. The source location of ash had not been determined. Video inspection of the lower leachate piping was originally scheduled for March 22, 2019. Photos of the area are included in Appendix B. TSS levels in the leachate water were 6600 ppm or 0.6 % of leachate volume in the lower leachate collection system. The area was monitored daily until video inspections began on March 28, 2019.

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

On March 28, 2019, video inspection by Quest Integrity was performed on the lower leachate pipes to determine the cause of the ash build up. North American Industrial Services performed water jetting (flush out) on the lower leachates pipe from access in manhole #1. After it was determined that the video inspection could not advance past the wye connection on the lower leachate pipe, it was decided to access the pipe upstream of the wye connection. The on-site landfill operations contractor (R.B. Jergens) mobilized and excavated the lower leachate pipes upstream of the wye connection, so each pipe could be

accessed for additional water jetting and video inspection.

During April, R.B. Jergens excavated down to the lower leachate pipes.

On May 17, 2019 Quest returned to inspect the pipes. Quest Integrity performed Remote Digital Video Inspection (RDVI) services on each lower leachate pipes North American Industrial Services was called in to water jet (flush out) ash from each lower leachate pipe. The contractors were only able to advance a few hundred feet.

After reviewing and evaluating several options for a repair, it was determined the best option would be to water jet each pipe as far as possible to remove the loose ash sediment. Plans were developed to improve access to the pipes and bring in another contractor that had water jetting and video equipment that could go farther into the leachate pipe system

On July 19, 2019 MPW mobilized to water jet the Area 7 upper and lower leachate lines. They were able to clean and inspect several hundred feet of each of the four pipes (2-lower and 2-upper).

On the same day (July 19, 2019) the pipes were inspected by video to check for sediment build up. All of the loose ash was removed from the pipes where water jetting activities occurred and the leachate water started to clear up. On August 14, 2019, the leachate water TSS levels were normal, the leachate lines were fitted with clean out portals and the area was backfilled around the pipes, regraded, seeded and mulched.

The corrective measures for the Area 7 Leachate Collection System High TSS Levels were completed on 8/14/2019.

The leachate lines continue to be inspected as part of the 7-day operational inspection.

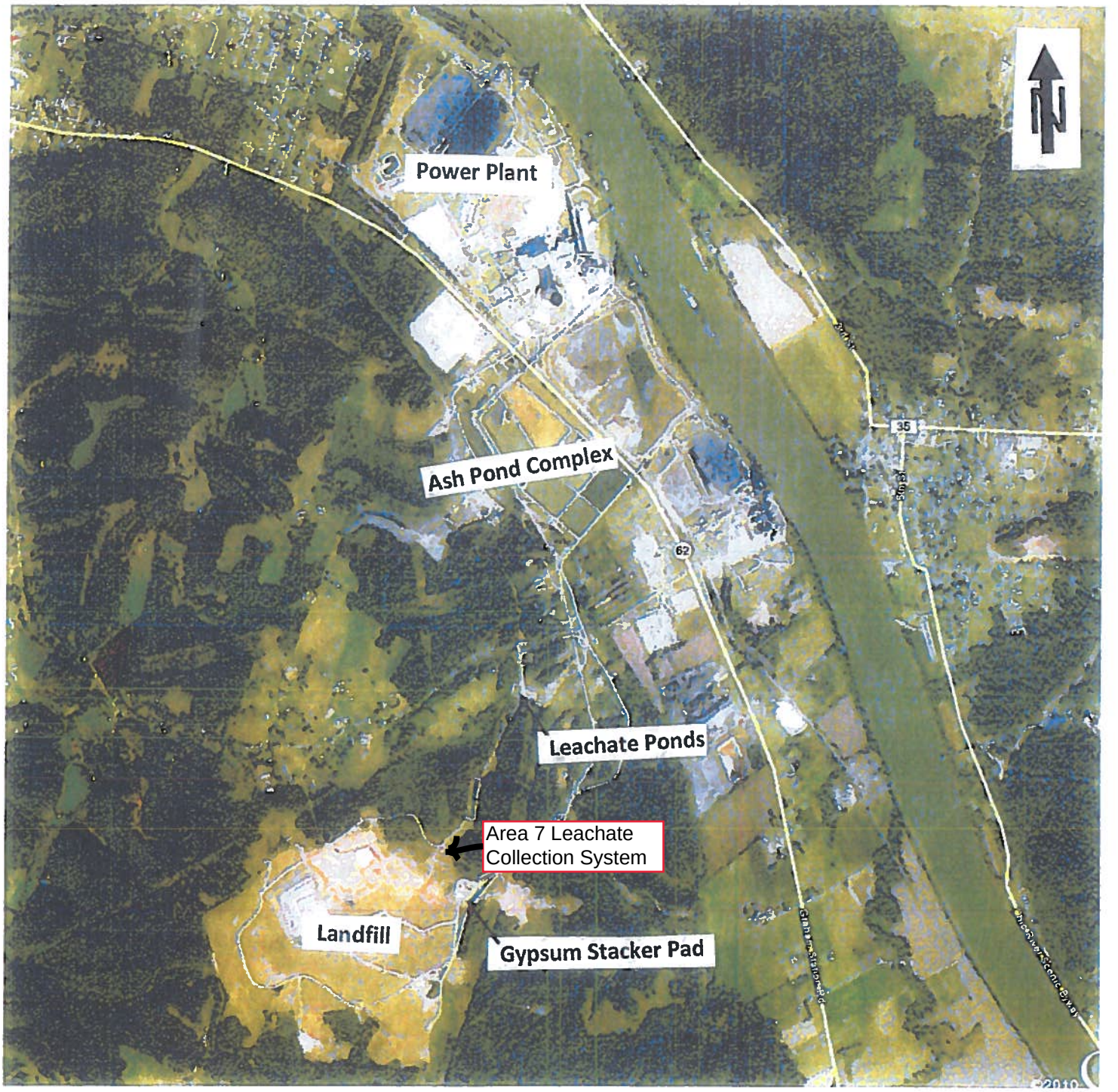
5.0 CONCLUSION

The water jet activities cleared out all the loose ash sediment built up in the leachate pipes. The video inspections did not reveal any open joints or misalignment in the leachate pipes. Once the water jet activities were completed the TSS levels went back to normal. The corrective measures taken to address the high TSS levels in Area 7 leachate collection pipes at the Mountaineer LBR Landfill were implemented on March 28, 2019 and completed on August 14, 2019. The deficiency for the Mountaineer LBR Landfill Area 7 Leachate Collection System High TSS Levels 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

Photo # 1	
This photograph illustrates Landfill Area 7 leachate lines at Man Hole #1.	

Photo # 2	
Area 7 Leachate Collection system Man Hole #1 Area.	

Photo # 3	
Camera Crew Preparing for Video Inspection.	

Photo # 4	
Excavation Activities to access the leachate pipes outside of Area 7.	

Photo # 5	
Excavation Activities to access the leachate pipes outside of Area 7.	

Photo # 6	
View of the Wye Connection for the Lower Leachate Lines.	

Photo # 7	
View of the Upper and Lower Leachate Lines Exposed.	

Photo # 8	
Overall View of Upper Leachate Lines Before the Wye Connector.	

Photo # 9	
Overview of Bypass Ditches for the open Leachate Lines.	

Photo # 10	
Overall view of the Bypass Ditches for the Leachate Lines.	
Photo # 11	
Overview View of the Lower Leachate Lines.	
Photo # 12	
View of the Hydro Vac Truck with Jetting Hose.	

Photo # 13	
View of the Water Jet Tool for Jetting Activities.	

Photo # 14	
Overview of Jetting Activities.	

Photo # 15	
Overview of Jetting Activities.	

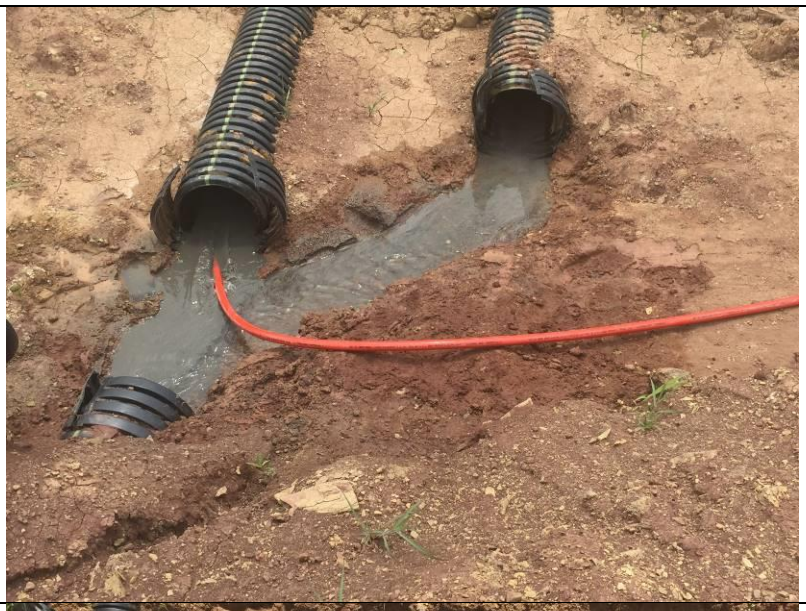
Photo # 16	
Overview of Jetting Activities.	
Photo # 17	
Overview of Lechate Flow After Jetting Activities.	
Photo # 18	
Overview of Lechate Flow After Jetting Activities.	

Photo # 19	
Overview of side slop area after leachate line were re-connected, buried and graded.