

US EPA ARCHIVE DOCUMENT



West Lake Update

April 13, 2016

Final Comprehensive Phase 1



EPA has released the Final Comprehensive Phase 1 Report, which includes data and findings from a detailed investigation of Operable Unit-1 (OU-1), Area 1. The investigation of Area 1 was conducted in four primary phases known as: Phase 1A, 1B, 1C, and the recently concluded Phase 1D. The Phase 1 report identifies areas containing radiologically impacted material in Operable Unit 1, Area 1, of the West Lake Landfill. One primary purpose of the Phase 1 investigation was to help identify an appropriate location for an isolation barrier, however over time the purpose of the investigation was expanded to define the extent of RIM in the south and southwest portions of Area 1.

Phase 1A

The Phase 1A portion of this effort consisted of the Gamma Cone Penetration Test (GCPT) investigation and began in 2013. The goal of the Phase 1A investigation was to help identify a potential suitable location for the proposed isolation barrier. Based on the results of the Phase 1A investigation, EPA determined additional investigation was needed in southwestern portion of Area 1 to fully define the extent of RIM.

Phase 1B

The Phase 1B field work consisted of additional GCPT investigation in the western portion of Area 1 and began in 2014. As with the Phase 1A investigation, the Phase 1B GCPT data was used as a screening tool to tentatively identify possible RIM occurrences.

Phase 1B occurred concurrently with Phase 1C. Review of the results of the Phase 1B GCPT work also indicated that RIM may be present

beneath the southwestern portion of Area 1 in the area of possible preferred alignments for an IB.

Phase 1C

The Phase 1C field work consisted of using sonic drilling technologies to place soil borings and collect samples for laboratory analysis. This step of the investigation also began in 2014. The 1C borehole locations selected for sonic drilling were based on GCPT data results from the Phase 1A and 1B investigations.

During Phase 1C, sixteen sonic borehole locations were drilled in order to identify the bottom of waste; collect waste samples from intervals where elevated gamma responses were observed to verify that such responses were due to the presence of radium, thorium and/or uranium as opposed to other possible sources of gamma radiation such as potassium-40; and verify the absence of RIM in areas where the GCPT did not detect elevated gamma levels.

After the Phase 1B and Phase 1C work was complete, the results of these investigations demonstrated the need to further define the extent and RIM in the southwestern and western portions of Area 1, leading to Phase 1D.

Phase 1D

The Phase 1D work consisted of additional GCPT investigation, sonic drilling and core sampling, and began in May and continued through July, 2015. Phase 1D focused on the western and southwestern portions of Operable Unit 1, Area 1. A total of 18 GCPT sounding locations and bore holes were completed as a part of this investigation. Results of the gamma logging of the Phase 1D GCPT soundings indicated that elevated gamma readings were potentially present in 5 of the 18 Phase 1D GCPT soundings. The sonic coring and sampling confirmed the presence of RIM in 6 of the 20 borings.

Conclusions

The GCPT work, soil borings, and samples from the Phase 1 investigation provided data which supported the site model. Based upon the Phase 1 data a revised Extent of RIM map was created, which is included in this West Lake Update. The Extent of RIM map depicts areas of RIM located in Area 1 that are based on sampling points

included in the Phase 1 Investigation combined with data collected from previous site investigations.

To accomplish the Phase 1 objectives, contractors working for the responsible parties under EPA oversight collected more than 120 soil samples from 110 borings and conducted gamma scans from across Area 1, to determine areas with RIM present. The collected samples were analyzed in a certified laboratory to ensure the scientific accuracy and integrity of the data.

While the footprint of RIM within the West Lake Landfill has been revised based upon the results of the Phase 1 investigation, the health risks associated with the site remain consistent with previous studies. For the community surrounding the site, there are no current significant health risks posed by the radiological wastes contained at the West Lake Landfill. Health risks for on-site workers also remain consistent with previous studies. On-site workers that conduct activities on Area 1 and Area 2 are subject to strict health and safety protocols while on-site, including scanning for radiological contamination before exiting the controlled exclusion zones. Additionally, risks associated with the potential for surface fires occurring in areas where RIM is near the surface are being mitigated by the current Removal Action to install the non-combustible cover in portions of Areas 1 and 2 of OU-1.

The Phase 1 data indicate that RIM has been identified further south and beneath a portion of the Bridgeton landfill known as the "Muffin Top". However, on-site monitoring from temperature monitoring probes, gas extraction wells, and landfill subsidence, indicate that the SSE remains in the South Quarry and that there is no rapid movement of the SSE towards the North Quarry or the RIM in OU-1. The SSE is monitored and managed under the regulatory authority of the Missouri

Department of Natural Resources. All information related to oversight and monitoring of the Bridgeton Landfill is posted on their website (<http://dnr.mo.gov/bridgeton/>).

In December, EPA announced its decision to require the Potentially Responsible Parties at the site to construct an isolation barrier, as well as install additional engineering controls, to prevent the SSE from contacting or impacting the RIM in OU-1. EPA will release additional information regarding the isolation barrier when the technical and legal details of this work are complete.

The report is available online: https://www3.epa.gov/region07/cleanup/west_lake_landfill/pdf/west-lake-comprehensive-phase1-report-4-5-16.pdf

Community Dialogue Meeting - April 18

EPA has scheduled the next meeting for April 18 at 6:30 p.m. at the Bridgeton Recreation Center, 4201 Fee Fee Road, Bridgeton Mo. EPA will also hold a Public Availability Session at the same location from 5:30 to 6:30 p.m. EPA and partner agencies will meet with stakeholders to discuss the site and answer questions. The main topic for dialogue at this meeting is the 2008 Record of Decision.



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