

Soil Background TAPS Review and Recommendations

Site: JB Sims Generating Station Unit 3 Impoundment (43.071159, -86.234585)

Facility/Site ID#: 70000523

District: Grand Rapids District

EGLE PM: Kent Walters, Materials Management Division, waltersk7@michigan.gov, 616-278-4350

Purpose of Review or Recommendations Sought:

JB Sims Generating Station (site) is in the process of closing out impoundments that were used to store coal ash from the former coal burning powerplant (Figure 1). The site is required to close the impoundments per state and federal law. The site has elected to clean close the impoundment which means they need to demonstrate that the clay liner of the impoundment (or any soils underneath) and the groundwater has not been impacted by the operation of the impoundment. If the soils are determined to be impacted, it must be removed.

The site elected to follow the S3TM soil sampling guidance. A sampling grid can be viewed on Figure 2 and sampling results can be found on Figure 3 of the attached "Figures" document. The site initially compared the sample results to the Michigan Background Soil Survey (MBSS) Michigan Lobe background values. MMD pointed out that those were inappropriate comparisons because the clay used to construct the impoundments was imported and it was unknown where the clay was sourced. MMD informed the site that if they would like to compare to MBSS background concentrations, they need to locate the source of the clay, otherwise the Statewide Default Background Levels (SDBLs) would need to be utilized.

The site allegedly located the source of where the clay was imported. The clay used to construct the impoundments was allegedly sourced from the Michigan Lobe (this is still under contention with MMD). The site determined to develop a site-specific background for the clay which is allegedly located at the Bass River State Recreation Area (BRSRA) in Ottawa County. The BRSRA was formerly a gravel pit and clay pit located along the Grand River. The mining area expanded as well as buildings and equipment used in the area as years progressed. Please see the attached Bass River State Recreation Area Historical Aerials.

The site collected nine samples from the BRSRA area to develop site-specific background to compare to the impoundment clay to determine if the clay has been impacted by the operation of the unit. The results of this effort are summarized in the attached report "Final LT-GHBLP Addendum to Closure Report - compiled". In the report it indicates it compares Barium, Chromium, Cobalt and Nickel to the Michigan Lobe background concentration. The report then compares Arsenic, Iron, Lithium and Selenium to the site-specific background concentrations. MMD informed the site that if site-specific background was developed, then constituents of

concern should be compared to the site-specific background concentrations, not the Michigan Lobe or SDBLs.

The site has responded to MMD about how to appropriately apply background calculations and their questions are summarized in the attached email. The site claims that Part 201, MCL 324.20101(e) states, "A person may demonstrate that a hazardous substance is not present at a level that exceeds background concentration by **any of the following methods**". The site goes on to say, "Based on the language, we conclude that Part 201, and therefore, Part 115 make clear that one may make a determination of background for each constituent at issue by **any** of the methods listed and is not restricted to using only one of the methods. In other words, you could determine background for nickel using statewide default background levels and for barium using EGLE's 2005 background soil survey and so on." Therefore, the site is arguing that because Part 201 says it can use **any**, it can pick and choose which constituent to apply to any option they seem fit, whether that be site specific or statewide background values.

MMD asks the Soil Background TAPS team to:

1. Review the available information on background development for the coal ash impoundment clay liner.
2. Requests discussion on the approach and if there is anything that should be considered or brought to the sites attention.
3. Provide a response and discussion to the question raised by the site in the attached email.

Review and Majority Recommendations:

The Soil Background TAPS Team (Team) met with Kent Walters of the EGLE Materials Management Division (MMD) on October 5, 2021 to review and discuss the JB Sims Generating Station. Erik Booth from the Grand Haven Board of Light and Power (GHBLP) and the attorney representing GHBLP, Arthur Siegal, were present as well as other representatives of GHBLP from Golder Associates.

The Team determined that while it is appropriate to use MBSS background concentrations for the Michigan Lobe to replace applicable Part 201 criteria if the background concentration is higher for the facility, it is not appropriate to use the site-specific background concentrations that were developed from the naturally occurring clay at the Bass River State Recreation Area (BRSRA). The use of site-specific background concentrations only applies to the source location of the soil that was sampled to determine the site-specific background concentration. In this situation, the site-specific background concentrations were inappropriately being utilized at an offsite location at the JB Sims Generating Station.

The Team was also asked to answer the following question from Mr. Siegel:

Based on the language, we conclude that Part 201, and therefore, Part 115 make clear that one may make a determination of background for each constituent at issue by any of the methods listed and is not restricted to using only one of the methods. In other words, you could determine background for nickel using statewide default background levels and for barium using EGLE's 2005 background soil survey and so on. Does the Department agree? If the Department does not agree, can EGLE provide an internal policy guidance document or other regulation that provides additional clarity?

Section 20101(1)(e) does allow the use of any of the four methods listed in this section to establish a background concentration, as long as they are appropriate to the site/facility. The *2019 Soil Background and the Use of the 2005 Michigan Background Soil Survey* states:

Certain sites may contain more than one metal in the soil. Multiple methods included in the background definition to establish background concentrations may be used for different metals for the same site.

If site-specific background concentrations had been established and approved by EGLE under Section 20120b(3)(d) for the JB Sims Generating Station, GHBLP could have chosen to use any of the other methods to establish background concentrations in Section 20101(1)(e) and would not be restricted to just the use of the site-specific background concentration. However, as discussed above, the site-specific criteria that was proposed for this facility is not appropriate because it was generated from an offsite location.

It is important to note that there must be at least 9 samples in the MBSS for a hazardous substance with an arithmetic or geometric mean or at least 10 samples for a hazardous substance with a nonparametric median in accordance with Section 20101(1)(e)(ii). The number of samples used to establish the background concentrations are in the MBSS tables in a column labeled "n". Review of the site data indicates that a 2015 MBSS concentration was inappropriately used for lithium, as there were only 4 samples for lithium in the MBSS.

Other TAPs Members Opinions/Number of Members Agreeing with Recommendations:

The decision was unanimous of the seven Team members present, with the exception of one Team member abstaining as he was absent for part of the meeting.

 October 5, 2021

Soil Background TAPs Leader / Date