



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

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February 14, 2020

Justin Barker, Project Manager
Superfund Division
United States Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

RE: Review of Remedial Investigation / Feasibility Study Work Plan Site Wide Groundwater and Associated Documents, West Lake Landfill Operable Unit 3, Bridgeton Missouri, dated November 12, 2019

Dear Justin Barker:

The Missouri Department of Natural Resources' (Department) Federal Facilities Section in coordination with the Department's Waste Management Program, and Missouri Geological Survey has reviewed the above referenced document and performed a concise review of associated materials. Associated materials reviewed include the Responsible Parties' draft Quality Assurance Project Plan, dated November 12, 2019.

Overall, the work plan documents have improved fate and transport discussion. Other aspects typical of remedial investigations such as nature and extent continue to lack clarity, and information is generally not sufficient for comparison to the requirements of Consent Order CERCLA-07-2018-0259. General comments have been provided for comprehensive improvement of the document. In addition, an attempt was made to provide specific comments in order to support general comments and expedite development of an approvable work plan.

Thank you for giving us the opportunity to review and provide feedback on this material. If you have any questions or need further clarification, please contact me by phone at 573-751-8628, or by written correspondence at P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

ENVIRONMENTAL REMEDIATION PROGRAM


Ryan Seabaugh, P.E.
Federal Facilities Section

RS:rl

c: Christine Jump, Remedial Project Manager, EPA Region 7 (Email)
Tom Mahler, Remedial Project Manager, EPA Region 7 (Email)
Jaime Schwartz, Remedial Project Manager, EPA Region 7 (Email)

Comments on Draft OU-3 Remedial Investigation / Feasibility Study Work Plan West Lake Landfill Operable Unit 3, Bridgeton, Missouri, dated November 12, 2019

General Comments

1. The work plan and associated documents need to provide clear and consistent procedures detailing how step-out well development will proceed in all dimensions.
2. The work plan and associated documents need to provide clear and consistent detail on how and when phase II or other “addendums” will be initiated.
3. The plan needs to more clearly communicate the action levels are for contaminant screening with regard to further action involving “phase 2”, “addendum” step-outs or other procedural triggers.
4. The plan needs to clarify information on Soil gas / sediment investigation and related vapor intrusion evaluations related to the risk assessment. The current revision appears to limit the scope of the investigation to the groundwater pathway.
5. Ensure RSLs are the latest available (references are made to April 2019).

Spot-check review of previous work plan comments

6. Section 2.2.2, Page 2-5. *“Pursuant to a Materials Management Plan (EMSI 2006) approved by MDNR, inert fill material (e.g., clean materials as defined in 10 CSR 80-2.010(11), such as uncontaminated soil, concrete, asphaltic concrete, brick, or inert solids) was placed over portions of Area 1 between 2006 and 2008.”* This statement has been found and commented on in prior remedial documents submitted by the responsible parties, however there is no confirmation found that documents inert materials were placed “pursuant” to the Materials Management Plan. Documentation was found indicating that the state communicated concerns on the work being executed relative to the plan that was accepted by DNR.

Comment: Globally replace “pursuant” with “During implementation of” when referencing activity related to the Materials Management plan.

7. Section 2.4.2, page 2-14: *“However, it also identified that there was a long-term potential for the RIM to pose a health problem without the proper construction of a soil cap.”* This statement appears out of context and misleading. The text of Section 5 of the 1989 UMC report states: *“The radioactive material as it presently exists does not pose an immediate health hazard for individuals living or working in the area of the landfill. However, there is a long-term potential for the radioactive material to pose a health problems. Therefore, this section discusses six possible courses of action, of which all but A [no action] and D [excavation and relocation] are considered temporary. Option A, in which no remedial action is proposed, is unacceptable because the concentrations of radionuclides in the landfill will become too high; Option A is described for comparison purposes only.”*

Responsible Parties’ response to EPA comment 22: *“The 1989 UMC report conclusions are accurately represented in the Work Plan. The 1989 UMC report noted that Option A: No Remedial Action ‘is unacceptable because the concentrations of radionuclides in the landfill will become too high’ in the absence of a soil cap. Option B in the 1989 UMC report notes that the*

partial soil cap over Area 1 was 20 meters too small (in all directions) to provide sufficient coverage." The conclusions are not accurately represented because a short-term temporary action (soil caps, and extending covers) should not be applied to the long-term outlook quoted from the report that radioactive material had the potential to pose health problems at the site.

Comment: Delete the misleading portion of the statement "without the proper construction of a soil cap."

8. Section 3.1.5.7.2. Leachate Collection System, page 3-24: *"The current monthly amount of leachate generated during 2018 ranged from 1.8 to 3.3 million gallons (approximately 60,000 to 110,000 gpd)."* This comment was made in the first draft document and has not been resolved.

Comment: Cite the data source, and explain the origin of the leachate in relation to the leachate collection system (i.e. what portions of the leachate collection system are currently operational.)

9. Section 3.1.7.1 Potential Receptors, page 3-27: *"An inventory of existing and abandoned wells within 2 miles of the site will be conducted during this RI/FS."* A comprehensive well survey needs to be performed.

Comment: Provide details of a comprehensive well survey without stipulations or pre-conditions for performance.

10. Section 4.1.2 EPA comment 77 and 79: These responses do not appear to match language in study #8 of the QAPP, and do not appear to be adequate. Potential ARAR 10 CSR 80-3.010 has requirements for decomposition gases and methane monitoring, including soil methane concentration restrictions at the property boundary that should be addressed in the DQO. Results should also be compared to values adequate for a risk assessment.

Comment: Revise the Vapor Intrusion DQO to consider potential ARARs and provide sampling and screening levels adequate for the baseline risk assessment.

11. Section 5.4.14. Groundwater Monitoring, page 5-20: EPA Comment 102 was not addressed *"The groundwater monitoring program will be sufficiently robust to measure for radiological and non-radiological constituents that have historically been detected at the Site"* The groundwater monitoring program as stated continues to be restricted. The statement should be consistent with the SOW and state that all OU1 and OU2 Contaminants of Concern will be monitored to sufficiently characterize all contaminants and assess risk. In addition, the responsible parties' response to comment is insufficient. The current investigation is intended to cover locations and formation intervals that have not been characterized sufficiently, and therefore should include a complete suite of contaminants of potential concern.

Comment: Expand the statement to include monitoring all contaminants of potential concern to sufficiently characterize contaminants and assess risk.

12. Section 7.1.2 Exposure Assessment, page 7-2: *"The OU-3 Phase II Work Plan would identify potentially complete exposure pathways (i.e. surface water bodies), potential receptors (both aquatic and terrestrial), and potential media (water and sediment) that would need to be compared to freshwater and sediment screening criteria to determine whether a screening level risk assessment is necessary."* This statement does not appear to cover the full requirements of

the statement of work regarding the ecological risk assessment, and based on EPA comment 116 a minimum screening level risk assessment is required.

Comment: Include details on ecological risk assessment sufficient to meet requirements.

13. Section 7.2.3 Physical Characteristics of the Study Area, page 7-5: *"An updated CSM will be presented in this section of the RI Report. Site characteristics will include geology, hydrogeology, geochemistry, meteorology, ecology, demographics, land use, and a reuse assessment."*

Comment: Include groundwater use in the area based on results of the well survey.

Draft Work Plan Additional Comments

14. Section 2.2.3 West Lake Landfill Radiological Area 2, page 2-6: *"No information has been located as to the purpose or use of this building or why it was removed; however, the time of the presence of the building corresponds to the period of time when material stockpiles are visible on the surface of Area 2, and therefore its use may have been related to activities being conducted by the West Lake Quarry, which were terminated in 1988."* The purpose of the building and why it was removed may be inferred from information available in the administrative record. The purpose of the building can be found in a letter dated June 30, 1982 from Reitz & Jens, Inc. to DNR's Waste Management Program stating *"A paving contractor operation on the north side of the site has now been terminated. The building and remaining equipment will be removed, clearing up the delay and final grading in this north area which was present a year ago."* An inferred reason for removal can be found in the same statement and/or the 1989 report cited in Section 2.4.2 of this draft work plan, stating *"Radon gas had been observed to accumulate to an unacceptable level in the Butler-type building on site. This building has since been removed."*

Comment: Revise the narrative to accurately reflect available information.

15. Section 2.2.4 Inactive Sanitary Landfill and Closed Demolition Landfill Operations in OU-2, page 2-7: *"The OU-1 RI Addendum (RIA) concluded there was no indication of industrial wastes within the Inactive Sanitary Landfill based on sampling results (EMSI 2018a)."* Characterization of the Inactive Sanitary Landfill could not be found in the Statement of Work for OU-1, and available documentation does not suggest a rigorous investigation was performed to physically characterize waste in the Inactive Landfill during the OU-1 RI. (EPA comment #10)

Comment: Delete or revise the narrative to accurately reflect cited information.

16. Section 2.4.2. 1989 Site Characterization and remedial action concepts, page 2-14: The following conclusions from the cited report are relevant to OU3 and should be included in the narrative. *"On the basis of radiological surveillance conducted by RMC, UMC, and ORAU, the following areas of concern have been identified: Radon gas had been observed to accumulate to an unacceptable level in the Butler-type building on site. This building has since been removed;" and "Some degree of radiological contamination has been found in the wells that monitor the perimeter."*

Comment: Include the referenced conclusions in the narrative summary.

17. Section 2.4.18 2018 OU-1 Updated Baseline Risk Assessment, page 2-24: *“The OU-1 BRA concluded there were no current unacceptable risks to on-property or off-property human or ecological receptors.”*

Comment: Add more detail to the statement describing what pathways were not evaluated, and that current institutional and engineering controls were relied on to determine incomplete exposure pathways under the site’s “baseline” conditions.

18. Section 3.1.5.7.1 Quarry Dewatering, page 3-23: *“While transport of leachate through solution channels in the limestone is also possible, quarry operators maintained the limestone is intact. Evidence of karst (solution) activity was limited on quarry walls with minor widening of joints and bedding planes near the bedrock surface (NRC 1989).”* Will any supplemental investigation be performed to verify that the 30+ year old observation is still accurate, and is this statement being relied on for CSM or monitoring well locations?

Comment: Discuss how or if bedrock dissolution or widening of cracks can affect the current understanding of the site model.

19. Section 3.1.6.1 Nature and Extent of RIM, page 3-26: *“RIM is irregularly interspersed within the overall larger matrix of MSW; not found in a thin, continuous layer as the NRC assumed”* Through investigation, NRC concluded that RIM was in a relatively thin, continuous layer. In the four decades since, newer investigations as evidenced by activity calculations performed by both EPA and the Responsible Parties during the development of the ROD amendment, don’t appear to contradict NRC’s previous statement on their understanding of how RIM was generally distributed.

Comment: Delete.

20. Section 3.1.7.1 Potential Receptors, page 3-27: *“The RIA identified wells in proximity to the site – none of which are used for domestic consumption or community supplies.”* The RIA did not describe performance of any well surveys or comprehensive evaluation of groundwater use in the area. (Response to EPA comment 60 is insufficient.)

Comment: Describe performance of a well survey within the designated area that includes at minimum, water billing records, mailing surveys, and documented drive-arounds/door surveys.

21. Section 3.3.2 Institutional Controls, page 3-29: *“Institutional controls provide limited action consisting of maintaining the existing perimeter site fencing/warning signs, regular maintenance, deed restrictions, deed notices, covenants, groundwater use restrictions, site activity use limitations, groundwater monitoring, and five-year reviews.”* The statement describes both institutional and engineering controls, and the review should not be limited to what currently exists at the site.

Comment: Create a more generic description of institutional and engineering controls as specific controls should be developed during the FS process.

22. Section 4.2.4 Background Groundwater Conditions, page 4-5: *“Nearby off-site sources may be contributing to groundwater quality within the study area, including leaking underground storage tank sites and the Champ Landfill.”*

Comment: Globally delete references to specific facilities such as Champ Landfill as potential off-site sources.

23. Section 5.0 Site Characterization, page 5-1: *"The following tasks have been initiated and/or will be completed to address the data gaps outlined in Section 4.0 and meet the objectives of the RI/FS process:"*

Comment: Include bullets related to risk assessments including performance of well surveys, and assessment of current and potential receptors sufficient to determine pathways not completed under the RIA, and to complete human health and ecological risk assessments.

24. Section 5.4.7. Borehole Geophysical Logging, Page 5-17: Can this technology also be used on existing wells to determine integrity of below ground well components such as well screens and riser pipe in addition to the other parameters listed for measuring hydrogeologic properties?

Comment: Indicate what if any proposed logging techniques can or will be used for determination of well integrity

25. Section 5.4.14.3 Monitoring Well Sampling, page 5-22: *"Although only detected in select locations if at all, these will all be collected and analyzed during the first site-wide OU-3 monitoring event to evaluate the nature and extent of impacts."*

Comment: Replace the sentence with "All COPCs will be analyzed to evaluate the nature and extent of impacts."

26. Section 5.4.14.3 Monitoring Well Sampling, page 5-22: *"This list will be reevaluated and shortened as appropriate (based on detected parameters) after the first monitoring event."*

Comment: Replace sentence with "This list will be evaluated throughout the investigation and may be shortened based on results and with approval from regulating authorities."

27. Section 5.4.16 Leachate Collection System Sampling, page 5-23: Leachate monitoring has historically been performed for the Inactive Sanitary Landfill.

Comment: Describe what, if any activity will occur with leachate infrastructure in areas other than the Former Active (Bridgeton) Landfill.

28. Section 5.4.16 Leachate Collection System Sampling, Page 5-23: The last sentence states, *"Pumping information will be used to populate the groundwater flow model and complete a water balance for the site."*

Comment: Elaborate on what will be included in the "water balance" study, such as details on revised potentiometric surface maps and cross sections showing the existence and extent of an inward gradient and/or a groundwater divide, and evaluation of reverse scenarios where leachate pumping is discontinued.

29. Section 5.4.17 On-Site Vapor Intrusion Assessment, page 5-24: *"Commercial/industrial land use will be assumed for the onsite indoor air evaluation due to existing deed restrictions on the site."* The baseline risk assessment is intended to determine the need for institutional and engineering

controls on site by evaluating baseline conditions, not conditions with controls already in place. Not all of the site is zoned industrial.

Comment: Provide a more conservative receptor for baseline conditions.

30. Section 5.4.17 On-Site Vapor Intrusion Assessment, page 5-25: *“Results from the initial groundwater sampling dataset proposed above will be used to evaluate the need for off-site vapor testing, which may include passive soil gas vapor sampling, installation of soil gas vapor wells, soil gas vapor sampling, sub-slab vapor sampling, indoor air quality sampling, and/or installation of mitigation systems.”*

Comment: Delete “initial” and replace “sampling dataset proposed above” with “investigation.”

31. Section 6.2.1.4 Geochemical and Environmental Fate and Transport, page 6-5: *“However, data collection and evaluation may also determine that certain processes are not relevant to COPC transport. Therefore, the Groundwater Modeling Work Plan will provide a determination on which processes are appropriate be included in transport simulation.”* This statement has potential for abuse and pre-determination of outcomes without verification.

Comment: Revise the statement or add detail to ensure compatibility with requirements of the statement of work.

32. Section 6.2.1.5 Anticipated Calibration Goals, page 6-5: *“Is the conceptual model of the system under investigation reasonable?”* Objectives generally should strive for documented and measurable goals to determine “reasonableness” and minimize use of appearances and vague statements.

Comment: Provide detail or state that the modeling work plan will provide more detailed and more quantifiable objectives that include discussion on any subjective parameters used to make determinations.

33. Section 6.2.1.5 Anticipated Calibration Goals, page 6-5: *“Does some quantitative measure of head and flow differences between the simulated and observed values seem reasonable for the objectives of the investigation?”* Objectives generally should strive for documented and measurable goals to determine “reasonableness” and minimize use of appearances and vague statements.

Comment: Provide detail or state that the modeling work plan will provide more detailed and more quantifiable objectives that include discussion on any subjective parameters used to make determinations.

34. Section 6.2.4 Preliminary Determination of tasks to be conducted after site characterization, page 6-7: *“Examples of potential figures and diagrams used to convey information include but are not limited to: potentiometric surface figures, hydrogeologic cross-sections, isopach diagrams, Stiff diagrams, Piper diagrams, modified Stiff diagrams, and 3-D site visualizations.”*

Comment: Delete “potential” and replace “used” with “that will be created and updated.”

35. Section 7.0 Baseline Risk Assessment, page 7-1: First paragraph.

Comment: Include documented evaluation of bioaccumulative and synergistic effects of contaminants being considered.

36. Section 7.1.2 Exposure Assessment, page 7-2: *"Potential ecological risk is predicated on the confirmation of a connection between groundwater and surface water bodies within or in close proximity to the site and the conveyance of site-related constituents to those water bodies."* This statement appears to provide an artificial limit on transport and exposure routes for the CSM and baseline risk assessment. Potential pathways should not be eliminated from consideration if they are part of the remedial investigation scope of work.

Comment: Include surface water runoff in documented evaluation of potentially affected surface water bodies.

37. Section 9.2 Annual Hydrogeologic ... Report, page 9-1: Potentiometric surface figures should be included in monthly reports following a sampling event, and compiled in each annual report.

Comment: Add text detailing inclusion of potentiometric surface and flow figures within monthly reports following a sampling event and compiled in each annual report.

38. Figure 10-2: It isn't clear when phase II will be implemented and how or if it will interact with phase 1/"addendum" sampling or be a separate mobilization.

Comment: Add appropriate scheduling for Phase II investigation.

Minimum Additional Wells and General Well Placement

39. Comment: Add "SS and "SD" depth wells located near the S-82/I-9/D-93 cluster for data gaps 2, 3, 5, 6, 7, 9.

40. Comment: To help with potential bias and clarity of the potentiometric surface, add two well clusters in the interior of the site: One cluster from AS through SD depths near the main entrance of Area 2; and a location in the vicinity of LR-103 on the inactive sanitary landfill for data gaps 2, 3, 6, 7, 9.

41. Comment: To help with potential bias and clarity of the potentiometric surface, add an "SD" depth monitoring well in the vicinity of the PZ-113 series for data gaps 2, 3, 6, 7, 9.

42. Comment: At minimum, MO-3-SS and SD wells should be added to the monitoring network, and addition of other state wells is recommended (MO-1-SS/SD, MO-2-SD). Borelogs and other information is available if needed. These monitoring wells were installed to be comparable to the same depths below ground surface as the "SS" and "SD" monitoring wells on-site. Alternatively, add SS, SD, and KS wells in the vicinity of PZ-204 and add SS and SD well north/northwest of PZ-301-SS for data gaps 2, 3, 5, 6, 7, 8, 9.

43. Comment: Add an "SD" depth monitoring well in the vicinity of PZ-107-SS and PZ-205 series wells to help define the potentiometric surface between Bridgeton Landfill and the Inactive Sanitary Landfill for data gaps 2, 3, 6, 7, 9.
44. Comment: While Fate and Transport of contaminants is an important goal of the work plan, nature and extent of site contaminants on-site and off-site is also important. As such, additional monitoring points in the vicinity of S-53 from AS through SD is recommended for data gaps 3, 5, 6, 9.
45. Comment: While Fate and Transport is an important goal of the work plan, nature and extent of site contaminants on-site and off-site is also important. As such, additional monitoring points in the vicinity and south of the former leachate lagoon is recommended for data gaps 3, 5, 6, 9.
46. Comment: Nature and Extent: Add AS through AD well in the vicinity of the southern boundary of the buffer zone/Lot 2A2 for data gaps 2, 5, 6, 9.
47. Comment: The 500 and 600 series monitoring locations proposed southwest of the South Quarry appear likely to be too far away from the site to be definitive as to where, in what conduits, and how far the site contaminants have traveled off-site in these directions. Ultimately, site contaminants must be horizontally delineated from the site outward, as well as, vertically delineated. Having this data at the beginning of the RI will be helpful to plan the iterative phases of work in the future.
48. Comment: Background: Add SS/SD well south of a line between 602 and 603 wells for data gaps 2, 3, 4, 5, 6, 9.
49. Comment: Background: Move 600 to a location east/northeast of proposed well 504.
50. Comment: Background: Location of alluvial 601 should be reconsidered.

Additional Comments on Draft QAPP

51. Title/Signature Page/Distribution Page:

Comment: Remove MDNR as a signatory.

52. Section 1.2 Alignment with OU-3 RI/FS Work Plan Study #1, page 1-4: An adequate and documented local well survey and groundwater use has not been completed.

Comment: Include description of a complete and documented well survey that includes activities beyond a desktop exercise of public database searches.

53. Section 1.2 Alignment with OU-3 RI/FS Work Plan, Study #2 – Aquifer Properties, page 1-4: The second last sentence states, *"A pilot test using a hydraulic profiling tool is proposed to evaluate*

its potential to provide continuous hydraulic conductivity data.” What kind of hydraulic profiling tool is this referring to? What is the contingency if the pilot test fails?

Comment: Provide more information on the pilot project and the hydraulic profiling tool.

54. Section 3.0 Data Quality Objectives: There appears to be a missing DQO step in the list for Data Gaps. The subsequent sections include Data Gaps as Step 1.3, however the list in this section identifies Step 1.3 as Project Resources – Budget, Personnel, and Schedule.

Comment: Review the document for consistency in DQO steps and revise accordingly.

55. Section 3.4.1 Study #1 Data Gaps, page 3-4: *“It is unknown whether the proposed OU-3 well network will ultimately be sufficient for evaluating nature and extent of site-related impacts and characterize background groundwater conditions.”* How does this play into decision criteria to determine scope and timing of phase II and any “addendum” investigations.

Comment: Provide more detail in the process for phase II and addendum development.

56. Section 3.4.2.1 Study #1 Principal study questions, page 3-5: *“Are there drinking water wells within a 2-mile radius of the site that may be impacted by the site groundwater?”* The survey should include any active well used for any purpose including drinking, and language should provide for expanding survey boundaries if results suggest it is necessary.

Comment: Delete “drinking” and add a condition statement if step-outs suggest the need to expand the survey.

57. Section 3.4.3.1 Types and Sources of Information for Study #1, page 3-7: *“Missouri State well databases, Environmental Data Resources (EDR) database reports, and OU-1/OU-2 historical reports are available to identify potential wells (including drinking water wells) in the area. Water connection information may be available from the local water providers to identify parcels without tap water service.”* The well survey should include active data collection such as mail surveys and documented visual inspections such as drive-arounds and door surveys.

Comment: Include active data collection for types and sources of information, and as necessary in subsequent DQO steps.

58. Section 3.4.3.2 Informational Basis of Performance Criteria (Step 3.2), page 3-8: The first bullet states, *“The Missouri State Well code will be used to establish criteria for the well inspection and for making decisions with respect to well repairs, well abandonment and well replacement.”*

Comment: Specify which Missouri State Well code will be used and how the integrity of the below ground components will be inspected. The Waste Management Program suggests using a downhole camera during the well inspections.

59. Section 3.4.4.2 Temporal and Spatial Boundaries, Study #1, page 3-10: *“The temporal boundary for the off-site well search will be limited to the date the MDNR well records began.”* There should be no temporal boundary for open or active wells associated with sampling design item #9.

Comment: Address the temporal boundary separately for private wells related to draft Section 3.4.7.1 sampling design item #9.

60. Section 3.4.4.2 Temporal and Spatial Boundaries (Step 4.2), page 3-10: The last sentence states, *"The vertical boundary of the well network is the base of the Keokuk Formation."* This appears to be an arbitrary limit placed on the scope of the investigation. Additionally, the work plan does not indicate the development or use of any well that extends beyond the topmost portion of the Keokuk formation.

Comment: Revise to indicate that results of the investigation will drive the vertical boundary as needed beyond the currently proposed network.

61. Section 3.4.7.1 Sampling Design for Study #1, task 9, page 3-13: *"Determine if drinking water well testing or water replacement is warranted based on off-site groundwater well data, flow direction, drinking water well depth, and well use."* The scope of this task is too narrow.

Comment: Delete "drinking."

62. Section 3.7.2.1 Principal study questions for Study #4 Background conditions, page 3-28: Why is the background data gap focused on Radium and radionuclide background concentrations?

Comment: Include contaminants of concern identified through the investigation.

63. Section 3.8.7.1 Sampling design for study #5, page 3-41: *"(*may only be sampled once based on non-detect results from on-site wells)"*

Comment: Delete.

64. Section 3.8.7.1 Sampling design study #5, page 3-41: *"Dissolved and Total Metals (32): arsenic, aluminum, antimony, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, silicon, thallium, thorium, tin, titanium, uranium, vanadium, zinc"* The list does not include all identified metal CoPCs

Comment: Include all CoPCs.

65. Section 3.10.2.1 Study #7 Identify Principal Study Questions, page 3-48:

Comment: In addition to the questions listed for Item #1, include the question, "How will groundwater gradients be affected if leachate extraction is discontinued?" It is recommended that both scenarios be evaluated and documented (i.e. with and without leachate pumping) in order to determine long-term groundwater remedial action requirements beyond permitting requirements for leachate control at Bridgeton Landfill.