UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

December 23, 2020

Patrick S. Steerman
Steerman Environmental Management & Consulting, LLC
422 Creek View Lane
Roswell, Georgia, 30075

Re: Development and Screening of Remedial Alternatives Memorandum, October 23, 2020
Revised Remedial Action Objectives Memorandum and RTC, October 23, 2020
Sauer Dump Site Administrative Settlement Agreement and Order on Consent
United States of America v. American Premier Underwriters, Inc. et. al.,
Docket No. CERC-03-2012-0177DC

Dear Mr. Steerman:

Thank you for your resubmission of the Memorandum on Remedial Action Objectives (RAO Memo) and Memorandum on Development and Screening of Alternatives (Alternatives Memo). EPA has reviewed these documents and directs the Settling Parties to modify the submissions to address the comments identified in this letter and the enclosures.

The Alternatives Memo provides insufficient information to support the remedial alternatives retained for the Site. Volumes of media were not presented in the memo, EPA's Guidance for developing and screening remedial action alternatives states "identify volumes or areas of media to which general response action might be applied, taking into account the requirements for protectiveness as identified in the remedial action objectives and the chemical and physical characterization of the Site." Furthermore, the document does not identify and set action-specific ARAR restrictions on particular remedial activities as related to the managment of hazardous waste. This information is necessary to develop and screen the technologies applicable to each general response action.

As a result of this, the alternatives lack the specificity needed for screening. Alternative ranges are not provided in the document and should be defined to provide sufficient quantitative information to allow differentiation among alternatives with respect to effectiveness, implementability, and cost. The extent or volume of contaminated materials must be defined within each alternative to further allow for refinement of specific alternatives during this process. This information is readily available from the Remedial Investigation and Remedial Action Objectives Memorandum and should be presented in this Alternatives Memo so that a detailed

analysis of remedial alternatives may be performed. I am enclosing *EPA Directive 9355.3-01FS3, The Feasibility Study Development and Screening of Remedial Action Alternatives(Enclosure 2)* for reference in preparing the resubmission.

Comments addressing deficiencies in both memorandums are provided below and in the attached documents.

1. The document screens out treatment options that minimize long-term management requirements due to cost. Documentation of the cost screening process was not provided with this memo. The objective of the cost evaluation is to eliminate from further consideration those alternatives whose costs are grossly excessive for the effectiveness they provide. Cost estimates for alternatives should be sufficiently accurate to continue to support resulting decisions when their accuracy improves beyond the screening level. Capital, O&M, and present worth costs should be determined. Documentation of the screening is required.

2. This document does not incorporate many of the comments of EPA's May 11, 2020 letter. For example, the following comments were not addressed in this document:
   A. The Group stated that off-site disposal is not cost effective. This needs to be fully evaluated by cost details, i.e., 30+ years of inspections, solid waste sampling due to creation of a landfill, 5-Year Reviews, potential well installations and sampling, and cap maintenance. If off-site disposal is not being considered in an option, all of these items should be taken into consideration in terms of cost.
   B. The containment options do not provide sufficient detail. For example, MDE's comment in EPA's May 11, 2020 letter states to evaluate "a combination of removal and off-site disposal of TSCA level PCB waste (> 50 mg/kg) and lead hazardous waste, with the consolidation and capping of intermediate impacted materials that exceed remedial action objectives.
   C. It is not evident that the potential remedial alternatives that are proposed for detailed analysis will address all unacceptable risk, meet likely Remedial Action Objectives, and meet all ARARs.

3. EPA does not agree with elimination of Excavation, Offsite T&D and this alternative shall be retained for the detailed analysis. EPA's contractor, HGL, which determined "excavation and off-site disposal appears to be the most favorable approach followed by soil/sediment covers. " in the 2015 Remedial Technology Review Memorandum. This alternative provides an alternative that minimized long-term management requirements and addresses principal threats and must be retained for detailed analysis. There is insufficient information to support the relative cost estimates.

4. The alternatives should also include an alternative for Excavation, Offsite T&D of all soils from residential properties. It is unknown if the current property owner will allow consolidation of residential soils onto his property.

5. EPA does not agree with the definition of Management Area Parcel 425 and portions of adjacent residential properties (Parcels 137, 209, 295, 464, 503, and 574). Residential parcels may have different protectiveness requirements than Parcel 425 and must be treated separately.

6. The analysis must include additional management areas such as wetland and areas within the 100 year FEMA flood zone as varying remedial approaches will be necessary to develop alternatives.

7. Alternatives addressing ecologic risk are not addressed in this document. The RAO Memorandum should compare ecologic PRGs to human health PRGs and overlay the PRGs to present a comparison of the two sets of values. The overlay analysis will select the more stringent PRG for use in the screening of alternatives.

8. The RAO Memorandum does not identify the lead and PCB PRGs for Parcel 425 and the residential properties in the alternatives that will be evaluated in the detailed analysis. This information is the primary driver for area and volume estimates. EPA's September 27, 2020 letter directed the Group to develop site-specific lead cleanup levels using a BLRV of 5 ug/dL and IVBA sampling results with the IEUBK model and use that information to support the Development and Screening of Alternatives. Lead cleanup number – What lead number is to be used? The new Maryland standard of 183 ppm (5 ug/dL BLL) or 400 ppm (10 ug/dL)? The document is unclear which PRGs are used. PCB cleanup number – How is the PCB cleanup number to be determined? It was this reviewer's understanding that the TSCA High Occupancy Number (1 ppm) was to be used but an apparent risk based number is also discussed.

9. Depth of cleanup – This memo mentions surface and subsurface soils will be evaluated for cleanup for site related contamination. Surface soil is defined as 0-2 feet but it is unclear what is meant by subsurface soils (e.g., to native soil or deeper, or no contamination?).

10. Delineation of Residential Properties – It is not clear that a proper delineation of the residential properties has been conducted. A limited delineation was conducted so that the interim measure (IM) could be carried out; however, it is not clear if the residential properties in their entirety have been delineated. It is also not clear how contamination(if any) that may be found under structures (e.g., houses, sheds, etc.), pools, driveways, etc., will be dealt with. This needs to be addressed.

11. Portions of residential properties that are overlapped by the FOA – The document is unclear of how residential properties that are overlapped by the FOA will be considered.

As per section 10.3 of the ASAOC, Settling Parties shall, within thirty (30) days correct the deficiencies and resubmit the Submissions for approval. Include a line-by-line response to each comment or indicate where the specific comment is addressed in the resubmission. Please contact me at 215-814-2022 or tymchenko.nick@epa.gov with any questions.

Regards,

NICHOLAS TYMCHENKO

Digitally signed by NICHOLAS TYMCHENKO
Date: 2020.12.23 11:35:36 -05'00'

Nick Tymchenko
Remedial Project Manager

Cc: K. Matzko, EPA
B. Cohan, EPA
P. Williams, MDE
M. Randrianarivelo, USACE

Enclosures:
1. MDE comments
2. EPA Directive 9355.3-01FS3
3. USACE Alternatives comments
4. USACE RAO comments
5. EPA BTAG comments
6. EPA Tox comments

Enclosure 1

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Via electronic mail

December 16, 2020

Mr. Nick Tymchenko
Remedial Project Manager Western Pennsylvania/Western Maryland
Remedial Branch Hazardous Site Cleanup Division
US EPA Region 3, Mail Code 3HS22
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Re: MDE Comments on Technical Memorandum, Development and Screening of Alternatives, Sauer Dump, submitted by GHD, dated October 23, 2020

Dear Mr. Tymchenko:

The Maryland Department of the Environment has reviewed the above-mentioned document. Please find attached our comments for your consideration.

If you have any questions, please feel free to call me at (410) 537-3192.

Sincerely,

Peggy Williams

Peggy Williams, Project Manager
Site Assessment/NPL Section

cc: Ms. Barbara Krupiarz, Program Manager, Land Restoration Program
Mr. Ira May, Division Chief, Federal Assessment and Remediation Division

Maryland Department of the Environment
Land Restoration Program
Comments on Revised Action Objectives Memorandum and Response to Comments, Sauer Dump, dated October 23, 2020

General Comment

1) Per previous discussions on 5/4/2020 between EPA and MDE on whether this would constitute a "landfill", a soil cover will likely not be sufficient nor should the PRP Group assume that a variance will easily be granted. Please note that an application for request for a variance will require a rigorous technical submittal and review. Additionally, long-term stability and protectiveness must be ensured; therefore a soil cap is not likely to be sufficiently robust.

Specific Comments

2) Page 17 (2nd paragraph) states that for soil a cumulative cancer risk of 1×10^{-4} (or less) will be maintained while stating in other text (same paragraph) that PRGs were not developed for those constituents that had a cancer risk of 10^{-5}. Please clarify whether MDE's cancer risk threshold of 1×10^{-5} as a statutory and regulatory requirement for carcinogenic substances present in environmental media will be used to derive the site PRGs.

Table 1 ARAR/TBC Comments and Responses

3) Citation 26.08.02.03-3 should remain in the (location-specific section of the) ARARs table because it specifies water quality criteria specific to the Back River.

4) Citation 26.13 should remain in the table because the remedy will involve on-site management. The assumption is that there will be a central location on the dump itself where soil from residential properties is managed.

5) Item #22 – Some soil left on-site could presumably be placed under the approved cap. This material would be regulated under 40 CFR Part 270 and MDE posits therefore that this should be an action-specific ARAR, as it is in fact substantive for on-site actions.

6) Items #23, referencing (40 CFR §§ 263.10-31) and #26, referencing (49 CFR Parts 171-174, 177, 178, and 180): If "transport" of soil from residential yards to parcel 425 occurs, it seems that these citations would be applicable, since material will be transported to parcel 425.

7) Item #24 – Toxicity Characteristic Leaching Procedure (TCLP) is an analysis that would be required on material excavated from the yards. This is listed in the ARARs table as chemical-specific and should remain therein.

8) Item #30 - COMAR 26.13 pertains to Disposal of Controlled Hazardous Substances and how to transport, treat, store, dispose, and the determination of whether PCB residue is hazardous waste. These activities will be occurring onsite in the management of soils and should remain in the ARARs table.

9) Item #31 – MDE considers Citation 26.17.01.07 a substantive, applicable Action-specific ARAR, and this should remain in the table. MDE's Water Management Administration must review plans to ensure that all components are present in the Erosion and Sediment Control Plan, which will specifically address the situation at the site. If the PRP contends that any components of 26.17 should not be included, then the reasoning for that should be explained.

10) Chemical-specific ARAR (C-1), page 1 of 15 of ARAR Table – The "Applicability" column says "1 ppm for high occupancy areas such as the residential properties." Even though it will be a low occupancy area, the current zoning does allow for a residential dwelling, so a future Environmental Covenant will have to be implemented to prohibit residential use of the property. Additionally, MDE notes that, presumably for risk assessment purposes, residential users would be included under "Future Site Users" in Table 4.1 but reiterates that future residential use should not allowed on Parcel 425.

Maryland Department of the Environment
Land Restoration Program
Comments on Technical Memorandum, Screening of Alternatives, dated October 23, 2020

General Comments

1) Neither the text of the report nor the tables in the back refer to any specific Preliminary Remediation Goals (PRGs) for lead or polychlorinated biphenyls (PCBs). For instance, is the PRG for lead considered 200 or 400 mg/kg? If it is considered to be 400 mg/kg, and lead is left onsite above 400 mg/kg, this is unacceptable to MDE, particularly on the residential parcels. Relative to the proposed remedy options, quantitative specifics regarding the PRGs need to be outlined early in the process, which was the purpose of this document.

2) There is no consideration in this document of the fact that the lateral and vertical extent of contamination on the residential parcels has not been fully characterized. The remedy discusses excavation to 2 feet only, in Table 5.3. Unfortunately, the amount of material to be excavated (undetermined) is going to affect cost, and will impact design criteria as far as the size and slope of the cap on the disposal area, design of drainage features, special considerations for the cover at the edge of the disposed material, etc. These factors should be incorporated into the screening of alternatives.

   Additionally, MDE will not approve a remedy that leaves soil contamination on residential property allowing unrestricted residential uses. The alternative of leaving contamination in place below 2 foot depth has not been discussed or determined to be an option, as this document seems to suggest, since the residential parcels have never been fully characterized.

3) The alternative of excavation and off-site disposal has been eliminated as an option because of difficulty and high cost. While it may be difficult and incur high costs, that is not sufficient justification for eliminating this as an option. Some of the more contaminated material excavated from the site may require disposal at an off-site TSCA disposal facility.

United States
Environmental Protection
Agency

Enclosure 2

(OS-220)

1FS3

The Feasibility Study

Development And Screening Of Remedial Action Alternatives

This fact sheet is the third in a series of four that summarizes the remedial investigation/feasibility study (RI/FS) process. The previous two fact sheets in this series discuss scoping the RI/FS (OSWER Directive No. 9355.3-0lFS1) and site characterization and treatability studies (OSWER Directive No. 9355.3-01FS2). This fact sheet provides a summary of Chapter 4 of the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (October 1988, OSWER Directive 9355.3-01), which discusses the development and screening of alternatives for remedial action. In addition, this fact sheet provides information intended to assist the Remedial Project Manager (RPM) in managing this portion of the feasibility study (FS) efficiently and effectively.

The FS process consists of the development and screening of remedial action alternatives and a detailed analysis of a limited number of the most promising options to establish the basis for a remedy selection decision.

A range of viable alternatives should be developed that meet the remedial response objectives developed during scoping and refined as the study progresses. This range should reflect the program expectations to address the principal threats posed by the site (i.e., liquids and highly toxic and/or highly mobile waste) through treatment, and consider engineering controls (e.g., containment) to address low-level contaminated materials and wastes for which treatment is impracticable. Institutional controls should be considered primarily as supplements to engineering controls.

In addition to the program expectations, RPMs should consider the types of response actions selected for other sites with similar problems or contaminants to identify only those remedial alternatives that carry high potential of being an effective solution for site problems. As appropriate, the range of source control alternatives should include options employing treatment as a principal element, one or more containment alternatives, and the no-action alternative. The major components that comprise the development and screening process are presented in Figure 1.

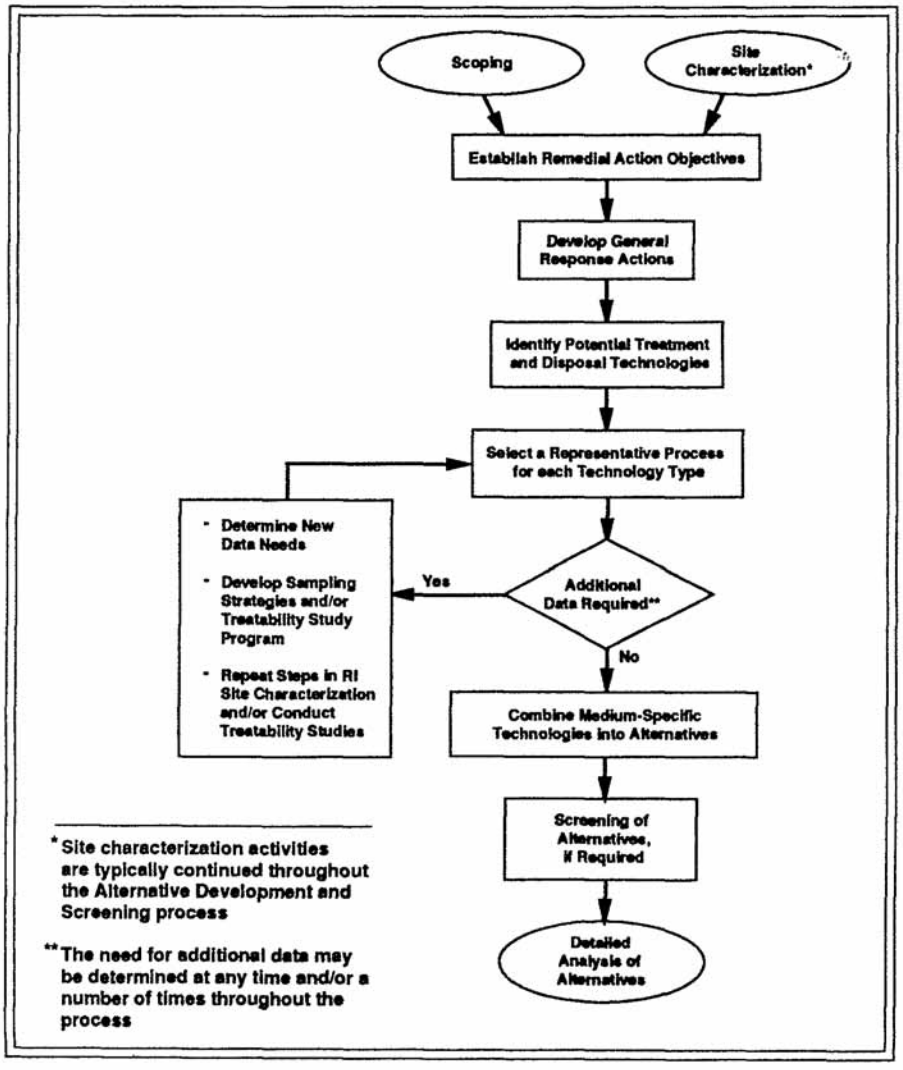

Figure 1. Alternative Development and Screening Process

Note: The no-action alternative is used as a baseline to compare other alternatives. Measures, such as actions taken to reduce the potential for exposure (e.g.. site fencing) should not be included as components of no-action alternatives. Such minimal actions should be studied as a separate, limited-action alternative. Environmental monitoring may be included as part of a no-action alternative.

Development and Screening Activities

Establish Remedial Action Objectives

The preliminary remedial action objectives identified during scoping are refined as necessary during this phase of the RI/FS to develop medium-specific goals for protecting human health and the environment. Remedial action objectives specify:

- The contaminant(s) and media of concern
- The exposure route(s) and receptor(s)
- The remediation goal(s) for each exposure route

An example of a remedial action objective is reducing concentrations of TCE in potable ground water to 5 ppb.

The contaminants, media of concern, and exposure routes are the most important preliminary sources of information necessary for the development of alternatives. That is, the identification of appropriate remedial technologies can be initiated without identifying the final remediation goal or the exact cleanup requirement. These requirements will need to be identified prior to the detailed analysis of alternatives.

During the development of alternatives, preliminary remediation goals are established based on readily available information such as applicable or relevant and appropriate requirements (ARARs). Whereas, final remediation goals take into consideration the results of site characterization and the baseline risk assessment. The baseline risk assessment defines the risks posed by a site and establishes the need (or lack thereof) for remedial action.

Note: Identification of location- and chemical-specific ARARs, begun during scoping, should be completed during alternatives development. Examples of such requirements include:

- **Maximum contaminant levels (MCLs)**
- **Water quality criteria**
- **State-action levels for drinking water**
- **State air emission standards**

Develop General Response Actions

General response actions are selected to satisfy the remedial action objectives for each medium of concern. These actions, initially defined during scoping, are refined during this phase and relate to basic methods of protection such as treatment or containment. General response actions may be combined to form alternatives such as treatment of highly toxic material with containment of the treatment residuals.

The volume or area to which general response actions might be applied should be identified at this time and based on: the exposure routes, the known nature and extent of contamination, and preliminary remediation goals and a preliminary list of action-specific ARARs. Action-specific ARARs set restrictions on particular remedial activities as related to the management of hazardous wastes.

Identify and Screen Appropriate Technologies

Throughout the *RI/FS Guidance* and this fact sheet, the term "technology" refers to general categories of technologies, such as chemical treatment or capping. The term "technology process option" refers to specific alternative processes within each technology family, such as ion exchange or use of a soil clay cap.

Note: Typical sources of information can be used to identity technology needs and to determine capabilities of technology process options include:

- **ORD technology experts**
- **SITE program staff**
- ***Technology Screening Guide for Treatment of CERCLA Sludges and Soils* (EPA/540/2-88/004, September 1988)**
- **Appendix D of the *RI/FS Guidance***
- **Contractor process engineers**
- **Equipment vendors**

A list of potentially applicable technologies and technology process options, corresponding to the identified general response actions, is compiled and then reduced by evaluating the process options with respect to technical implementability. That is, existing information on technologies and site characterization data are used to screen out process options that cannot be effectively implemented at the site. Figure 4-4 of the *RI/FS Guidance* illustrates the necessary documentation for this evaluation of process implementability and can be included in the FS report.

To the extent possible, design parameters for the technologies being considered should be identified to focus sampling efforts during the site characterization phase. Field investigation activities will be ongoing during the development and screening of alternatives due to the interactive nature of the RI and FS, which are conducted concurrently.

Select Representative Process Options

To simplify the development and evaluation of alternatives, one representative process option should be selected, if possible, for each technology type remaining after the technical implementability screening procedure. Effectiveness, implementability, and cost are the criteria used to evaluate and select representative process options (see page 3 for a description of these criteria). The sources of information used to identify the best representative process option are the same as those used to identify technology types. During remedial design, other process options may be selected if they are found to be more advantageous.

Note: Given the performance uncertainty often assosciated with innovative technologies, it may not be possib1e to evaluate innovative process options on the same basis as conventional processes. If available information indicates that innovative technologies will provide comparable or superior treatment performance, fewer or lesser adverse impacts, or lower cost for a similar level of performance, they should be retained for further evaluation.

Reevaluate Data Needs

The need for additional data may become apparent after representative process options have been selected. Process engineers, equipment vendors, and PRP in-house engineers and chemists can help in determining which data are re-

quired to assess potential process limitations and which data are required to establish design criteria.

Treatability studies are typically needed whenever treatment has been identified as a viable alternative. These studies provide data on technologies and their effectiveness on a specific waste found at a site. Treatability studies may not be necessary in those instances where information already exists about a treatment process and its performance on the same type of waste found at the site.

Assemble Technologies Into Alternatives

To assemble alternatives, general response actions should be combined, using different process options applicable to different volumes of media or areas of the site, to meet all remedial action objectives. For example, an alternative might call for incinerating the most highly contaminated soil from a portion of the site, while capping other less contaminated areas. When combining alternatives, it is necessary to consider interactions between media, such as the interaction between ground water and soils through dissolution, precipitation, and adsorption processes. Consideration should also be given to how general response actions can be integrated in the most efficient ways. For example, residual streams that could be addressed by two different response actions may be best handled together, such as sludge from a metals precipitation process and ash from onsite incineration. A description of each alternative should be included in the FS report, including the logic behind the assembly of the specific remedial action alternatives.

Screen Alternatives, If Required

The alternative development process should focus only on the most viable options for site remediation. In the event that a large number of viable alternatives remains at the conclusion of the assembly of alternatives, an additional screening process should be used to limit the number of alternatives that must undergo the detailed analysis.

Source control alternatives retained through the screening process should include those options that have a significant potential for being implemented at the site. The range of options that may be retained could include:

- Treatment options that minimize long-term management requirements and address principal threats
- Containment options, used either in conjunction with treatment or alone, that reduce exposure to waste
- A no-action alternative (which should be maintained throughout the analysis)

Note: Generally no more than five source control alternatives should be carried through to detailed analysis. Fewer alternatives may be appropriate in the case of an early action where options are limited or obvious, or when program guidance or ARARs establish appropriate alternatives.

For ground-water response actions, alternatives should not only address remediation or clean-up levels but also the estimated time frame within which these clean-up levels might be achieved. Although the goal of ground-water response actions is to return the ground water to its beneficial uses (i.e., health-based levels should be achieved for potentially drinkable water), it should be recognized that it may not always be practicable to attain this goal. Contingencies may need to be planned for and discussed in the Record of Decision (see *Considerations in Ground Water Remediation at Superfund Sites*, October 1989, OSWER Directive No. 9355.4-03). Information on the range of alternatives for groundwater remedial response actions may be found in the *Guidance on Remedial Actions for Contaminated Groundwater at Superfund Sites* (December 1988, OSWER Directive No. 9283.1-2).

During screening, each alternative should be evaluated with regard to:

- Short- and long-tern effectiveness and reductions achieved in toxicity, mobility, or volume
- Implementability including technical and administrative feasibility
- Grossly disproportionate cost

The "short-term" is considered to be the remedial construction and implementation period, while "long-term" begins once the remedial action is complete and remedial action objectives have been met.

Technical feasibility includes the ability to construct, reliably operate, and meet regulations, as well as the ability to meet the operations and maintenance, replacement, and monitoring requirements after completion of the remedial action. Administrative feasibility includes the ability to obtain approvals from other agencies; the availability of treatment, storage, and disposal services; and the availability of equipment and technical expertise.

The objective of the cost evaluation is to eliminate from further consideration those alternatives whose costs are grossly excessive for the effectiveness they provide. Cost estimates for alternatives should be sufficiently accurate to continue to support resulting decisions when their accuracy improves beyond the screening level. Capital, O&M, and present worth costs should be determined. Documentation of the screening process, if conducted, is required, Figure 4-5 of the *RI/FS Guidance* provides an example of adequate documentation.

Note: Potential action-specific ARARs, identified earlier, in the process, are evaluated further with respect to the remaining remedial action alternatives. This process continues until the comparative analysis of he detailed analysis. By this time all action-specific ARARs must be identified.

Development and Screening Deliverables

Although generally no formal report is required during this phase of the FS, it is important that the lead and the support agencies agree in writing on the set of alternatives selected for detailed analysis. Based on agreement between the lead and support agencies, the following information should be documented in the FS report, which is submitted following the detailed analysis of alternatives:

- Chemical- and/or risk-based remedial objectives
- Technologies evaluated and reasons for exclusion or inclusion
- Process option representation rationale
- Rationale for screening out alternatives, if applicable
- Clear, concise description of each alternative, including its respective chemical-, location-, and action-specific ARARs

The *Detailed Analysis Fact Sheet* contains a further description of the con-

tents of the FS report (OSWER Directive No. 9355.3-01FS4.)

RPM Responsibilities

The RPM is responsible for managing this phase of the FS and specifically to ensure that adequate technical support is provided and that control of the project's schedule and cost is maintained.

Technical Supervision

Activities needed to ensure that adequate technical supervision is provided during the development and screening of alternatives include:

- Communication with the support agency, the contractor, and other technical experts (i.e., members of the Technical Advisory Committee [TAC]) to obtain early agreement on the technologies/alternatives to be considered and on ARARs.

- It may be appropriate for ORD's START team to be included on the TAC when treatment will be considered for complex or difficult to treat waste. See the *Scoping Fact Sheet* (OSWER Directive No. 9355.3-01FSl) for additional information on the START team and other technical experts.

- Emphasize, and provide direction to the contractor or potentially responsible parties (PRPs) (if it is a PRP-lead RI/FS), on the need to focus the effort to identify and screen technologies so that only a reasonable range of viable alternatives is developed.

Schedule and Cost Control

Recommendations that should aid in schedule and cost control of this phase of the RI/FS include the following:

- Hold frequent meetings or conference calls to monitor progress. These meetings can be informal, with discussion focusing on work plan activities that need to be accomplished in the immediate future and the status of in-progress tasks that should be completed. Avoid creating delays associated with the preparation of lengthy deliverables to monitor progress.

- Review contractor monthly financial statements and make sure all costs are reasonable and justifiable. If appropriate, monthly financial statements should be supplemented by talking with the contractor's project manager about the schedule and budget.

- Control the schedule for inter- and intra-agency reviews, and schedule review meetings in advance to emphasize the deadlines for completion of reviews.

- Understand the significance of the labor hour cost to determine if the most efficient staffing levels are being used.

- Anticipate cost and schedule problems based on the contractor's previous month's performance and take actions to minimize cost overruns and schedule delays.

Enforcement Considerations

The development and screening of remedial alternatives is conducted much the same whether it is being financed by the Fund or by PRPs. If this phase of the RI/FS is being conducted by the PRPs, they will review, and if necessary, propose refinement of the remedial action objectives proposed by EPA during the project planning phase. Revision of the objectives is subject to EPA approval. After refinement of the remedial action objectives, the PRPs will typically conduct, under the oversight of EPA, all aspects of this phase of the FS. It is suggested that EPA reviews be scheduled after: screening technologies and process options, assembling alternatives, screening alternatives, and identifying action-specific ARARs. Additional information describing PRP participation in the RI/FS and EPA's oversight role can be found in Appendix A of the *RI/FS Guidance* and in OWPE's *Model Statement of Work for PRP-Conducted Remedial Investigations and Feasibility Studies* (June 2, 1989).

Points to Remember

- **Apply the framework provided by the *RI/FS Guidance* appropriately, and avoid trying to satisfy each step unnecessarily.**

- **Begin the development of alternatives as soon as preliminary information on site characteristics is available.**

- **Draw on the experience of contractor process engineers, vendors, ORD, and other RPMs to help identify appropriate technologies and process options.**

- **Focus alternative development only on the most viable options for site remediation. Generally, no more then five sitewide source control options should be analyzed in detail.**

- **Conduct alternatives screening when more alternatives have been developed than can reasonably be evaluated.**

- **To the extent possible, identify design parameters for the technologies being considered so that relevant data can be collected during site characterization.**

- **Develop alternatives involving innovative technologies and retain for detailed analysis if they have the potential for comparable or superior treatment performance, fewer or lesser adverse impacts, or lower costs for a similar level of performance than a conventional technology.**

- **Communicate with key personnel, including the TAC, throughout this portion of the FS.**

- **Establish project management controls such as status meetings.**

- **Closely monitor PRP activities.**

Enclosure 3

USACE Comments on the
Sauer Dump Screening of Alternatives Memo
Oct 2020

Commenter: C. Lechner
Comments Dated: 9Nov2020

Item No.	Report Reference	Comment	Response
1	S2	Re: "The GRAs for the Site include the following: □ No Action / No Further Action;"; pls check; is No Action a permissible GRA? The NA alternative is present by regulation for comparison purposes, but I understood it could not be selected.	
2	2.2.1	Suggest "No Action / No Further Action is included, as required by the NCP and USEPA guidance,"	
3	2.2.3	Suggest "prevent exposure and/or migration beyond"	
4	Table 2.1	Duplicate NPDES in the footnotes.	
5	Table 2.1	For the onsite consolidation, please consider adding a note that some continuing O&M will be needed. Considering that this is likely to extend out 30 years or more (for inspections and monitoring of a constructed landfill), please consider capturing the effect by changing the O&M cost to "Low to Moderate". Low to High might even be reasonable if one considers that inspections will likely have to occur in perpetuity, and a RCRA-compliant groundwater monitoring network will have to be constructed and operated for some number of years. Also, for implementability you could state that none of the waste is known to be RCRA hazardous, making consolidation and onsite landfilling allowable.	
6	Table 2.1	Does Thermal offer any advantage (worth retaining it) by removing the PCBs to allow a less expensive offsite disposal of Pb-contaminated soil in a non-TSCA landfill?	
7	Table 2.1	Effectiveness column says suitable for PCBs and Pb, but screening says applicable only to Pb. Pls make consistent.	
8	Table 2.1	I think the "lack of local contractors" reason is somewhat weak since there are only a few and they work across the US and would come here. But, I do think the shallow water table would pose a big problem for reaching volatilization temperatures.	

USACE Comments on the
Sauer Dump Screening of Alternatives Memo
Oct 2020

Commenter: C. Lechner
Comments Dated: 9Nov2020

Item No.	Report Reference	Comment	Response
9	Table 2.1	For Removal, an implementability advantage might be that there's no TCLP hazardous soil (I believe) that would create special staging requirements.	
10	S3.1	Suggest: "The preliminary remedial alternatives for Parcel 425 and the Residential Parcels are listed in Table 3.1."	
11	3.3.1	RE: "Under this alternative, no further remedial actions will be conducted on the Residential Parcels included in the IM, except for performance of annual site-wide inspections and the mandatory five-year site review."; the No Action alternative would include no actions at all. If annual inspections are needed, and if FYRs are needed, then you are using them to verify land use restrictions, which must be emplaced as a remedy. So, what you are describing is really a LUC plus monitoring remedy, and not NFA.	
12	3.3.1	Re: "This alternative does not include any active remedial measures and, therefore, represents the baseline human health and ecological risk determined during the RI."; this alternative should include no remedial measures at all, that is no restrictions, and it should have an associated risk representative of the conditions currently existing, that is post removal action, rather than post-RI.	
13	3.3.2	Re: "As discussed in Table 3.2, four remedial alternatives, aside from the No Action and Limited Action alternatives,"; I think you should state this as "five remedial alternatives aside from the No Action Alternative", because there is no distinguishing a "limited action" alternative from any other (except from No Action). A "limited" alternative must still pass the 2 threshold criteria, and must still be compared using the 5 balancing and 2 modifying criteria, like every other alternative.	

USACE Comments on the
Sauer Dump Screening of Alternatives Memo
Oct 2020

Commenter: C. Lechner
Comments Dated: 9Nov2020

Item No.	Report Reference	Comment	Response
14	S3.3.2.1	I think this section should be Limited Action Alternative. No Action is already discussed in 3.3.1. Now each action alternative should be discussed for 425, and then for the residential parcels.	
15	Figures	These should show the extent of area that requires remediation, and either on the figure or in the text should show the total volume and mass of soil requiring remediation, which is the basis for the alternatives' costs. If this level of information will first appear in the detailed analysis of alternatives, please state that somewhere.	
16	Table 3.1	For 425, shouldn't a soil cover be considered, solely to prevent direct contact, since migration has not been an issue?	
17	S3.1	RE: "Not all technologies retained during the initial GRA screening process were used in the determination of the remedial alternatives based on the availability of comparable but more favorable technologies."; there's a large technology filtering and down-selection covered by this one sentence, that ought instead to be discussed in a section. For instance, for 425, shouldn't a soil cover be considered in addition to the carried-along impermeable and semi-impermeable cover? Since there is no groundwater or surface water contamination, and the site is mature and experiencing all the migration it is likely to have, it might be reasonable to only remediate the calculated risk, which was due to direct contact. Or if not, the suggested new section could be used to explain why a permeable cover is not adequate. Possible reasons for that might be expected rainfall increases associated with climate change, causing increased infiltration, or that MDE landfill cover requirements might prohibit permeable soil covers.	
18	Table 2.1	For Onsite Consolidation, for implementability, will the owner of Parcel 425 consent to allowing contamination from residential parcels to be brought for disposal onto parcel 425, and thereby accepting some liability for it? I don't see that they have any	

USACE Comments on the
Sauer Dump Screening of Alternatives Memo
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Commenter: C. Lechner
Comments Dated: 9Nov2020

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		obligation to do so. It seems like a large uncertainty. Please address this in the implementability column. In the treatment category, will the owner of 425 allow contaminated soil to be brought onto 425 just for treatment, even if it will be disposed off-site? I don't see that they are obligated to do so. Consequently, suggest you note that owner's agreement is needed and address the likelihood of getting the approvals to implement this.	
19	Table 2.1, institutional controls	In Implementability suggest you add "would require property owner approval". I don't see that they are required to give it, so this seems like it could be a major impediment to leaving some contamination on the Site.	
20	Table 3.3	I strongly suggest you should retain Alternative 4, Offsite treatment and disposal. It might not be a comparatively high cost when the perpetual O&M costs are factored into the other choices. Also, it poses the least complication of implementability because it removes the waste and avoids any future activities and property value complications. Excavation to the water table is done frequently, as is safe and clean road transport of contaminated soil, so these are not show-stoppers. This may be the most agreeable option to most of the owners and nearby residents, and should be carried forward and estimated accurately along with the other alternatives. If it doesn't fare well in the detailed comparison of alternatives then it will fall out, but at least we'll have better justification then. If you leave it out now I think you'll have to add it back in later, because it is so often used, that someone will ask for it, and the 2-3 sentence justification in Table 3.3 for eliminating it will not suffice then, plus its absence will then arouse suspicions that it was eliminated only to save costs for the Group.	
21	Table 3.2	I think the previous comment about offsite disposal also applies to parcel 425, thought not to the extent as it does for the residential properties. I think you have to add it for the	

Commenter: C. Lechner
Comments Dated: 9Nov2020

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		residential parcels, as I noted above, and if you do, I think you'll have to add it for 425 because its absence will be conspicuous. I think it will not be as selectable at 425 because the relative cost will be higher for 425 due to the larger quantity, and the negative effect on property value of leaving soil in place will be less because it affects only one parcel, which will change owners less often that the multiple residential parcels will.	

Enclosure 4

USACE Comments on the
Sauer Dump Revised RAO Memo
Oct 2020

Commenter: C. Lechner
Comments Dated: 9Nov2020

Item No.	Report Reference	Comment	Response
1	S1.6	Suggest adding a new table, referenced by this section, to summarize the risks and hazards for each of the exposure scenarios in each of the parcels.	
2	S1.6.1	Fix : "The future construction/utility worker exposure to surface and subsurface soil (through ingestion, dermal contact, and inhalation) resulted in a calculated cancer risk below the USEPA target risk of 10^{-4}."	
3	S2.1	"available USEPA and MDE standards, advisories…"	
4	S2.1.4	Re: the statement: "Since the Sauer Dump Site is a large, environmentally diverse site, the self-implementing cleanup plan does not appear applicable."; is I think not quite correct in its use of the term 'applicable'. I think the self-implementing levels are always an applicable choice, and they are always sufficient and protective, but they might not be necessary. I think they are like remediating to screening levels, sufficiently protective, but probably overly so, and site-specific levels can be developed that might also be protective. You basically say this about applicability in your earlier statement: "The procedure may be less practical for larger or environmentally diverse sites. For these other sites, the self-implementing procedures still applies..."	
5	S2.1.4	Check the wording of "concentrations in excess of 50 mg/kg PCBs waste,"; the word "waste" might be extraneous.	
6	S3.2	RE: "the revised blood reference value of 5 ug/dL was used to derive a Site-specific lead PRG of 183 mg/kg and 1,050 mg/kg for the residential and industrial Site soils, respectively."; is this true about the commercial value, since it's greater with a BLL of 5 ug/dL than with a BLL of 10 ug/dL? I think I recall the risk driver for commercial use is the fetal BLL in a pregnant female worker. If that's true, and if the residential Pb trigger decreased with decreasing BLL, wouldn't the commercial Pb trigger do so as well?	

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Oct 2020

Commenter: C. Lechner
Comments Dated: 9Nov2020

Item No.	Report Reference	Comment	Response
7	Table 3.1	I don't know if a significant addition is allowed at this point, but this table would I think benefit from adding two columns, one for the total hazard and one for the total risk, for each media of exposure in each exposure scenario. I have also seen this done where the hazard and risk was shown for each CoC as well. Showing this type of thing makes clear just where the majority of the risk/hazard lies, and helps focus the remedial effort.	
8	S3.3	After "Thus, for example, PRGs recently produced by LANL and Texas are often an order of magnitude, or more, higher than ESVs for same chemical and receptor."; please cite references.	
9	Table 3.2	RE: The footnote: "(1) Only constituents that contributed to a cumulative cancer risk above 1E-04 or hazard above 1 were carried forward."; I understood that all the site related COCs are carried forward into the cumulative risk calculation, because the CERCLA requirement is that cumulative risk and hazard be brought to less than the remedial triggers. If the risk is greater than 1E-04, then all the CoCs contribute in some amount to that total. To show this, and to show that the PRGs will attain the CERCLA risk and hazard goals, suggest you add two columns, one for post remediation risk at the PRG and one for post remediation hazard at the PRG, and show a sum of the risk, and sums of the hazard for each affected organ. In this you would have to include all the Site CoCs, and for those that don't have PRGs you'd have to include the risk and hazard at the EPC. The risk will need to total less than 1E-04 and each organ hazard will need to total less than 1.	
10	Table 3.5	Re the footnote: "(10) As directed by USEPA, the remedial action will eliminate ecological pathways; therefore, final selected PRGs are human health based." Suggest you add a cite to a reference, such as a memo. Suggest you mention this dropping-of-eco-risk in the text, and add a brief summary of the EPA's rationale.	

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Sauer Dump Revised RAO Memo
Oct 2020

Commenter: C. Lechner
Comments Dated: 9Nov2020

Item No.	Report Reference	Comment	Response
		They cannot just drop it without adequate justification or else it could be challenged as being "arbitrary and capricious".	
11	Table 3.5	What value will be used for Lead? The 5 or 10 ug/dL value? If it's still undecided then suggest editing footnote 7 to say that.	
12	Section 3.3	Re: "Further, it was concluded that the remediation scenarios to be developed for the protection of human health are expected to eliminate exposure pathways to ecological receptors."; suggest this sentence be moved to the end of the section, since it caps off this entire discussion of ecorisk. Also, suggest adding a cite to a referenced EPA letter, or to whatever documentation was received from EPA to make this decision.	
13	Table 3.5	Re: background as the PRG for arsenic, going to background sometimes poses a high risk of committing to an unending remediation. Before committing to it you would be advised to check it against the entire arsenic dataset to gauge the chances that you can actually attain background. There were evidently only three background samples, which makes background very uncertain. The same goes for Thallium. Even though the PRG is set above background, it is not far above it and, again, background is very uncertain. You want to ensure you do not commit to what could turn out to be a huge, or even unending, excavation.	
14	S4	Re: "RAO2 - Ecological: direct contact: Eliminate exposure pathways to prevent unacceptable risks to ecological communities exposed to COCs in soil and sediment for all parcels"; this is unachievable as written since it conflicts with the earlier stated plan to only attain human health based PRGs and not the lower eco-based PRGs. With those PRGs you cannot "prevent unacceptable" ecological risks. To be achievable it would have to be written like: " Decrease exposure pathways to lower unacceptable risks to ecological…" This might not be allowable though since it probably does not meet the CERCLA mandate to protect "HH and the environment".	

USACE Comments on the
Sauer Dump Revised RAO Memo
Oct 2020

Commenter: C. Lechner
Comments Dated: 9Nov2020

Item No.	Report Reference	Comment	Response
15	S4	Re: "RAO3 (a) – Protect groundwater quality: Continue to minimize the migration of contaminants from soil/debris to groundwater."; since the project has documented that groundwater is not contaminated, and requires no remediation, what is the basis for this? The RAOs are the "skeleton" on which the RG are devised, and the RAOs and RGs get scrutinized in the remedial design, remedial completion, and five year reviews in order to conclude whether the remedy is effective or not. So, they have far reaching consequences. I don't know the full site history, but to have an RAO that seems "tacked on" without strong supporting basis seems risky.	
16	S4	Re: "RAO3 (b) – Protect groundwater quality: To the extent practicable, reduce contact of highly contaminated saturated soil with groundwater in order to continue to minimize migration of contaminants to groundwater.":; like the previous comment, this is a sizeable addition to the RAOs, but without justification, that I can see. In order to be achievable (and all RAOs have to be achieved eventually) this RAO would bring into play another set of PRGs, namely ones based on soil leaching to groundwater, and/or removal of all detectable contamination in the saturated zone, and to what depth. Again it appears to be "tacked on" without supporting basis, and to pose risks for designing the RGs and for attaining them.	
17	S4	Re: "RAO4 – Reduce Contaminant Migration: Minimize migration of impacted sediment and soil COCs in stormwater runoff to wetland areas and the Back River."; the project documents that sediment hasn't been impacted, so like the previous two comments, this seems like a significant addition to the remedial requirements but without justification.	

Enclosure 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

December 9, 2020

SUBJECT: Response to September 2020 Comments, Revised Remedial Action Objectives Memorandum, and Development and Screening of Remedial Alternatives Memorandum; Sauer Dump Site, Dundalk, Maryland; October 2020

FROM: Bruce R. Pluta, Coordinator
Biological Technical Assistance Group

TO: Nick Tymchenko (3SD22)
Western PA/MD Remedial Branch

In response to your request, I have completed the review of the subject documents and offer the comments presented below. Thank you for the opportunity to provide input during the development of the Feasibility Study.

RESPONSE TO COMMENTS

My review of the responses focused on those which I provided in August 2020 and those specifically pertaining to ecological protection. I have found the responses to be acceptable. Any comments on the actual revisions are provided below.

REVISED REMEDIAL ACTION OBJECTIVES MEMORANDUM

The RAO should not be to "Reduce" the potential for contaminant migration from stormwater run-off and erosion of surface materials, but to eliminate the potential.

Introduction

The site is split into two management areas (MAs) in Section 1.3 Site Location and Description. A third MA should be dissected from Parcel 425 and the residential properties which would consist of the areas of contaminated sediment / aquatic habitat (i.e., the drainage ways and the pond). (aquatic / wetlands habitat). It is likely that these areas will require a hybrid or completely different remedial approach than the other MAs. Designating these areas as a separate MA will facilitate both evaluation and subsequent remedial decisions.

Section 1.3.1 must discuss the physical features of both management areas, not just Parcel 425.

Section 1.4 Remedial Investigation Summary should be revised to more clearly discuss the extent of contamination found as it relates to the different features of the site, such as the

drainage ways and the Pond, which may require different remedial approaches.

Section 1.4.2 Sediment incorrectly states, “As per the USEPA-approved RI, “the sampling results of Back River sediments demonstrated that the transport of impacted soil, and associated contaminants, from the Site to the Back River is now and has historically been very limited”. EPA did not approve the RI but accepted it since unsupported conclusions were made with which EPA did not agree but which will not impact the selection of appropriate remedial alternatives. (While concentrations of Back River sediments established in the RI are not expected to pose an unacceptable risk, there is no data to support that the transport of impacted soils and associated contaminants has been historically very limited.” And again, the TMDL document is not germane to this investigation, nor does the statement indicate how much 0.09% of the baseline load of PCBs to the Back River is or whether it poses an unacceptable risk.

The statement “There is little to no standing water in most of these wetlands and fringe marsh, except at the extreme high tide, and only in the Phragmites marsh immediately adjoining the Back River shoreline” should be deleted as it has no relevance to the summary of contaminant concentrations in sediment.

Section 1.7 Ecological Risk Assessment Summary does not actually provide a summary of the findings of the risk assessment. This section should be revised to present the findings of the risk assessment. In addition, the last sentence should be revised to simply state “Preliminary remediation goals (PRGs) were developed to address the unacceptable ecological risk identified in the SLERA and are presented in Section 3 for soil and sediment.”

Regulatory Requirements

I do not believe it is appropriate to limit action specific ARARs/TBCs at this stage of the process since 1) the action specific ARARs/TBCs should be used to evaluate and screen the general response activities and remedial technologies, and 2) the complete list of remedial technologies have not yet been proposed, evaluated, and screened.

Preliminary Remediation Goals

In support of Section 3.3 Development of Ecological Based PRGs a more robust discussion on the selection of appropriate background concentrations for each media must presented. Generically it is not appropriate to simply select the maximum soil background concentration, particularly when only comparing with “nearby background sampling soils.” The discussion should include further support for the use of “background concentrations for nearby soils” to evaluate wetlands soils / sediments. The discussion should include comparison of soil and sediment background values.

The second paragraph of Section 3.3 should be deleted as it does not pertain to the development of PRGs. The first paragraph indicates that the comparison with background values has been conducted as part of the PRG development process (although it must be noted that the process

employed, including the selection of appropriate background values, was not discussed or approved prior to implementation).

Similarly, the third paragraph of Section 3.3 should be deleted as it does not pertain to the development of PRGs.

It is recognized that generic PRGs available from sources such as LANL and Texas are often greater than an order of magnitude or more than ESVs. This is typically because they are based on low adverse effects levels, rather than no adverse effects levels and are not typically protective of sensitive species. EPA practice is to target cleanup values between NOAEL and LOAEL values for receptors with an unacceptable risk. Thus, while generic PRGs from LANL and Texas are useful tools, they typically represent an upper bound and cannot be blanketly applied.

The document only includes "ecoPRGs" for those parameters identified as human health COCs (PCBs, arsenic, cobalt, iron, lead, mercury, manganese, and thallium). Ecological PRGs must be presented for all contaminants for which there was an unacceptable risk.

The final cleanup value considers all PRGs (ecological and human health), as well as ARARs and other considerations. It is premature to select a single PRG for each contaminant or not consider ecological PRGs.

It must be reiterated that while we are confident that the remediation scenarios to be developed for the protection of human health will either eliminate exposure pathways to ecological receptors and/or adequately reduce unacceptable ecological risk, sufficient documentation must be developed to demonstrate that this is in fact the case. This will ultimately occur, in part, by overlaying the remedial footprint based on human health PRGs with the footprint based on ecological PRGs. This will demonstrate that RAO2 can be met.

Given the previous comments, the second paragraph of Section 3.4 Recommended PRGs for the Site should be deleted. Table 3.5 should be revised to only present the PRGs without specifically selecting a single PRG for each contaminant.

Remedial Action Objectives

RAO4 should not be to "Reduce" the potential for contaminant migration from stormwater run-off and erosion of surface materials, but to eliminate the potential.

DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES MEMORANDUM

Identification and Screening of Remedial Technologies

The discussion pertaining to structural bank stabilization options presented in Section 2.2.3 Containment should be revised to include components used in natural stream channel design.

Section 2.2.5 Treatment Options notes that process options for in-situ treatment are intended to treat soil and sediment contaminants to reduce contaminant volume or mass via degradation or immobilization. This statement does not reflect that in-situ treatment is also used to reduce toxicity and bioavailability of contaminants. Also, viable in-situ treatment options do not always reduce contaminant volume or mass. For this site, in-situ options which reduce contaminant bioavailability, and thus toxicity, but increase the volume of waste to be managed may be viable components of a remedial strategy.

In-situ treatment options should be retained for further evaluation as they may be viable, if only on a limited basis (e.g., treatment of residual sediment contamination at depth).

Thank you for the opportunity to provide support on this project. Please contact me at x2380 if you have any questions.

Enclosure 6

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

1650 Arch Street

Philadelphia, Pennsylvania 19103-2029

SUBJECT: Comments on the October 2020 Revised Remedial Action Objective Memorandum and Response to Comments: Sauer Dump Site

DATE: December 15, 2020

FROM: Jeffrey G. Tuttle, Toxicologist
Technical Support Branch (3SD52)

TO: Nick Tymchenko (3SD22)
Western Pennsylvania and Maryland Remedial Branch

This memorandum is in response to your request to provide comments on the October 2020 Revised Remedial Action Objective (RAO) Memorandum and Response to Comments for the Sauer Dump Superfund Site located in Dundalk, Maryland. The following comments are offered for your consideration.

General Comments

The document as written is unnecessarily confusing as it repeatedly references a lead cleanup level in excess of 400 ppm. It is this reviewer's understanding that the newly enacted (July 1, 2020) MDE lead number of 200 ppm (approximate) will be the PRG/lead cleanup number used at the site. If this is correct it is not clear why the 400-ppm number is referenced throughout the document. If 200-ppm (and 5 ug/dL BLL) is the correct PRG/cleanup number for lead that will be used, references to the 400-ppm number (and 10 ug/dL BLL) should be removed.

As with lead it is not clear why the PRPs are proposing a risk-based PRG/cleanup number for PCBs as it is this reviewer's understanding that the TSCA high occupancy PCB cleanup number (1 ppm) is to be used for Sauer Dump. However, in addition to the TSCA value (1 ppm) risk-based values appear to be referenced in this document. This needs to be corrected and clarified.

Specific Comments

1. Section 1.3 – Site Location and Description – The author describes the site as two "Management Areas", Parcel 425 and the Residential Parcels. Parcel 425 (FOA) is currently zoned residential (RC 20). As such, Parcel 425 remedial options will need to take into account this residential zoning; if Parcel 425 is being considered for a non-residential level cleanup the appropriate environmental and zoning covenants will need to be in place prior to, or concurrently with, any remedial activities that are chosen for this property. Additionally, the author indicates that "portions" of the adjacent residential properties are part of the Residential Management Area. It is not clear whether only

portions of the residential properties can be stated as they have not been fully delineated at this time.

2. Section 1.4.1 – Soil in Parcel 425 – Please list all COCs contributing to risk. Also see General Comments on lead and PCB PRGs.

3. Section 1.4.1 – Soil in Residential Parcels – Please list all COCs contributing to risk. Also see General Comments on lead and PCB PRGs. It is stated that Parcel 574 was not included in the interim measure (IM) because lead and PCBs were below acceptable risk levels. Indicate if the PRGs being referenced are the 400 ppm and 1 ppm for lead and PCBs, respectively.

4. Section 1.4.2 – Sediment – The author states that PCB Aroclors were not identified in the Back River, Embayment or Pond sediments. Indicate if "not identified" means not found or not found at risk driver levels.

5. Section 1.4.4 – Groundwater – Please define significant. Also, indicate if groundwater levels of site related COCs exceeded their respective RSLs.

6. Section 1.5.1 – Contaminants of Concern – PRGs/cleanup values will need to be determined for COCs other than lead and PCBs. Also, it will need to be shown that addressing lead and PCBs as the main risk drivers will address the other COCs as well.

7. Section 1.6.2 – Summary of HH Risks on Residential Parcels – See General Comments.

8. Section 1.8 – Media of Concern – Indicate if EPA and MDE have concurred with the aquifer classification as Type III.

9. Section 2.1.4 – Evaluation of Key ARARs/TBCs – Lead – If Maryland HB 1233 and COMAR 26.16.08 (5 ug/dL BLL) are to be the basis of the lead cleanup number it recommended that only 5 ug/dL be considered in the FS.

10. Section 2.1.4 – Location Specific ARARs – Indicate if MDE agrees with the PRPs interpretation of the CBCA as it pertains to Parcel 425.

11. Section 2.1.4 – Action Specific ARARs/TBCs – Regarding PCBs the author refers to the Sauer Dump Site as a "large, environmentally diverse site" where the TSCA self-implementing plan (1 ppm) does not apply. Indicate whether the TSCA rules specify what constitutes small, medium and large sites as the Sauer Dump Site is quite small when compared to other Superfund Sites. A landfill cap for Parcel 425 and the residential properties is also discussed. Capping the residential properties, or a portion of them, would likely result in property owners losing the ability to conduct various activities on their properties including landscaping, building additions/remodeling, etc.

12. Section 3.2 – Development of HH Based PRGs – It is not clear how developing PRGs for those noncarcinogens with HQs > 1will result in a protective PRG. If one or more noncarcinogens that act on the same target organ or system are each set to an HQ=1 the combined hazard exceeds an HQ=1. The PRG for both carcinogens and noncarcinogens

is in part a function of the total number of COCs (and their target organs) for which PRGs are being developed. This requires clarification.

13. Section 3.4 – Recommended PRGs for the Site – The TSCA high and low occupancy PCB standards, 1 and 25 ppm, respectively are to be used for "comparative purposes" only. It is not clear what this means. See above comments on the TSCA cleanup numbers.

14. Section 4 – RAOs – Bullet 1 states that risks to human health are to be reduced from "exposure, via ingestion, inhalation and direct contact." Does the author mean direct contact (ingestion, inhalation and dermal)? Please clarify.

15. Table 2.1 – Potential ARARs and TBCs – C-8 – See above comments on Maryland HB 1233 and COMAR 26.14.02.06.

16. Table 2.1 – Potential ARARs and TBCs – C-10 – Care must be used in defining a play area as an entire yard could be considered a play area.

17. Table 3.1 – Summary of Risks – It would be helpful if the noncarcinogenic HQ values were listed to see how much greater than 1 they are.

18. Table 3.2 – Calculation of Preliminary PRGs – As discussed in the comments above, if the TSCA PCB low occupancy number (1 ppm) and the new MDE lead number (~183 ppm, 5 ug/dL BLL) are to be used it is not clear why the other PRG numbers are being presented.

19. Table 3.5 – Summary of PRGs – If the manganese number is a background value indicate if EPA accepted the background study.

Thank you for the opportunity to provide comments on this document. Please contact me at (215) 814-3236 if you have any questions.