



June 8, 2023

Jay A. Steinberg
Nevada Environmental Response Trust
35 East Wacker Drive, Suite 690
Chicago, IL 60601

Re: **Tronox LLC (TRX) Facility**
Nevada Environmental Response Trust (Trust) Property
NDEP Facility ID #H-000539

Nevada Division of Environmental Protection (NDEP) Response to *Refined Screening-Level Ecological Risk Assessment for Operable Unit 1, Reversion 1 and Responses to NDEP Comments dated March 2, 2022, and August 26, 2022 on the Refined Screening-Level Ecological Risk Assessment for Operable Unit 1 (Rev 0)*

Dated: April 20, 2023

Dear Mr. Steinberg,

The NDEP has received and reviewed the Trust's above-identified Deliverables and provides comments in Attachment A. A revised Deliverable should be submitted by **08/08/2023** based on the comments found in Attachment A. The Trust should additionally provide an annotated response-to-comments letter as part of the revised Deliverable.

Please contact the undersigned with any questions at wdong@ndep.nv.gov or 702-668-3929.

Sincerely,

Dong Weiguan

Weiquan Dong, P.E.
Bureau of Industrial Site Cleanup
NDEP-Las Vegas City Office

WD:AP

EC:

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Mark Paris, Landwell
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William Frier, U.S. Environmental Protection Agency, Region 9

Attachment A

Initial NDEP Comments (3/2/2022)	NERT's First Response (5/13/2022)	NDEP Comment on NERT's 1st Response (8/26/22)	NERT's 2nd Response (4/20/2023)	NDEP Comment on NERT's 2nd Response (6/8/2023)
Specific Comments				
<p>2. Specific Comment #2: Background Comparisons There is insufficient discussion of the background comparisons. The Gilbert's Toolbox results presented in Table E-2b include many p-values that are equal to 1. In a 1-sided test this implies a strong significant difference between background and site data, but the wrong way around. In principle, site concentrations cannot be less than background, in which case these tests run as 1-sided tests. However, when statistical differences like this occur, then there are either unaccounted</p>	<p>Additional discussion will be added to Section 2.1.5.2 of Revision 1 of the OU-1 Refined SLERA Report to address the issue raised in this comment regarding p-values of 1 and relevance regarding site conditions compared to background, including explanation that:</p> <ul style="list-style-type: none"> • The differences observed are likely a combination of geologic, analytical factors, and natural variance. • With the general natural variability of alluvial geology, even within a single geologic unit, it is unlikely to obtain a perfect representation of local background for every existing site data set or relevant subset of data across this study area. • Therefore, not every variance between site and background data must be due to anthropological influence or analytical issues. 	<p>Adding the suggested additional discussion will be acceptable, pending review of the revised report. However, some OU-specific discussion will need to be included discussing the meaningfulness of the background comparisons if the background data are not suitable for this OU. Box plots and/or quantile plots can be revealing in this situation and should be considered prior to finalizing results. The background comparisons, in effect, are used to statistically confirm what's seen in the data. Please also note that precedent has been set to use the McCullough background levels when the more local site data are less than the McCullough sitewide background data. The point of the comparisons is simply to describe what the data</p>	<p>The Revised Report has been updated to reflect NDEP's acceptance of NERT's May 13, 2022 response. Specifically, text was added to Section 2.1.5.2, Section 3.2, and the uncertainty assessment (Section 4.7.4) to address NERT's initial response and NDEP's comment to that response.</p>	<p>2.1.5.2 now shows the McCullough background data, and boxplots have been added to appendix E. There doesn't appear to be any OU-specific discussion of appropriateness of background data regarding large p-values (including values of 1) or any additional explanatory text as suggested in the May 2022 response to comments. Please add some additional discussion of the background comparison results.</p>

<p>for analytical differences or the background data do not represent site conditions. There are a few places on the BMI Complex where site concentrations for some metals are less than the McCollough background on which background comparisons are performed. At the very least, some acknowledgement and discussion of the reasons why this might occur is warranted.</p>		<p>appear to say. Decisions can be made based on these comparisons, but other information can, and has been brought help to make final decisions.</p>		
<p>10. Specific Comment #10: Section 2.1.5, p. 2-8, Preliminary Chemicals of Potential Concern Please add text to the first bullet to clarify that elimination of chemicals that are not detected is contingent upon evaluation of limits of detection relative</p>	<p>The OU-1 Refined SLERA included an uncertainty analysis for constituents not detected by comparison of the detection limits to ESVs (Appendix J-2a for the Operations Area and Appendix J-2b for Parcel E). Tables in Appendix J-2a and J-2b are organized by chemical, arranged from highest detection limit to lowest detection limit for each chemical with the ratios of detection limits (or ½ DLs) versus ESVs. The ratios are comparable to the hazard quotients. The uncertainty assessment briefly discusses these chemicals in Section 4.7.3.</p>	<p>The response is acceptable, pending review of the revised report.</p>	<p>The Revised Report was updated to reflect NDEP’s acceptance of NERT’s May 13, 2022 response. Specifically, new text was added to Section 2.1.5 that addresses SQLs > ESVs and chemicals with Detection Frequencies < 5% (not eliminated if Max HQ>1). Spatial plots were also</p>	<p>Edits addressing the first two bullet points are acceptable. However, additional information should be added to clarify the following bullet:</p> <ul style="list-style-type: none"> • The uncertainty assessment in Section 4.7.3 [note: this is now Section 4.7.6] will also include discussion of: • Where detection limits are influenced by dilutions that were applied for other chemicals being analyzed.

<p>to ESVs. Non-detected constituents can only be eliminated in screening if DLs are less than appropriate ESVs.</p>	<p>To address this comment in Revision 1 of the OU-1 Refined SLERA Report:</p> <ul style="list-style-type: none"> • The text in the first bullet in Section 2.1.5 will clarify that elimination of chemicals that are not detected includes an evaluation of detection limits relative to ESVs as part of the uncertainty assessment. • The uncertainty assessment discussion in Section 4.7.3 will be expanded to discuss those constituents with the highest currently discussed. As part of this expanded discussion, two additional tables will be added to Appendix J-2, which provide the same information as currently presented in Tables J-2a and J-2b, but the ratios will be sorted from highest to lowest for any chemical at any location to aid in the discussion of how these locations overlap with other detected COPECs. • The uncertainty assessment in Section 4.7.3 will also include discussion of: <ul style="list-style-type: none"> o Where detection limits are influenced by dilutions that were applied for other chemicals being analyzed. o Which chemicals have all detection limits that exceed ESVs versus those with detection limits that exceed ESVs due to location-specific diluted samples. <p>Specific Comment #10 states that “Non-detected constituents can only be eliminated in screening if DLs are less than appropriate ESVs.”</p> <p>As can be seen in the Appendix J-2a and J-2b of the August 2021 OU-1 Refined SLERA Report, there are some chemicals where the detection limits exceed the ESVs.</p>		<p>created for each ND chemical with SQLs>ESVs. The evaluation of ND chemicals with SQLs>ESVs is provided in the uncertainty assessment. In Section 4.7.6 The evaluation also includes a summary of where detection limits are influenced by dilutions that were applied for other chemicals being analyzed. new tables were added to Appendix J that focus on ND chemicals with SQLs>ESVs sorted from high to low ratios.</p>	<ul style="list-style-type: none"> • Which chemicals have all detection limits that exceed ESVs versus those with detection limits that exceed ESVs due to location-specific diluted samples. <p>Specifically, in the section discussing dilutions on page 4-53, it would be useful to discuss the percentage of samples in each area that have elevated SQLs due to dilutions, and whether the remaining samples in each or those areas have SQL/ESV ratios less than 1, or whether the remaining undiluted samples also have SQL/ESV ratios greater than 1.</p>
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	<ul style="list-style-type: none"> • The approach described in the response above shows that chemicals with DLs exceeding ESVs will be addressed in the updated uncertainty assessment. • It should be noted that Ramboll does not interpret this comment to indicate that NDEP wants chemicals with DLs exceeding ESVs included in the food web model and other quantitative assessment. However, if NDEP prefers that chemicals not detected with DLs greater than the ESV be included in the food web model or other quantitative assessment, this can be done, with acknowledgement that the actual results (i.e., hazard quotients) based on detection limits will be so uncertain that they are unlikely to change the conclusions of the report. 			
<p>12. Specific Comment #12: Section 2.1.5.1, p. 2-9, Data Used in the SLERA</p> <p>In the last bullet on the page, please clarify that DDx is usually defined as the sum of six isomers (2,4'-DDD, 4,4'-DDD, 2,4'-DDE, 4,4'-DDE, 2,4'-DDT, 4,4'-DDT). More discussion is needed as to why a varying number of isomers are included in the</p>	<p>Table D-7 of the OU-1 Refined SLERA summarizes the DDx isomer data available for each of the samples, including detected concentrations, detection limits for isomers not detected, isomers not analyzed, and the sum of the DDx value. As shown in Table D- 7, the 4,4'-DDD, 4,4'-DDE, and 4-4'-DDT isomers were analyzed for all samples.</p> <p>To add additional clarity, the last bullet of Section 2.1.5.1, page 2-9 of Revision 1 of the OU-1 Refined SLERA Report, will also be clarified to indicate that DDx is the sum of available isomers (2,4'- DDD, 4,4'-DDD, 2,4'-DDE, 4,4'-DDE, 4,4'-DDT) and that the variability in the isomers will be addressed as an uncertainty in the uncertainty assessment.</p>	<p>The proposed revision is acceptable, pending review of the revised report.</p>	<p>The Revised Report was updated to reflect NDEP's acceptance of NERT's May 13, 2022 response. Specifically, new text clarifying the use of the term DDx is included in Section 2.1.5.1. In addition, the isomers included in the DDx calculation are also discussed in the uncertainty assessment (Section 4.7.5).</p>	<p>A general discussion of the uncertainty associated with not analyzing 2,4'- isomers in all the samples has been added as Section 4.7.5. However, this discussion should be expanded based on the data presented in Table D-7. For instance, it is fairly straightforward to note that 2,4'-DDE was detected in 16 of the 36 samples in which it was analyzed. In those 16 samples, 2,4'-DDE comprised between 12% and 45% of the reported DDx total. This provides a quantitative indication of how much DDx totals could be underestimated by not including 2,4'-isomers.</p>

<p>DDx sums here, and how that potentially effects DDx data comparability across the site.</p>	<p>In addition, a new uncertainty discussion will be added to the Revision 1 of the OU-1 Refined SLERA to explain that the variability in the DDx isomers is related to the study designs that occurred over time and discuss the potential underestimate of risk via the sum of DDx given the lack of isomers at any particular location.</p>			
<p>27. Specific Comment #27: Section 5, SLERA Conclusions As noted in comments above, the report states that general statements about risk to reptiles can be made. No such general statements about potential risk to reptiles are included in the Conclusions section. Please address accordingly.</p>	<p>General statements about the potential risks of chemicals in the Operations Area and Parcel E to reptiles will be added to the risk characterization and risk conclusion sections in Revision 1 of the OU-1 Refined SLERA Report.</p>	<p>The proposed revisions are acceptable, pending review of the revised report</p>	<p>The Revised Report has been updated to reflect NDEP’s acceptance of NERT’s May 13, 2022 response. Specifically, statements about risks to reptiles have been included in Section 4.6.2.7 and a new uncertainty section (Section 4.7.7) that summarizes the limitations with extrapolating potential impacts to reptiles using results for birds and mammals.</p>	<p>Reptiles are only mentioned in Section 5 Conclusions as part of the sentence that states “Overall, the OU-1 Refined SLERA showed that most chemicals are not present at concentrations that would pose unacceptable risks to plants, soil invertebrates, birds, mammals, and reptiles.”</p> <p>This statement is inconsistent with the uncertainty discussion, which concludes that the science to assess ecotoxicological risks to reptiles is not developed enough to draw conclusions regarding potential risks. Please revise the conclusions to state that conclusions about risks to reptiles could not be made due to lack of toxicological information upon which to base the assessment.</p>