



NEVADA DIVISION OF
**ENVIRONMENTAL
PROTECTION**

STATE OF NEVADA
Department of Conservation & Natural Resources
Brian Sandoval, Governor
Bradley Crowell, Director
Greg Lovato, Administrator

December 14, 2018

Jay A. Steinberg
Nevada Environmental Response Trust
35 East Wacker Drive, Suite 1550
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: *Baseline Ecological Risk Assessment Work Plan for Operable Unit 3, Revision 0*

Dated: October 29, 2018

Dear Mr. Steinberg,

The NDEP has received and reviewed the Trust's above-identified Deliverable and provides comments in Attachment A. A revised Deliverable should be submitted **by 2/14/2019** 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 702-486-2850 x252.

Sincerely,

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

WD:cp

EC:

James Dotchin, NDEP BISC Las Vegas
Carlton Parker, NDEP BISC Las Vegas
Allan Delorme, Ramboll Environ
Alison Fong, U.S. Environmental Protection Agency, Region 9
Andrew Barnes, Geosyntec
Andrew Steinberg, Nevada Environmental Response Trust
Anna Springsteen, Neptune & Company Inc.
Betty Kuo Brinton, MWDH2O
Brenda Pohlmann, City of Henderson
Brian Loffman, lepetomane

Brian Waggle, Hargis + Associates
Carol Nagai, MWDH2O
Carrie Hunt, Olin Corporation
Chris Ritchie, Ramboll Environ
Chuck Elmendorf, Stauffer Management Company, LLC
Dan Pastor, P.E. TetraTech
Dave Share, Olin
Dave Johnson, LVVWD
David Parker, Central Arizona Water Conservation District
Derek Amidon, Tetrattech
Ebrahim Juma, Clean Water Team
Ed Modiano, de maximis, inc.
Eric Fordham, Geopentech
Frederick Perdomo, AG Office
Gary Carter, Endeavour
George Crouse, Syngenta Crop Protection, Inc.
Harry Van Den Berg, AECOM
Jay Steinberg, Nevada Environmental Response Trust
Jeff Gibson, Endeavour
Jill Teraoka, MWDH2O
Joanne Otani
Joe Kelly, Montrose Chemical Corporation of CA
Joe Leedy, Clean Water Team
John Edgcomb, Edgcomb Law Group
John Pekala, Ramboll Environ
Kelly McIntosh, GEI Consultants
Kevin Fisher, LV Valley Water District
Kirk Stowers, Broadbent & Associates
Kirsten Lockhart, Neptune & Company Inc.
Kim Kuwabara, Ramboll Environ
Kurt Fehling, The Fehling Group
Kyle Gadley, Geosyntec
Kyle Hansen, Tetrattech
Lee Farris, BRC
Marcia Scully, Metropolitan Water District of Southern California
Maria Lopez, Water District of Southern California
Mark Duffy, U.S. Environmental Protection Agency, Region 9
Mark Paris, Landwell
Michael J. Bogle, Womble Carlyle Sandridge & Rice, LLP
Michael Long, Hargis +
Mickey Chaudhuri, Metropolitan Water District of Southern California
Nicholas Pogoncheff, PES Environmental, Inc.
Orestes Morfin, CAP
Paul Black, Neptune and Company, Inc.
Paul Hackenberry, Hackenberry Associates, LLC
Patti Meeks, Neptune & Company Inc.
Peggy Roefer, CRC
Ranajit Sahu, BRC
Richard Pfarrer, TIMET
Rick Kellogg, BRC
R9LandSubmit@EPA.gov
Steve Clough, Nevada Environmental Response Trust
Steven Anderson, LVVWD
Tanya O'Neill, Foley & Lardner L
Todd Tietjen, SNWA

Attachment A

General Comment

Specific Comment #1 Section 3.2, Biological data/surveys, page 17, last sentence.

The last sentence states: “These studies were used to design the OU-3 BERA and the FSP; however, since, these data are outdated or limited in scope, these data will not be used directly in the BERA food web model.” Please clarify how the data were used to design the BERA and FSP without being used directly in the food web model. Additionally, many of the listed studies do not appear to be outdated or limited in scope. While later sections do address some of these concerns (e.g., regrading with 2-5 ft of soil), the impacts of those activities should be considered temporary, and recolonization of the regraded area by the ecological assemblages found prior to regrading would be expected. Please provide additional detail in this section or in the Footnote 8 as to why the data are not appropriate for use.

Specific Comment #2 Section 4.1.2.1, Population and community studies within the Wash, page 29/30.

The paragraph states that the studies “were conducted over 10-15 years ago,” and proposes only a macroinvertebrate community evaluation. Please explain why no other population studies will be conducted, and whether existing data from the other listed population studies (fish, amphibians, reptiles, birds, mammals) will be used in the BERA.

Specific Comment #3 Section 5.5, Identification of potentially complete exposure pathways, page 41.

The Aquatic section contains a bullet point for direct contact of benthic invertebrates to COPECs in sediment. Does this also include sediment pore water? If not, please identify the potential receptors for sediment pore water, or explain how pore water data will be included in this risk assessment.

In addition, please provide further justification for the statement that the Chimera Golf Course does not attract native wildlife. The golf course represents an oasis that is likely to be highly attractive to some native wildlife.

Specific Comment #4 Section 5.6, Assessment and Measurement Endpoints, page 42.

In reference to Aquatic assessment endpoint 5 and Terrestrial assessment endpoint 5, please provide further discussion of why mammal/fish TRVs are a suitable surrogate for toxicity to reptiles/amphibians. While toxicity information for reptiles/amphibians is limited, it is not “common practice” to assume that the risk estimation for terrestrial mammals or aquatic fish will also be protective of reptiles or amphibians, respectively. A lack of TRVs may be a more appropriate reasoning for the exclusion of reptiles. Once a more focused list of COPECs has been developed for the site, current literature should be reviewed for toxicity information relevant to reptiles and amphibians, and the results included in the risk characterization and uncertainty discussion of the BERA.

Specific Comment#5 Section 5.9.3, Background soil and sediment data, page 49.

This section should contain a discussion of the “site-specific background data...used in the OU-3 BERA” so it is clear that the appropriate data are used. (Note that BRC used all 120 background samples - 104 from BRC/TIMET and 16 from Environ - in early risk assessments, then switched to the 104 BRC/TIMET ones, and then switched to the McCullough subset of the BRC/TIMET ones. The challenge is when and where the North River data should be used in lieu of the 120 background samples from BRC/TIMET and Environ.)

The text notes that: “If there are any constituents for which Site-specific soil or sediment background data are not available, literature sources may be considered.” NDEP issued History of Soil Background Datasets at BMI Complex and Common Areas and believe that the existing background data is sufficient, without further data collection from literature provided the local soil conditions match those from the NDEP background studies.

In addition, a plan should be laid out for how the background data will be used (statistically or otherwise) in the risk screening steps.

Minor Corrections

Specific Comment #6 Section 1.2, BERA Approach Overview, page 3.

It is stated that, “While surface water data is available, sediment and soil data are outdated or insufficient.” Please explain why the data are insufficient for use in the BERA.

Specific Comment # 7 Section 4.1.1.4, Soil data, page 29.

Sections 3.2.2.4 and 5.3 note the mammal species found along the wash include fossorial mammals. The proposed 0 – 0.5 ft bgs soil samples may not be deep enough to address potential exposure for fossorial mammal receptors. It is recommended that further research be conducted on burrow depth for the potential fossorial mammals found along the Wash. The Work Plan and Field Sampling Plan should subsequently be updated based on the findings and modify the sampling interval or provide justification for why the 0 – 0.5 ft interval is a representative exposure for the fossorial mammals at the site.

Specific Comment #8 Section 5.8.1, Exposure assessment for aquatic and terrestrial communities, page 44.

The first paragraph states “surface sediments refer to the top 6 inches of sediment.” Please clarify whether this depth interval also includes sediment pore water.

Specific Comment #9 Multiple Sections, LANL ECORISK database.

There is an updated version of the LANL ECORISK database.

- **Section 5.8.2.1, Wildlife exposure parameters, page 45.** Please update the reference to: <https://www.lanl.gov/environment/protection/eco-risk-assessment.php>
- **Section 5.9.1, Effects assessment for invertebrates, plants, and fish, p. 47.** The 2017 LANL ECORISK database should also be considered as a source for ESVs. Please update the reference for USEPA Eco-SSLs to: <https://www.epa.gov/chemical-research/ecological-soil-screening-level>

- **Section 5.9.2.1, Effects assessment for bird and mammal populations, page 49.** TRVs should be extracted from the updated 2017 database found here: <https://www.lanl.gov/environment/protection/eco-risk-assessment.php>
- **Section 8.0, References, pages 56.** The current document cites LANL 2012 and 2014, although the 2014 citation is missing in the references. The updated document should remove both citations and include LANL 2017.

Specific Comment #10 Table 5-3a, Surface Soil Ecological Screening Values.

ESVs for some chemicals (e.g. perchlorate) shown without ESVs in Table 5-3a may be available in the LANL ECORISK Database (LANL, 2017). Tables 5-3b and 5-3c should also be reviewed to determine if the LANL database has ESVs for constituents listed.

Specific Comment #11 Figure 5-5, Ecological conceptual site model for OU-3.

The Field Sampling Plan includes sampling of sediment pore water (Section 4.1.1.3). Please clarify the potential exposure routes for sediment pore water.

In addition, the Work Plan and the Field Sampling Plan propose collection of sediment pore water; however, it is unclear how the pore water data will be used in the risk assessment. Please provide more information on the purpose of collecting the sediment pore water and how the data will be interpreted and used in the BERA. Using the data quality objective process would be an ideal way to provide this explanation and justification for all parts of the BERA.