NEVADA DIVISION OF
ENVIRONMENTAL
PROTECTION

STATE OF NEVADA
Department of Conservation & Natural Resources
Steve Sisolak, *Governor*
Bradley Crowell, *Director*
Greg Lovato, *Administrator*

January 18, 2019

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: *Annual Remedial Performance Report for Chromium and Perchlorate*

Dated: November 9, 2018

Dear Mr. Steinberg,

The NDEP has received and reviewed the Trust's above-identified Deliverable and finds that the document is acceptable with the following comments noted for the Administrative Record:

The comments made here are referred to Attachment A - 2018 Mass Estimate.

1. Figure 5a—Alluvium Physical Properties Test Locations shows that most soil physical properties data are clustered in OU-1 and a few soil physical properties locations are from OU-2 and OU-3, which could lead to a statistical bias on the soil physical properties of alluvium within OU-2 and OU-3. In future, NERT should try to use more soil physical properties data from better spatial representative locations with OU-2 and OU-3. These data can be from other BMI companies, and be from nuclear magnetic resonance (NMR) logging and others treatability study sites. This comment is also applied to Upper Muddy Creek Formation (UMCf).

2. Average vadose zone thickness of OU-3 presented in Figure 7a is about 25 feet or 2.5 times the 10 feet of vadose zone conceptually assigned for OU-3, which potentially leads 2.5 times of overestimated of OU-3 vadose perchlorate mass. NDEP suggests calculating impacted vadose zone thickness with the historic water table elevation data for OU-3 and western OU-2.

3. Section 4.1.2 OU-3 and NERT Off-site Study Area within OU-2: "To estimate concentrations in the upper vadose zone, four sub-regions were defined and the upper vadose zone sample results within each region were averaged, and the average concentrations were used to calculate the upper vadose zone mass on a 50-ft grid." This simply average is potentially overestimated the perchlorate mass within these areas. NDEP suggests that NERT utilizes all information collected from the treatability study

sites and downgradient investigations and scale the perchlorate mass estimate by following the groundwater perchlorate plume distribution figures.

4. The mass estimate of saturated UMCf was involved many processes and presented a challenge to check the calculations and processes. NDEP requests a walkthrough of the calculations and processes used for the saturated UMCf mass estimate starting with basic input data.

5. The mass estimate area calculated in the multiple treatability study sites that have much more detail than the averaged site specific data. Therefore, NDEP suggests that the treatability study sites details be used to refine the simply averaged calculation over the larger area, at least over the treatability study footprint. Additionally, in the technical report of the treatability study sites, parameters used for the mass calculation should be from the data collected from the site characterization, instead of the statistic averaged values from the region.

6. There is some inconsistence between the distribution of the perchlorate mass and Plate 6 – Groundwater Perchlorate Map Shallow Water-Bearing Zone Second Quarter 2018. NDEP wants to see consistent information among maps, data tables and texts in future reports.

7. Section 6 Summary of Results. Because some statistic values are used to calculate the values in Tables 4 and 5, these values should carry uncertain ranges.

Please contact the undersigned with any questions at wdong@ndep.nv.gov or 702-486-2850 x252.

Sincerely,

Dong Weiquan

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

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