



November 17, 2021

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: *Seep Well Field  
Area Bioremediation Treatability Study, 2020 Annual Progress Report*

Dated: September 29, 2021

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:

1. NDEP suggest an adjustment of the frequency of monitoring of these parameters as suggested in Section 5.3 of the report because minimal changes in concentrations of sulfide, ferrous iron and metals have been observed during the study.
2. Section 2.1.3: Injection Well Performance Page 5. This section states that different injection effectiveness was observed at wells SWFTS-IW12 and SWFTS-IW15 between the injection of EOS Pro solution and the injection of distribution water likely due to the viscosity of the EOS Pro solution. Currently a fairly concentrated solution of EOS Pro (4 parts water to 1 part EOS) is injected. This is more concentrated than the typical 9 parts water to 1 part EOS commonly injected. NERT may consider injecting a more dilute EOS solution and keeping the total amount of water injected the same or even reduced.
3. Section 2.3: Evaluation of Injection Frequency Page 6. Please provide the criteria used to determine when an additional injection is required. Note that increasing the dose of EOS Pro may result in a decreased need for injections. EOS Pro can last up to 2 years in the subsurface.
4. Section 3.2: Injection Well Maintenance Activities Page 9. The products Aqua Clear MGA and Aqua Clear AE were used to clean the wells that showed decreased injection rates. Aqua Clear MGA contains acids for scale removal and Aqua Clear AE is formulated to break down bacterial slime contamination from iron related and sulfate reducing bacteria. Neither of these products is optimal for the breakdown of calcium oleate which is the material thought to be clogging the wells. Some success has been shown in using ethyl

lactate to dissolve oleate clogging wells. NERT may consider the use of an organic material such as ethyl lactate to dissolve the organic material clogging the well in the future.

5. Section 4.2.1.1: Perchlorate Degradation Response Page 14. Well SWFTS-MW12 inadvertently received a large amount of EOS raising the total organic carbon in this well to greater than 600 mg/L in 2019 which resulted in perchlorate, chlorate and nitrate all being reduced to non-detect levels. This reduction is greater than that observed in the wells targeted by the treatment which received a much smaller dose of EOS and demonstrates the effectiveness of a larger dose of EOS. Similarly, at well SWFTS-MW14 high TOC values were observed in 2018 and 2019 and perchlorate and nitrate were at non-detect levels. Concentrations started to rebound once TOC concentration dropped below 5 mg/L in 2020. NERT may consider a larger EOS dose in future.
6. Section 4.2.1.1: Perchlorate Degradation Response Page 14. This section discusses the delayed and modest response of well SWFTS-MW15 to the injections and the reasons for this response. It should be noted that no increase in TOC is observed at this well until July 2020 at which point the concentrations of perchlorate and chlorate start to decrease.
7. Section 4.2.5.1.2 pH. Please explain the mechanism by which the natural gypsum in the aquifer buffers the reduction in pH in groundwater that can be caused by biological activity in next annual report.
8. Section 5.3: Future Activities Page 31. The use of less distribution water is discussed in this section. NDEP concurs with this plan, but also suggests that this is coupled with the injection of a more dilute solution of EOS Pro.
9. Section 5.3: Future Activities Page 31. The elimination of phosphate from the injection solution is discussed, however dissolved phosphorus concentrations in groundwater were generally below the sample detection limit throughout the reporting period. Phosphate may, therefore, become limiting to biodegradation and it is recommended that the addition of phosphate is continued.

Please contact the undersigned with any questions at [wdong@ndep.nv.gov](mailto:wdong@ndep.nv.gov) or 702-668-3929.

Sincerely,



Weiquan Dong, P.E.  
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NDEP-Las Vegas City Office

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