NEVADA DIVISION OF
ENVIRONMENTAL
PROTECTION

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

July 5, 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: *Data Validation Summary Report for In-Situ Chromium Treatability Study*

Dated: March 22, 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 09/05/2018** 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,

Dong

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

WD:cp

EC:
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Carlton Parker, NDEP BISC Las Vegas
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Alison Fong, U.S. Environmental Protection Agency, Region 9
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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, Tetratech
Ebrahim Juma, Clean Water Team
Ed Modiano, de maximis, inc.
Eric Fordham, Geopentech
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Todd Tietjen, SNWA

Attachment A

DVSR Review:

1. **Table 1, analyte lists:** In the EDD, twelve results for total calcium, magnesium, potassium and sodium (filtered_flag = N) were reported as analyzed by 6010B-soluble (samples CTMW-02D-40.0-20170323, CTMW-05D-20.0-20170605, CTMW-05D-45.0-20170605). Please confirm the method reported in the EDD is correct for these results.

2. **Appendix H.2, validation checklists:** Appendix H.2 contains only checklists for Stage 2A validation. Please provide the checklists or validator notes for Stage 2B and Stage 4 validation.

3. **Section 2.2, %recovery calculation:** The %recovery calculation presented appears to be incorrect. Variable "B" should be the native concentration of the analyte instead of the spike amount. Please correct the equation.

4. **Section 3.0, National Functional Guidelines:** Please use and cite the newest National Functional Guidelines for data validation.

5. **Section 3.1.1, instrument calibration:** %RSD are used to evaluate organic initial calibration data but are generally not used for metals or wet chemistry. It would be helpful to note what analyses %RSDs are used in and where to find the discussion of inorganic initial calibration.

6. **Section 3.1.2, MS/MSD RPD outliers:** It is assumed that the 10 results noted in the second paragraph were qualified for MS/MSD RPD outliers. The statement indicating these results were qualified for "lab imprecision" is not necessarily correct as MS/MSD is also an assessment of the sample collection process in the field. Please clarify this statement.

7. **Section 3.1.2, RPD qualification basis:** Please consider using the inorganic National Functional Guideline criteria for duplicate outliers instead of the organic National Functional Guidelines criteria.

8. **Section 3.1.4, qualified results:** Please identify how many results were qualified.

9. **Section 3.2.1, instrument calibration:** As this section discusses more than initial instrument calibration, please consider changing the section title to Calibration and Continuing Calibration, or something more inclusive of the substance of the text.

10. **Section 3.2.2, recovery outliers and dilutions:** As currently worded, nominal dilutions could be used to dismiss a recovery outlier. Please identify at what level of dilution the spike was considered to be diluted out. Also, as qualifications for MS/MSD recovery outliers were applied to results from dilutions of 20 to 50,000×, additional text describing when dilutions do not affect spike recovery would be useful.

11. **Section 3.2.6, surrogates:** The text states that surrogates were used in the chlorate/ chlorite analysis. Were they also used in the VOC analyses?

12. **Section 3.2.8, negative interference:** The text should reference the PQL instead of the reporting limit. Also, please discuss how this negative interference may affect the PQL.

13. **Section 3.3.1, holding time:** 261 results were rejected for holding time but this is not discussed in this section. Please revise this section to discuss why these results were rejected and to identify the number of rejected results.

14. **Section 3.3.1, preservation:** Method 9060 states that if analysis cannot be performed within two hours of sample collection, samples are to be acidified to a pH ≤2. Were the samples analyzed within 4 hours of collection? If they were not, it could be considered a gross holding time exccedance and should be notes as such.

15. **Section 3.4.2, sulfides:** Please add a little more explanation about how an analysis that was not performed has results reported in the EDD.

16. **Section 3.5, completeness:** Please present a table showing the completeness by method. Showing only the completeness for an entire field sampling effort can obscure completeness for individual methods.

17. **Silver in CTMW-02D-40.0-20170323:** This result_reported is 0.0 but the detect_flag_fod, detect_flag_ra and validation qualifier all indicate the result is a detect. The result has a reason code of "bl," indicating it may have been censored for a method blank detect. Please investigate.

18. **Hexavalent chromium in E1-2-20161104:** The laboratory has qualified this result as having been analyzed beyond the holding time; however, the result was not qualified in validation. Should this result be qualified?

EDD Review

1. In the samples table, sample IDs UFIW-05S-20160819-FB and UFMW-06S-20160809-EB both have the sample_type="NORM". Because these sample IDs contain "FB" and "EB", it appears that they should be identified as blanks in the sample_type field. Please confirm that these samples are blanks.