



NEVADA DIVISION OF
**ENVIRONMENTAL
PROTECTION**

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

January 10, 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: *NERT Response to
Data Validation Summary Report and EDD for Parcel C Health Risk Assessment
Remedial Investigation Sampling April 2017*

Dated: June 26, 2017

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 02/10/2018** 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,

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 Waggle, Hargis + Associates

Carol Nagai, MWDH2O
Chinny Esakkiperumal, Olin Corporation
Chris Ritchie, Ramboll Environ
Chuck Elmendorf, Stauffer Management Company, LLC
Dan Pastor, P.E. TetraTech
Dave Share, Olin
Dave Johnson, LVVWD
Derek Amidon, Tetrattech
Ebrahim Juma, Clean Water Team
Ed Modiano, de maximis, inc.
Eric Fordham, Geopentech
Gary Carter, Endeavour
George Crouse, Syngenta Crop Protection, Inc.
Harry Van Den Berg, AECOM
Jay Johnson, Central Arizona Water Conservation District
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 + Associates
Micheline Fairbank, AG Office
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
Scott Bryan, Central Arizona Project
Steve Clough, Nevada Environmental Response Trust
Steven Anderson, LVVWD
Tanya O'Neill, Foley & Lardner L
Todd Tietjen, SNWA

Attachment A

DVSR Review:

1. **Section 1.0, sensitivity:** The text states the laboratory reports results down to the MDL. This statement should be revised to state that the results are reported to the SQL.

NERT Response: *The statement has been changed to state that the laboratory reports results to the SQL.*

NDEP Reply: The sentence that follows the revised sentence still indicates the laboratory reports results to the MDL; however, as the previous sentence properly states the reporting basis as the SQL, no further edits are requested.

2. **Sample and analyte counts:** The sample and total result counts in the following sections did not match the EDD. Please correct the text and/or EDD as necessary. As these discrepancies may be related, they are reported together.

NERT Response: *The previous EDD submittal contained additional "samples_Obsolete" and "results_Obsolete" tables. The obsolete samples and results were included in the submittal because they had been validated and included in the DVSR. When the obsolete samples and results are included with the remaining samples and results, the majority of the discrepancies below are resolved.*

For clarity, in this revised EDD submittal, the two obsolete tables have been removed. The obsolete samples and results are now included in the samples and results tables, respectively. Both tables have an additional "Obsolete" column that is defined as a Boolean. It is marked as True for samples and results that have been removed. Combining the existing results with the obsolete sample results should make revising the EDD and DVSR easier.

NDEP Reply: Thank you for the explanation. Although some counts still do not match (see below), no further revisions to the DVSR are requested. However, it would be good to document the final resolution to the discrepancies noted below (**bold text**). If any of the counts noted below are found to be incorrect, we request a final response in order to document the actual counts.

- a. **Section 2.0, VOCs:** The text states there were 63 soil samples analyzed for VOCs; however, the EDD has 61 soil samples. The total analyte count (soil+water) in the text (4,695) also does not match the EDD (4,559 without surrogates).

NERT Response: *There are 61 existing soil samples and 2 obsolete soil samples, equaling 63 soil samples. There are 4,559 existing results and 136 obsolete results, equaling 4,695 total (soil+water) results.*

NDEP Reply: Agree with all except the number of existing samples. There appear to be **64 existing soil samples**.

- b. **Section 3.0, SVOCs:** The text states 36 soil samples were analyzed for SVOCs; however, the EDD has 35 soil samples. The total analyte count (soil+water) in the text (2,432) does not match the EDD (2,367 without surrogates).

NERT Response: *There are 35 existing soil samples and 1 obsolete soil samples, equaling 36 soil samples. There are 2,367 existing results and 64 obsolete results, equaling 2,431 total (soil+water) results. The text has been updated to 2,431 results.*

NDEP Reply: Agree with all except the **existing soil result count in the EDD appears to be 2,368 and the total result count is 2,432.**

- c. **Section 10.0, dioxins:** The text states 35 soil samples were analyzed for dioxins; however, the EDD has 34 soil samples. The total analyte count (soil+water) in the text (925) does not match the EDD (900, excluding internal standards and results qualified DNR).

NERT Response: *There are 34 existing soil samples and 1 obsolete soil sample, equaling 35 soil samples. There are 900 existing results and 25 obsolete results, equaling 925 total (soil+water) results.*

NDEP Reply: The number of existing and obsolete samples in the EDD matches the text and above. The **EDD, however, has 905 existing results and 930 total results.**

3. **General, field duplicate qualifications:** A number of nondetect results and results detected below the PQL were qualified for field duplicate RPD outliers. Given the additional uncertainty in results reported below the PQL, these seem like unnecessary qualifications. As a specific example, hexachlorobenzene results (Section 3.1.6) were qualified as estimated, but both results were less than the PQL. Please consider removing the qualifications from, at a minimum, the hexachlorobenzene results.

NERT Response: *The qualifications for nondetect results and results detected below the PQL associated with field duplicate outliers have been removed from the text. The DVSR and EDD have been updated.*

NDEP Reply: There appear to be single samples that retain the field duplicate qualification while the other half of the pair is not qualified. Please check **PCB 1 in M-191-1.0-20141201-FD, PCB 159 in M-189-5.0-20141202, PCB 169 in RISB-41-0.5-20141121 and PCB 209 in RISB-43-5.0-20141121.** One metal result appears to be similarly affected. Please check **boron in RISB-39-5.0-20141121.** If it is confirmed these results should not be qualified, the qualifier (if necessary) and code can be corrected prior to upload to the BMI database.

4. **Qualification counts:** The number of results reported as qualified did not match the EDD in a number of cases. Please correct the text and/or EDD as necessary.

NERT Response: *The previous EDD submittal contained additional "samples_Obsolete" and "results_Obsolete" tables. The obsolete samples and results were included in the submittal because they had been validated and included in the DVSR. When the obsolete samples and results are included with the remaining samples and results, the majority of the discrepancies below are resolved.*

For clarity, in this revised EDD submittal, the two obsolete tables have been removed. The obsolete samples and results are now included in the samples and results tables, respectively. Both tables have an additional "Obsolete" column that is defined as a Boolean. It is marked as True for samples and results that have been removed. Combining the existing results with the obsolete sample results should make revising the EDD and DVSR easier.

NDEP Reply: Thank you for the explanation. There are still a few discrepancies (**bold text**). These are the result of differing numbers of specific qualifications (e.g., J+ and J-). To eliminate this problem but retain the primary information, in the future, we suggest only

reporting the total number of qualifications for an issue (i.e., calibration). No text revisions are requested.

- a. **Section 12.1.2, metals:** The text states that 180 results were qualified for MS/MSD recovery outliers and that 33 results were rejected. The EDD has 179 results qualified and 32 results rejected.

NERT Response: *The text was revised to note 140 results qualified as detected estimated (J-) or non-detected estimated (UJ) due to MS/MSD recovery outliers, and 41 results qualified (J+) due to MS/MSD recovery outliers. These qualified results total 181. The EDD has 176 results and 5 obsolete results qualified due to MS/MSD recovery outliers. These total 181 results, which is consistent with the text. There are 32 existing results and 1 obsolete result, qualifying 33 rejected results.*

NDEP Reply: Agree with the total count. **There are 133 results qualified J- or UJ and 34 results qualified J+.** The text does not account for the 14 results qualified J.

EDD Review

1. 6 results for demeton, demeton-o and demeton-s in samples M-191-1.0 and M-191-5.0 were qualified as nondetected by the laboratory, but do not have a "final_validation_qualifier" of "U".

NERT Response: *The "final_validation_qualifier" of "U" has been added to the EDD.*

NDEP Reply: These qualifications have been corrected. In the process of verifying this correction, **302 records were identified with the same issue (qualified nondetect by the laboratory but lacking a "U" final_validation_qualifier).** The "U" qualifiers can be added prior to upload to the BMI database.

2. The results table has 272 records where the analytical suite is RADS, but the result_uncertainty and minimum_detectable_activity fields are null. Please provide the result_uncertainty and minimum_detectable_activity for all radionuclide results.

NERT Response: *Result_uncertainty and minimum_detectable_activity have been populated for all RADS results.*

NDEP Reply: This comment has been appropriately addressed.

Additional EDD Comments

3. The percent moisture results have a "validation_flag" of "T", and "validation_stage" of Stage 2B or Stage 4. There is no documentation in the DVSR to support the validation of this analyte – the method is not listed in the introduction nor are the validation results discussed in the text. Please verify the percent moisture results have been validated. If these results were not validated, the EDD can be corrected, prior to upload to the BMI database. In the future, if the percent moisture results are validated, please list the method and discuss the results.
4. The dioxin and PCB congener TEQs and percent moisture results have "validation_flag" of "T", and "validation_stage" of Stage 2B or Stage 4. As these "analytes" are planned and have been validated, the results should be included in the total analyte counts and the calculation of percent complete. In the future, please include all validated analytes in the analyte counts and percent moisture calculation.