



April 30, 2015

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: *Screening-Level
Ecological Risk Assessment Work Plan Revision 1, Nevada Environmental Response
Trust Site, Henderson, Nevada*

Dated: February 13, 2015

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 06/01/2015** 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,

A handwritten signature in blue ink that reads "Dong" followed by a long, sweeping horizontal line.

Weiquan Dong, P.E.
Special Projects Branch
Bureau of Corrective Actions
NDEP-Las Vegas City Office

WD:jd

EC: Greg Lovato, NDEP, Dpty Admin., Carson City
James Dotchin, NDEP, BCA LV
Adam Baas, Edgcomb Law Group
Allan Delorme, ENVIRON
Alison Fong, U.S. Environmental Protection Agency, Region 9

Andrew Barnes, Geosyntec
Andrew Steinberg, Nevada Environmental Response Trust
Betty Kuo, MWDH2O
Brenda Pohlmann, City of Henderson
Brian Waggle, Hargis + Associates
Cassandra Joseph, AG's Office
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Charles K. Hauser, Esq., Southern Nevada Water Authority
Chris Ritchie, Environ Co.
Chuck Elmendorf, Stauffer Management Company, LLC
Dave Share, Olin
David Johnson, Central Arizona Water Conservation District
Derek Amidon, Tetrattech
Ebrahim Juma, Clean Water Team
Ed Modiano, de maximis, inc.
Eric Fordham, Geopentech
Frank Johns, Tetrattech
George Crouse, Syngenta Crop Protection, Inc.
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Jeff Gibson, AMPAC
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Katherine Baylor, U.S. Environmental Protection Agency, Region 9
Kevin Fisher, LV Valley Water District
Kevin Lombardozzi, Valhi
Kirk Stowers, Broadbent & Associates
Kurt Fehling, The Fehling Group
Kyle Gadley, Geosyntec
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Maria Lopez, Water District of Southern California
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Richard Pfarrer, TIMET
Rick Kellogg, BRC
Ron Zegers, Southern Nevada Water Authority
Scott Bryan, Central Arizona Project
Steve Clough, Nevada Environmental Response Trust
Susan Crowley, Crowley Environ.
Tanya O'Neill, Foley & Lardner LLP
Wayne Klomp, AG's Office

Attachment A

NDEP offers the following comments on the Rev 1 Work Plan based on the Response to Comments and the revisions to the Rev 0 Work Plan.

1. **Specific Comment #1:** Section 2.1.2, Ecological Exposure Media at the Site, Page 9. Surface soil is defined in this section as the top 1 foot of soil for characterizing chemical concentrations. The section further states that subsurface soil is not a relevant media for the ERA “due to the paucity of ecological receptors” that have contact with subsurface soil. Plant roots, soil invertebrates (particularly harvester ants), and burrowing mammals generally have contact with soils below the 1-foot depth horizon. These receptors can also serve as transport mechanisms to bring subsurface contaminants back to the surface. Text should be added to this section to justify why the top foot of soil is 1) a worst-case scenario; or, 2) representative of deeper soils (particularly in the 1 to 3 foot depth range). In addition, it appears as though both 0-6 in. and 0-1 ft bgs data are available for use. It is not clear how these data will be used together. Some exploratory data analysis might be necessary to justify merging these data. Also, note that the background data represent 0-6 in., which could create a lack of comparability. Please describe how these data will be used to support background comparisons and the ERA. The root zone in Las Vegas is generally about 3 feet and can be up to 10 feet, so the NDEP suggests that the NERT considers ecological exposure media for top 10 feet of soil if the data is available.
2. **Specific Comment #2:** Figure 2-5, Ecological Conceptual Site Model. Based on Specific Comment #1, the figure should be revised to show potentially complete exposure pathways to subsurface soil for Terrestrial Plants and Terrestrial Invertebrates. Also, correct the typographical error in the Excavation Control Areas (ECAs) explanation (change “wit” to “with”).
3. **Specific Comment #3:** Section 2.1.3, Preliminary Chemicals of Potential Ecological Concern, Page 9. This section outlines the process for narrowing the list of PCOPECs to the list of COPECs for quantitative evaluation in the SLERA. The NDEP suggests that the SLERA include documentation for all PCOPECs not carried forward for evaluation in the screening, and the justification for elimination of each PCOPEC in the SLERA report.
4. **Specific Comment #4:** Section 2.1.3, Preliminary Chemicals of Potential Ecological Concern, Page 9. The third bullet states that identification of chemicals that exhibit known or suspected hotspots will be used as modifying criteria when evaluating whether a PCOPEC can be eliminated based on frequency of detection. Please clarify how a hotspot will be defined. Suggest changing the term “hotspot” to “evidence of release”.
5. **Specific Comment #5:** Section 2.1.3.2, Evaluation of Site Conditions Relative to Background Conditions, Page 12. Though the work plan does not specify which analytes will be included in the analysis, the last paragraph of this section discusses the evaluation of radionuclides. Please clarify whether the radionuclide contaminants are being screened in the SLERA for just direct toxicity to ecological receptors, or if radiation dose is also included in the screening. Also, the last sentence of this section states that the approach for assessing radionuclides in the refined SLERA will be consistent with that defined by LANL (2012). It is assumed that this sentence refers to the entire screening approach, not just the background comparison approach, since LANL 2012 does not appear to address background comparisons. Therefore, this sentence would fit better in Section 2.2.

6. Specific Comment #6: Section 2.1.5, Identification of Potentially Complete Exposure Pathways, Page 13. In the bulleted list of potentially complete exposure pathways, please modify the third bullet to read (changes in bold): “Exposure of terrestrial birds and mammals to chemicals through **incidental ingestion of soil and** ingestion of food items **(i.e. food chain uptake).**”
7. Specific Comment #7: Section 2.1.6, Identification of Generic Assessment and Measurement Endpoints, Page 14. If radiation dose is being considered (See Specific Comment #5), assessment endpoints for terrestrial mammals and birds should be modified, or additional endpoints added to better reflect radiation exposure pathways. Currently the assessment endpoints for birds and mammals state that daily dose is based solely on food chain ingestion, which is the standard approach for assessing toxicity of contaminants to wildlife. Radiation dose is the sum of internal dose (based on food chain ingestion and inhalation) and external dose (based on direct exposure to soil/water/sediment).
8. Specific Comment #8: Section 3.1, Identification of Screening-Level Exposure Estimates, Page 17. In the first paragraph of this section, change “non-sentient organisms” to “non-sessile organisms”.
9. Specific Comment #9: Section 4.1, Refinement of COPECs, Page 19. This section states that frequency of detection (FOD) will be used in Step 3A to refine the list of COPECs, with a threshold of 5% detects as the criteria for retaining a chemical as a COPEC. However, the 5% FOD is also proposed in Section 2.1.3 as a criterion for deriving the initial list of COPECs from the list of PCOPECs. If the FOD threshold is applied in the initial narrowing of the list of PCOPECs, there is no reason to use it in the Step 3A refinement because all chemicals with less than a 5% detection frequency will already have been eliminated. That said, for the sake of screening conservatism, the preference would be to apply the FOD criteria in Step 3A, not in the initial winnowing of the list of PCOPECs.
10. Specific Comment #10: Section 4.3.1.2, Bioaccumulation and Bioconcentration Factors, Page 23. The last sentence of the first paragraph states that food web modeling will be limited to relevant important bioaccumulating compounds as prescribed in USEPA (2000). The reference provided is for sediment. Bioaccumulation into aquatic organisms is generally greater than in terrestrial organisms. Doses to wildlife should be calculated for each COPEC that is carried into the SLERA, and should not be limited based on the USEPA (2000) reference. Even chemicals with low bioaccumulation potential could pose risk to wildlife at high enough soil concentrations.
11. Specific Comment #11: Section 4.4.1, Risk Estimation, Page 27. In the first bullet in this section, remove reference to aquatic invertebrates and fish, as these are not relevant receptors for the NERT areas being evaluated. Revise the third bullet to note that no special status species are expected at the NERT site.