

STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Colleen Cripps, Ph.D., Administrator

December 15, 2011

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 July 2010 – June 2011; Nevada Environmental Response Trust Site, Henderson, Nevada
Dated: August 26, 2011

Dear Mr. Steinberg,

The NDEP has received and reviewed the Trust's above-identified Deliverable and provides comments in Attachment A. The Trust should contact the undersigned **by December 29, 2011** to schedule a meeting between NDEP and the Trust to discuss the comments in Attachment A in lieu of the submittal of a revised Deliverable. However for discussion purposes, the Trust should submit an annotated response-to-comments (RTC) letter at least one week before the scheduled meeting date.

Please contact the undersigned with any questions at sharbour@ndep.nv.gov or 775-687-9332.

Sincerely,



Shannon Harbour, P.E.
Supervisor, Special Projects Branch
Bureau of Corrective Actions
NDEP-Carson City Office
Fax: 775-687-8335

SH:sh

EC: Jim Najima, Bureau of Corrective Actions, NDEP
Greg Lovato, Bureau of Corrective Actions, NDEP
William Knight, Bureau of Corrective Actions, NDEP
Carolyn Tanner, AG's Office
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Stephen Tyahla, U.S. Environmental Protection Agency, Region 9



Charles K. Hauser, Esq., Southern Nevada Water Authority
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Marcia Scully, Metropolitan Water District of Southern California
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Andrew Steinberg, Nevada Environmental Response Trust
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Mike Skromyda, Tronox LLC
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Brian Rakvica, McGinley and Associates
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Mark Paris, Landwell
Craig Wilkinson, TIMET
Kirk Stowers, Broadbent & Associates
Victoria Tyson, Tyson Contracting
George Crouse, Syngenta Crop Protection, Inc.
Nick Pogoncheff, PES Environmental
Lee Erickson, Stauffer Management Company
Michael Bellotti, Olin Corporation
Curt Richards, Olin Corporation
Paul Sundberg, Montrose Chemical Corporation
Joe Kelly, Montrose Chemical Corporation of CA
Jeff Gibson, AMPAC
Larry Cummings, AMPAC
Ebrahim Juma, Clean Water Team
Joe Leedy, Clean Water Team
Kathryn Hoffmann, Clean Water Team
Paul Hackenberry, Hackenberry Associates, LLC

CC: Lee Farris, BRC, 875 W. Warm Springs Road, Henderson, NV 89011
Lee Erickson, Stauffer Management Company

Attachment A

1. General comment, the Trust should attempt to acquire and utilize data collected by BMI in the future. In addition, it appears that not all of the available data for AMPAC or POSSM was utilized in the development of this Deliverable. NDEP expects that these issues can be clarified for future Deliverables in the requested meeting.
2. Section 2.1, page 3, the Trust notes that new extraction wells I-AA, -AB, -AC, and -AD were turned off due to short cycling of the pumps. Please provide data or discussion on the pumping rates that were attempted. The Trust also notes that that pumping wells I-W, -X and -Y was not attempted due to the suspicion of the same issue as I-AA, -AB, -AC, and -AD. Please include a discussion on why these wells are expected to behave like I-AA, et al. The Trust should also note that these wells were installed to address deficiencies noted by NDEP in the capture of the plume.
3. Section 2.1, page 4, the Trust notes that the recharge trench system has been discontinued and that the benefit of continued operation is being evaluated. NDEP notes that the reinjection was being used to flush the plume towards the Athens Road Wellfield (ARW). Please provide the Trust's recommendation for whether the recharge trench system should be re-established along with a corroborating discussion.
4. Section 2.1, page 4, the Trust notes that the purpose of the pumping of the Interceptor Well Field (IWF) is not to dewater the alluvium; however, no modification of the pumping regimen has been proposed to prevent dewatering. Please propose a path forward for discussion at the requested meeting.
5. Section 2.1, page 4, there was historically a "dead zone" of high perchlorate water trapped downgradient of the slurry wall and upgradient of the injection trench. Please provide a discussion on the current fate and transport of this water.
6. Section 2.2, page 5, the Trust discusses an UMCf ridge. NDEP notes that the Shallow Zone within this ridge is an issue that requires investigation. The Trust should note that this is a long-standing data gap that requires a path forward. Please provide a recommendation to address this issue for discussion at the requested meeting.
7. Section 2.2, page 5, the Trust discusses subsidence issues and the related surveys. The Trust should note if there are metrics that are being used to evaluate this issue and how these relate to the Pittman Lateral.
8. Section 3.1.1, page 8, as NDEP noted above, the matter of the recharge trench should be discussed at the requested meeting.
9. Section 3.1.2, page 8, the appropriateness of the one (1) mg/L metric should be discussed between NDEP and the Trust. Please provide rationale for the use of one (1) mg/L (or another proposed value) as an appropriate metric for capture discussions.
10. Section 3.1.2, page 9, total chromium is discussed; however, hexavalent chromium should also be discussed as this is the more toxic version of chromium.
11. Section 3.2, page 9, please clarify what is meant by "most" of the water flowing to the activated carbon.

12. Section 4.1.2, page 13, the Trust states that the concentrations at the ARW seem to have stabilized in the past year. NDEP believes that this is likely related to the issue of the termination of the use of the recharge trenches and should be discussed at the requested meeting.
13. Section 4.1.2, page 10, the Trust notes an upward concentration trend and ineffective capture at well MW-K4. Please provide a path forward for discussion.
14. Section 4.1.2, page 14, the Trust notes that significant groundwater mounding events continue to occur at the City of Henderson WRF. It is the NDEP's understanding that only the birding preserve ponds continue to receive water and it is expected that these mounding events would be less noticeable. Please provide discussion on this issue.
15. Section 4.1.3, page 15, the issue of additional wells in the BMI Lower Ponds area should be revisited. Please provide a path forward for discussion.
16. Section 6, page 18, NDEP and the Trust should discuss evaluating the effectiveness of the GAC and the FBRs in treating a wide range of compounds as a special monitoring event.
17. Table 6, please discuss the apparent decreasing trend of mass per day being treated.
18. Figures, general comment, please discuss how the wells selected for presentation in this Deliverable selected.
19. Figure 13, please discuss the trends on this graph given the discontinuation of the use of the recharge trenches.
20. Plate 6, the NDEP provides the following comments:
 - a. It is suggested that the data be presented in $\mu\text{g/l}$.
 - b. An appropriate comparison metric should be presented on the figure. This is a global comment that will not be repeated.
 - c. There appears to be a data gap east of well PC-124, perhaps the BMI 2009 data set could be utilized for a qualitative comparison.
21. Plate 7, the NDEP provides the following comments:
 - a. There does not appear to be a basis for the contours west of well PC-132.
 - b. The plume does not appear to be constrained west of well AA-20.
 - c. The AMPAC data does not appear to be presented on this Plate.
 - d. The contour of 500 near well MC-7 appears incorrect.
22. Plate 8, similar issues re: unconstrained plume boundaries pertain as noted above.
23. Plates 9 and 10, NDEP would like to discuss whether these Plates are necessary at this time as these plumes are subsumed by the perchlorate plume and these compounds are treated by the remediation system.
24. Appendix C, NDEP provided comment under separate cover.