STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION
NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
protecting the future for generations
Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Colleen Cripps, Ph.D., Administrator

January 13, 2011

Matt Paque
Tronox LLC
PO BOX 268859
Oklahoma City, OK 73134

Re: **Tronox LLC (TRX)**
NDEP Facility ID #H-000539
Nevada Division of Environmental Protection (NDEP) Response to:
Technical Memorandum: Calculation of Leaching-Based, Site-Specific Levels (LSSLs) for the Soil-to-Groundwater Pathway Using NDEP Guidance, Tronox LLC, Henderson, Nevada: NDEP Facility ID # 000539
Dated: November 18, 2010

Dear Mr. Paque,

The NDEP has received and reviewed TRX's above-identified Deliverable and provides comments in Attachment A. A revised Deliverable should be submitted **by February 14, 2011** based on the comments found in Attachment A. TRX should additionally provide an annotated response-to-comments letter as part of the revised Deliverable.

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

Sincerely,

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

SH:gl:sh

EC: Jim Najima, Bureau of Corrective Actions, NDEP
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Jay A. Steinberg, Tronox Henderson Trust
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Mike Skromyda, Tronox LLC
Michael J. Foster, Tronox LLC
Keith Bailey, Environmental Answers LLC
Susan Crowley, Tronox LLC (Contractor)
Deni Chambers, Northgate Environmental
Brian Rakvica, McGinley and Associates
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George Crouse, Syngenta Crop Protection, Inc.
Nick Pogoncheff, PES Environmental
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Paul Black, Neptune and Company, Inc.
Kelly Black, Neptune and Company, Inc.

CC: Susan Crowley, C/O Tronox LLC, PO Box 55, Henderson, NV 89009
Lee Farris, BRC, 875 W. Warm Springs Road, Henderson, NV 89011
Lee Erickson, Stauffer Management Company

Attachment A

1. Methods Used to Select COPCs for the Leaching Evaluation, page 3, 1st full paragraph on page, TRX states that "Some LBCLs were adjusted based on the hierarchy of risk-based groundwater concentrations (RBGCs) approved by NDEP for this project." Please include a list of these chemicals.
2. Organic Chemicals Selected as COPCs for Leaching Evaluation, page 5, NDEP has the following comments:
   a. 1st sentence of section, NDEP has noted that the reference to Attachment 2, Table 3 should be Attachment 3, Table 2. Please revise.
   b. Organic Chemicals Selected as COPCs, page 5, SVOCs and VOCs, the following chemicals are listed in the Technical Memorandum text as retained for further evaluation. However, in Attachment 3 Table 2 column N (hidden) indicates "No" in terms of retention for the following chemicals. Please revise as necessary.
      i. SVOCs – benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene; and
      ii. VOCs – 1,1-Dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), acetone, bromoform, dibromochloromethane, hexachlorobutadiene, methylene chloride, tetrachloroethene (PCE), and trichloroethene (TCE).
3. Calculation of Leaching-Based..., page 5, footnote, NDEP notes the significance of chloroform as an SRC and its aerial distribution. As such, given that nine soil samples exceeded the LSSL, chloroform should be listed for both RZ-B and RZ-D. The location and depth of these soil samples should be provided.
4. Input Parameters, page 3-2, NDEP has the following comments:
   a. 2nd paragraph, please provide data in tabular format supporting the use of pH 8 in calculations and reference laboratory reports.
   b. Footnote, TRX states that "The criteria for selecting samples for calculating the Site-specific f_{oc} were that total petroleum hydrocarbons (TPH) were non-detected and VOCs, SVOCs, and PCBs were all below the basic comparison levels (BCLs)." TRX should indicate that detection limits (DLs) were evaluated and none of the samples used for this calculation had elevated DLs.
5. Contaminant Source Length, page 3-7, 1st and 2nd paragraphs, NDEP has the following comments:
   a. The maps used to measure source lengths should be appended to the Technical Memorandum.
   b. It appears inconsistent to use two different methods to calculate source lengths for the inorganic chemicals. Please revise as necessary.
   c. TRX states that "The method involves excluding remediation zones and depth intervals which were determined to be consistent with background from the source length estimation." NDEP notes that "pre-confirmation" samples were collected within most remediation zones (RZs) to delineate the depth of excavation and that in some cases post-remediation confirmation samples will be required. Please clarify that this method is supported by samples and if not provide the rationale for excluding RZs.
6. Input Parameters Used for Calculation..., page 3-8, RBGCs, please provide the following information and include a summary in the report::
   a. Which chemicals fit the category of no established RBGC;

b. Which chemicals in this category had detections;
c. What are concentrations of these chemicals;
d. What is their potential to impact the outcome of the soil leaching to groundwater pathway.

7. Tables 1A through 1D, please indicate on this table which chemicals have an "adjusted" LBCL.
8. Table 2B, please explain the differences between columns "N" and "O" (both hidden columns) where there appear contradictory responses.
9. Table 3B, for organics that had no K_d, K_{oc}, or Henry's Law constant, please clarify whether there were any detections?
10. Table 4A, please explain the meaning of "--" as used in the table.