

August 29, 2005

Ms. Susan Crowley  
Tronox LLC  
PO Box 55  
Henderson, Nevada 89009

Re: **Tronox LLC (TRX)**  
**NDEP Facility ID #H-000539**  
Nevada Division of Environmental Protection Response to:  
*Semi-Annual Performance Report – Chromium Mitigation Program*  
dated July 25, 2006

Dear Ms. Crowley,

The NDEP has received and reviewed Tronox's report identified above and provides comments below.

1. General comment, it is the expectation of the NDEP that many of the issues regarding format and content of future versions of this report will be discussed with Trx during a meeting that is expected to be held during September. Generally, these comments will not be presented herein.
2. General comment, regarding TRX conclusions regarding the effectiveness of the capture system, the NDEP does not concur with TRX's conclusions. It is the belief of the NDEP that TRX has never quantitatively demonstrated the effectiveness of the capture system. One specific comment is that the NDEP does not concur that capture is being achieved on the eastern portion of the plume. The NDEP will not provide additional detailed comments at this time.
3. Potential Onsite Interim Remediation, page 6, it would seem that groundwater pumped from wells M-70, M-71 and M-72 could be treated with ferrous sulfate, calcium polysulfide or another suitable amendment relatively easily. Please discuss TRX's anticipated timeframe for evaluation of this interim remedial measure (IRM).
4. Conclusions, page 8, the NDEP would like additional detail regarding the proposed timeframe to evaluate the implementation of additional measures to the west side of the chromium plume.
5. Plate 2, the NDEP does not fully concur with the contours presented by TRX. In general, TRX lacks sufficient control to present contours as solid lines in several areas. Specifically, the NDEP does not concur that the 0.05 mg/liter contour between Athens

Road and the Las Vegas Wash is discontinuous. Additionally, if a contour map was developed for hexavalent chromium the NDEP would be interested in additional contours at the 0.01 mg/liter and 0.005 mg/liter levels. Additionally, paleochannel locations may influence groundwater flow; however, they are not the only means of contaminant transport in the sub-surface. For example, it appears that the 0.05 mg/liter contour could be drawn between wells PC93/94, PC58, PC1, and PC2. It is unclear if this contour could be extended to the south to the vicinity of wells ARP-5, ARP-6 and further south.

6. Appendix E, the NDEP has the following comments:

**Level of Data Validation.** The memorandum states, “A limited review was performed on the data for the analyses of raw groundwater samples, raw surface waters, one equipment blank, and two field blanks for one or both of the parameters listed below:

- Hexavalent chromium by SW-846 Method 7196
- Total chromium by EPA 200.7

The NDEP letter, dated May 3, 2006, indicates data validation is to include 100% review and at least 10% validation to the raw data level. The details for each level of review are further specified in that letter. The level of review indicated in the memorandum does not meet the NDEP requirements.

Missing elements of the review include:

- Random check (10-20%) of Initial and Continuing Calibration.
- Random recalculation (10-20%) of reported results versus raw data.

If the level of laboratory reporting does not support a validation at Tier 2 this should be stated in the report.

**Level of Reporting.** The following items are missing in the Memorandum report. These items are required per the NDEP letter dated May 3, 2006. Many of these items can be addressed by including tables that contained the required information. Also, when accuracy, precision and holding time data is included, the table should also contain the applicable data quality indicator. Examples of data quality indicators include the percent recovery, RPD, time of collection to extraction and/or analysis.

- Applicable Samples, SDG ID, sample ID link to sample location, analyses.
- Data validation qualifier definition. When possible, the use of qualifiers be added to the tables, and used when appropriate, to identify a potential direction of a bias. For example, when the spike data show low recovery, and the associated samples and analytes are detected, a “J-“ qualifier should be used to indicate an estimated, and potentially biased low, result. Similarly, a “J+” qualifier would be used for recoveries that are greater than the recovery criteria.
- Definitions for the reason codes that link results in the database to a specific qualifier logic.
- Data validation findings for each parameter based on the level of review. When non-conformances are identified they should be linked to the appropriate sample(s) and SDG.
- Evaluation of PARCCS parameters.

Ms. Susan Crowley

5/17/2013

Page 3

- Conclusions/Recommendations.
- Electronic database of the dataset that is being addressed by the report including all raw data and laboratory report (on CD in Microsoft Access database).

It is recommended that TRX's chemists discuss this matter with the NDEP's chemists before proceeding with any further data validation.

If there are any questions please do not hesitate to contact me.

Sincerely,

Brian A. Rakvica, P.E.  
Supervisor  
Bureau of Corrective Actions  
Special Projects Branch  
NDEP-Las Vegas Office

CC: Jim Najima, NDEP, BCA, Carson City  
Jeff Johnson, NDEP, BCA, Carson City  
Shannon Harbour, NDEP, BCA, Las Vegas  
Todd Croft, NDEP, BCA, Las Vegas  
Barry Conaty, Akin, Gump, Strauss, Hauer & Feld, L.L.P., 1333 New Hampshire Avenue, N.W.,  
Washington, D.C. 20036  
Brenda Pohlmann, City of Henderson, PO Box 95050, Henderson, NV 89009  
Mitch Kaplan, U.S. Environmental Protection Agency, Region 9, mail code: WST-5,  
75 Hawthorne Street, San Francisco, CA 94105-3901  
Rob Mrowka, Clark County Comprehensive Planning, PO Box 551741, Las Vegas, NV, 89155-  
1741  
Ranajit Sahu, BEC, 875 West Warm Springs Road, Henderson, Nevada 89015  
Craig Wilkinson, TIMET, PO Box 2128, Henderson, Nevada, 89009-7003  
Kirk Stowers, Broadbent & Associates, 8 West Pacific Avenue, Henderson, Nevada 89015  
George Crouse, Syngenta Crop Protection, Inc., 410 Swing Road, Greensboro, NC 27409  
Nick Pogoncheff, PES Environmental, 1682 Novato Blvd., Suite 100, Novato, CA 94947  
Lee Erickson, Stauffer Management Company, 1800 Concord Pike, Hanby 1, Wilmington,  
DE 19850-5437  
Chris Sylvia, Pioneer Americas LLC, PO Box 86, Henderson, Nevada 89009  
Paul Sundberg, Montrose Chemical Corporation, 3846 Estate Drive, Stockton, California  
95209  
Joe Kelly, Montrose Chemical Corporation of CA, 600 Ericksen Avenue NE, Suite 380,  
Bainbridge Island, WA 98110  
David Gratson, Neptune and Company, 1505 15<sup>th</sup> Street, Suite B, Los Alamos, NM 87544