

DRAFT

DATE, 2006

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:
Phase A Source Area Investigation Work Plan
dated September 2006 (received October 2, 2006)

Dear Ms. Crowley,

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

1. General comment, it appears that this document was not well prepared or thought out. Based upon the number of meetings and volume of correspondence between the NDEP and TRX over the past 13 months, this is disconcerting. The aforementioned report appears to lack even a basic quality check prior to being submitted to the NDEP. This type of submittal is not good use of the NDEP's time or TRX's resources.
2. General comment, it is recommended that TRX use established terminology and definitions, and not develop new terminology.
3. General comment, there appears to be confusion between Data Quality Indicators which are part of the six data usability criteria (EPA, 1991) and Quality Assurance Program content,
4. General comment, please note that NAPLs have been detected to the west of the Tronox property in a number of locations. Please be aware of this condition when disturbing the subsurface environment.
5. General comment, the specific issues relating to data quality assurance have not been reviewed or commented on as part of the NDEP's review of the subject document. TRX is referred to the NDEP's October 11, 2006 comments on the *Quality Assurance Project Plan* (QAPP).
6. General comment, the NDEP's review focused heavily on the tables and figures included in the work plan. It is the belief of the NDEP that these parts of the work plan provide a concise summary of the work to be completed. NDEP has generally not included

comments on language issues (grammatical) or disagreements with the content of the text of the work plan.

7. Executive Summary, pg ES-1, 1st paragraph, TRX states “The assessment is being conducted under the supervision of the Nevada Division of Environmental Protection (NDEP).” The NDEP requests that TRX clarify that NDEP is providing regulatory oversight, not “supervision”. This reference to the NDEP also occurs in the Introduction.
8. Executive Summary, pg ES-1, 6th paragraph, in reference to Table 4 the NDEP requests that TRX specifically perform the following analyses as part of Data Review: anion-cation balance; comparison of measured TDS versus calculated TDS; and a comparison of measured TDS to the EC ratio. These quality checks are all listed in Standard Methods for the Examination of Water and Wastewater. The laboratory may complete these checks, however, it is requested that TRX verify and discuss this issue in the reporting. This discussion should be carried through the work plan in the appropriate sections and does not necessarily need to be addressed in the Executive Summary.
9. Section 1.0, pg 1-1, 5th paragraph, TRX states “The following U.S. Environmental Protection Agency (EPA) guidance documents were consulted during the preparation of this work plan:
 - a. EPA 1989, Risk Assessment Guidance for Superfund Volume 1 Human Health Evaluation Manual (Part A) interim final (EPA/540/1-89/002), December.
 - b. EPA 2002, Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers, OSWER Technology Innovation Office, May.”
 - c. The RAGS Vol. 1, Part A reference is a good reference for evaluating how data collected will be used; however, additional documents for reference in preparing a work plan and SOPs include:
 - i. USEPA, 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA. Office of Emergency and Remedial Response, October.
 - ii. USEPA, 1995, Guidance for the Preparation of Standard Operating Procedures (SOPs) for Quality Related Documents, EPA QA/G-6, Office of Research and Development, Washington, D.C., EPA/600/R-96/027, November.
10. Section 3.3, page 3-3, TRX states “pesticides were not manufactured at the Site.” This is contrary to the NDEP’s understanding of the Site as previously discussed with Tronox. Several tenants of the TRX property reportedly used and or manufactured pesticides at the Site. No response is necessary to this comment.
11. Section 4.2.1 Soil Borings, page 4-1, 2nd paragraph, TRX states “The boring logs will record the following sampling information... lithologic description in accordance with the Unified Soils Classification System (USCS) and American Society of Testing Materials (ASTM) standards...” Please note that the following references should be used:
 - a. ASTM International, 2000, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System), Designation: D 2487-00.

- b. ASTM International, 2000, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), Designation: D 2488 – 00.
12. Section 4.2.1, page 4-1, please be advised that a 10.2 eV lamp is not suitable for many of the compounds that are being investigated. TRX is advised to review the ionization potentials of the compounds being investigated and select a more appropriate lamp. Montrose has found that it is necessary to utilize a higher voltage lamp and a flame ionization detector. TRX is encouraged to review BRC's approved SOP-39 regarding PID Screening Procedures and to discuss this matter with Montrose personnel.
13. Section 4.2.1 Soil Borings, page 4-1, 2nd paragraph, TRX states "The boring logs will record the following sampling information... lithologic description in accordance with the Unified Soils Classification System (USCS) and American Society of Testing Materials (ASTM) standards..." The following references should be used:
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 - b. ASTM International, 2000, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), Designation: D 2488 – 00.
14. Section 4.2.2, pages 4-1 and 4-2, it appears that TRX has confused sonic and hollow stem auger drilling and sampling methods.
15. Section 4.2.2, pages 4-1 and 4-2, if areas that are observed to be contaminated are located during the drilling operation, TRX is encouraged to collect a sample of the impacted material.
16. Section 4.2.5.1, pg 4-3, 1st paragraph, TRX states "The electric sounder will be decontaminated by rinsing with deionized water after each use." Please note that it is standard practice to wash equipment between wells.
17. Sections 4.2.5.2 and 4.2.5.3, pages 4-3 and 4-4, the NDEP has the following comments:
 - a. It is not clear to the NDEP why the USEPA guidance for low flow groundwater sampling was not used.
 - b. TRX indicates that water will be evacuated at a rate of 100 to 500 mL per minute. Please note that it may be necessary to reduce the flow rate to below 100 mL per minute to comply with the sampling protocol.
 - c. Please note that dissolved oxygen and turbidity can vary by up to 10%, rather than the 5% indicated by TRX.
18. Section 4.2.5.3, page 4-4, TRX states that "A low flow bladder pump (micropurge pump) will be used to dispense the water samples into the appropriate sample container as long as static water level is maintained for the duration of bottle-filling activities." TRX does not state what the alternative is for this scenario.
19. Section 4.4.1, page 4-7 and Section 4.4.2, page 4-8, TRX states "This table also contains the data quality limits (DQLs). The DQLs are industrial-based Preliminary Remediation Goals (PRGs) for soil (EPA 2004)." DQLs are neither defined nor used in the referenced document; the NDEP did a search for both data quality limit and DQL in the reference document. TRX goes on to state "The laboratories have been instructed to achieve 0.1 of the DQLs where possible using the standard laboratory procedures." Based on this sentence TRX appears to be trying to define a detection or

- quantitation limit. A quantitation limit is not a PRG. These sections require additional clarification.
20. Section 4.4.3, pg 4-8, 2nd bullet. Please provide reference for method.
 21. Section 4.4.3, pg 4-8, 3rd bullet. Please find and use a current/supported reference. For example, at the TechStreet™ web site (<http://www.techstreet.com>); API tab, search for RP-40 lists this reference as follows: WITHDRAWN API RP 40 Recommended Practices for Core Analysis Edition: 2nd American Petroleum Institute 01-Feb-1998 200 pages.
 22. Section 4.4.3 Geotechnical Testing Program, page 4-8, 5th bullet, the referenced test method is for particle sizes greater than 200 mesh (75-µm), but will not provide information on silt and clay size material. The NDEP recommends adding particle size analysis using ASTM Method C 117-04.
 23. Section 4.5 Equipment Decontamination, page 4-8, TRX states “All non-disposable soil sampling equipment (e.g., split-spoon samplers, etc.) will be disassembled and decontaminated prior to the collection of each sample. This equipment may be decontaminated by either steam cleaning or by washing with a non-phosphate detergent solution (Simple Green™ or similar) followed by rinsing with distilled/deionized water...If non-dedicated groundwater sampling equipment is used to collect groundwater samples, the equipment will be decontaminated by circulating a solution of water and detergent (e.g., Simple Green™) through the equipment followed by rinsing with distilled water.” Alconox is typically used for this purpose; Attachment E of the HSP includes an MSDS for Alconox, but it does appear to be used for washing equipment herein. Please provide information on the use of Simple Green for this purpose or clarify what is intended.
 24. Section 4.7, page 4-9, Please specify datum, for example, NAD83.
 25. Section 4.8.3 Quality Assurance Program, page 4-10, the NDEP recommends that this section’s title be changed to “Data Quality Indicators.” Please delete the first two paragraphs in this section as they add confusion to the subject. Then drop the titles for Section 4.8.3.1, Definitions, page 4-11 and Section 4.8.4 Comparison of Data Sets, page 4-11. Add *Representativeness* in this section. Finally, add and discuss *Comparability* to this section for a complete discussion of data quality indicators. These changes would bring the new Section 4.8.3 into compliance with the EPA document Guidance for Data Usability in Risk Assessment (Part A) Final (EPA, 1992).
 26. Section 4.8.3.1, page 4-11, TRX states “Accuracy will be evaluated using percent recovery data.” Insert the following text at the end of the sentence “from spiked samples.”
 27. Section 4.8.3.1, pg 4-11. TRX states “The completeness goal is the same for all data uses that a sufficient amount of valid data be generated to accomplish the objectives of the study. Standard methods of evaluation will be used to assess accuracy and precision data. Completeness can be quantitatively assessed simply by calculation of the percentage of valid data obtained.” Please note that the completeness goal should be established as a percentage value before going into the field.
 28. Section 5.2, page 5-1, it would be more appropriate to provide an updated version of the conceptual site model (CSM) than a stand-alone report. The new data that is collected

must be incorporated into the site-wide data set. The NDEP believes that this issue can be discussed further in upcoming meetings, if necessary.

29. Sections 5.3 and 5.4, pages 5-1 and 5-2, it is not clear why TRX has not referenced the applicable USEPA guidance, it is expected that this issue can be discussed further in meetings.
30. Section 7.0, pg 7-1. "ASTM. 1990. Standard Practice for Description and Identification of Soils: D2488-84." Please note that ASTM has a more recent reference for this practice.
31. Table 5, the NDEP has the following comments:
 - a. PCB analysis appears to be excluded from location SA-13. Please include this analysis at this location. Also, please note that this is contrary to the information presented on Tables 2 and 3.
32. Table 6, the NDEP has the following comments:
 - a. PCB analysis appears to be excluded from location M-31A. Please include this analysis at this location. Also, please note that this is contrary to the information presented on Tables 2 and 3.
33. Tables 8 and 9, NDEP has not verified the accuracy of these tables as it is the responsibility of TRX.

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

Sincerely,

Brian A. Rakvica, P.E.
Supervisor
Bureau of Corrective Actions
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