



environmental management, inc.

**From:** Deni Chambers, Principal-in-Charge  
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**Date:** July 26, 2010

**To:** Shannon Harbour, PE  
Nevada Division of Environmental Protection

**RE:** Response to Nevada Division of Environmental Protection's July 20, 2010  
Comments on *TRX Letter Submittal RE: Manganese Tailings Pile Confirmation  
Sampling*, dated July 9, 2010

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### Response to Comments

Northgate Environmental Management, Inc. (Northgate) submits this Response to Comments on the *TRX Letter Submittal RE: Manganese Tailings Pile Confirmation Sampling* on behalf of Tronox LLC (Northgate, July 9, 2010). Tronox has reviewed the following Nevada Division of Environmental Protection (NDEP) comments and has revised the submittal accordingly.

1. *TRX should provide a brief background section discussing a CSM-based description of the manganese tailings pile area including history and a list of wastes and potential contaminants that were placed or occurred in this area. Please note that the liquids discovered during the excavation should be discussed for potential impact and targeted sampling.*

**Response:** This revised document includes background information regarding the history of the manganese (Mn) tailings pile.

2. *During the Phase B Source Area Investigation, TRX collected samples from the surface (0.0-0.5 fbgs), 5 fbgs, and 10 fbgs; however, TRX is only proposing to sample at the surface and 0.5-1.0 fbgs interval. TRX should conduct the sampling of this area in a manner consistent with previous sampling that will be used in a Health Risk Assessment for this Remediation Zone.*

**Response:** As discussed in the July 23, 2010 NDEP-Tronox-Northgate Conference Call, eight borings were previously advanced in the Mn tailings area as part of the Phase B investigation, and deeper soil samples were collected from below the interface between the Mn tailings and native soil that characterize the soil as clean. These clean boring locations are shown on Figure 1. Soil samples collected from these borings were analyzed for the Phase B suite of analyses; therefore, analyzing the Mn tailings confirmation samples would be repetitious. The shallow surface samples proposed are to confirm that Mn tailings were successfully removed.

3. *TRX should justify the elimination of chemical analytical suites from the Phase B broad suite analysis using CSM-based discussion. All chemical suites used in Phase B should be sampled unless otherwise approved by the NDEP.*

**Response:** Please see Response to Comment 2.

4. *TRX should acknowledge and discuss the former cooling tower that is located in the manganese tailings area and how this area will be characterized.*

**Response:** The cooling tower (LOU 46) was investigated as part of the Phase B investigation with eleven borings to depths of approximately 40 feet below ground surface. Select samples were analyzed for perchlorate, metals, hexavalent chromium, radionuclides, total petroleum hydrocarbons, dioxin/furans, and asbestos in accordance with the NDEP-approved Phase B sampling and analysis plans.

5. *TRX should also propose sampling on the southern boundary of the manganese tailings area.*

**Response:** The southern boundary is an area of active operations. There is an active utility corridor that runs along this boundary precluding drilling. The area will be addressed in the future when operations cease and the utilities are no longer active. It should be noted that Phase B borings in the Mn tailings area indicate that soils are below basic comparison levels.

6. *Figure 1, NDEP provides the following comments:*
  - a. *Please clarify what the Manganese Boring Locations are and if samples were collected, please present the results.*
  - b. *Please provide the Phase B results in this Figure.*

**Response:**

- a. MN-1 through MN-9 were borings advanced through the Mn tailings for waste profiling characteristics. The borings were not advanced into soil. The Mn tailings characterization report is included as Attachment A.
- b. Figure 1 has been revised to show the Phase B sampling locations. Results from the Phase B sampling are presented in Table 2.

