MEMORANDUM



environmental management, inc.

From: Deni Chambers, Northgate **Date:** August 12, 2010

Ted Splitter, Northgate

To: Shannon Harbour, NDEP

RE: Details Regarding Excavation in Vicinity of Infiltration Trenches

COMMENTS:

In a conference call on August 11, 2010, the Nevada Division of Environmental Protection (NDEP) requested that Tronox further investigate the issues associated with the proposed remedial excavations adjacent to or over the existing infiltration trenches in the northeastern portion of RZ-D at the Tronox facility in Henderson, Nevada. This memorandum describes our understanding of the as-built condition of the infiltration trenches and how Tronox plans to excavate in the vicinity of the trenches (remediation areas are being extended over the trenches as requested).

The infiltration trenches are approximately 3-4 feet wide. The various layers of materials and their thicknesses from top-down are as follows:

- 1-6 inches of gravel;
- 1 foot of soil backfill
- 5- 5 ½ feet of gravel;
- A slotted distribution pipe; and
- Gravel to the depth of the trench.

Based on this configuration it appears that excavation could occur in the vicinity of the infiltration trench under the following conditions:

- Shallow excavations of up to 18 inches could occur without special precautions except for protection of manholes and standpipes.
- Deeper excavations would require the following steps:
 - Water should be shut off with a minimum of 1 week's notice to Tronox;
 - Expose the distribution pipe through excavation;

- o Excavate alongside the pipe (leaving sufficient gravel to support the pipe);
- When backfilling, backfill with washed gravel matching previously existing materials to within 1 foot of the adjacent ground surface; and
- o Backfill the last foot with native soil from the Site.

The above procedure should allow up to a 10-foot excavation and should remove all or almost all of the contaminated soil around the infiltration trench.

Tronox intends to minimize the time that the infiltration trenches will be out of service due to remediation.

