

July 1, 2008

Ms. Shannon Harbour, P.E. Nevada Division of Environmental Protection Bureau of Corrective Actions 2030 E. Flamingo Road, Suite 230 Las Vegas, Nevada 89119-0818

Subject: Removal Action Workplan for Soil, Tronox Parcels "C", "D", "F", "G" and "H"

Sites, Henderson, Nevada

#### Dear Shannon:

On behalf of Tronox, Basic Environmental Company (BEC) appreciates the opportunity to submit this Removal Action Workplan (RAW) to address the remediation of impacted soil at the Tronox Parcels "C", "D", "F", "G" and "H". These Sites are located within the Tronox facility, north of Lake Mead Parkway, one mile west of the intersection with Boulder Highway, in Henderson, Nevada. Figure 1 illustrates the location of the subject Sites within the Tronox property.

The conclusion that remediation of soil at each of the Sites is needed is based on the findings of the field investigations carried out in accordance to each of the NDEP-approved Phase 2 Sampling and Analysis Plans. The overall goal of this RAW is to present a cleanup strategy for each of the Sites that effectively reduces, to the extent feasible, the human health risks associated with the identified soil in the impacted areas of each Site. As with prior work on Parcels A and B, NDEP has indicated that a target risk of one in a million excess cancers will be utilized to guide remediation. Preliminary risk summary tables for each of the Parcels were presented and discussed with NDEP, Tronox and AIG in a meeting at the NDEP offices May 15, 2008. All proposed remediation work will be completed under the direction of a State of Nevada Certified Environmental Manager. Discussion on the proposed remediation at each of the Sites is presented below.

#### Parcels C and D

Results of the Phase 2 field investigation indicate the presence of amphibole (one or more long fibers) and/or chrysotile (four or more long fibers) at four locations within Parcels C and D, as well as elevated levels of dioxins/furans (above the Agency for Toxic Substances and Disease Registry [ATSDR] action level of 1.0 parts per billion) at one location. Based on the sample locations across the Site, a Thiessen or Voronoi map was overlaid across the Site.

Voronoi maps are constructed from a series of polygons formed around each sample location. Voronoi polygons are created so that every location within a polygon is closer to the sample location in that polygon than any other sample location. These polygons do not take into account the respective concentrations at each sample location.

These polygons were used as the basis for the areal extent of remediation for each of the locations with elevated asbestos levels. Those polygons associated with elevated asbestos levels proposed for remediation are shown on Figure 2. At two sample locations, the size of the remediation polygon area is large. This area could be reduced by the placement of two additional sample locations (shown on Figure 2) and it is our intent to collect these additional samples. If these sample locations are clean, then the reduced polygon shown on Figure 2 would be the remediation area. However, if one or both have elevated levels of asbestos, then the areal extent for remediation would be the original polygon(s) size.

One exception to the use of these polygons for the extent of asbestos remediation is the sample location in Parcel D, TSB-DR-04, which is situated within a drainage ditch. Two supplemental samples were collected approximately 100 feet to either side of this sample, along the ditch. Results of these sample locations were considered clean, therefore, the extent of the proposed remediation for sample location TSB-DR-04 is half the distance to each of these two supplemental samples, and bounded by the extent of the ditch in the other two directions.

Because the extent of impact associated with the sample location with elevated dioxins/furans is likely to be small, the remediation area is based on a 50-foot square area around this sample location (TSB-CR-07). The total areal extent of remediation at Parcels C and D ranges from 2.6 to 3.7 acres, depending on whether the additional samples are collected, and their results.

## Parcel F

Results of the Phase 2 field investigation indicate the presence of amphibole (one or more long fibers) and/or chrysotile (four or more long fibers) at eight locations within Parcel F, as well as several other chemicals at three of these locations. Based on the sample locations across the Site, a Thiessen or Voronoi map was overlaid across the Site. These polygons were used as the basis for the areal extent of remediation for each of the locations with elevated asbestos levels. Those polygons associated with elevated contaminant levels in surface soil (results for deep soil samples are pending) proposed for remediation are shown on Figure 3. The total areal extent of remediation at Parcel F is 3.8 acres.

## Parcel G

Results of the Phase 2 field investigation indicate the presence of amphibole (one or more long fibers) at two locations within Parcel G, as well as elevated levels of benzo(a)pyrene (above the USEPA Region 6 MSSL) at one location. Based on the sample locations across the Site, a Thiessen or Voronoi map was overlaid across the Site. These polygons were used as the basis for the areal extent of remediation for each of the locations with elevated asbestos and benzo(a)pyrene levels. Those polygons associated with elevated levels in surface soil (results for deep soil samples are pending) proposed for remediation are shown on Figure 4. The total areal extent of remediation at Parcel G is 1.3 acres.

### Parcel H

Results of the Phase 2 field investigation indicate the presence of amphibole (one or more long fibers) and/or chrysotile (four or more long fibers) at two locations within Parcel H. Based on the sample locations across the Site, a Thiessen or Voronoi map was overlaid across the Site. These polygons were used as the basis for the areal extent of remediation for each of the locations with elevated asbestos levels. Those polygons associated with elevated asbestos levels proposed for

remediation are shown on Figure 5. At one sample location, the size of the remediation polygon area is large. This area could be reduced by the placement of two additional sample locations (shown on Figure 5) and it is our intent to collect these additional samples. If these sample locations are clean, then the reduced polygon shown on Figure 5 would be the remediation area. However, if one or both have elevated levels of asbestos, then the areal extent for remediation would be increased appropriately. The total areal extent of remediation at Parcel H ranges from 0.55 to 2.1 acres, depending on whether the additional samples are collected, and their results.

# **Confirmation Sampling**

Following remediation confirmation sampling will be conducted at each of the original sample locations. Field activities will be conducted in accordance with applicable standard operating procedures (SOPs; BRC, ERM and MWH 2007). The BRC Quality Assurance Project Plan (QAPP; BRC and ERM 2008) and Health and Safety Plan (HASP; BRC and MWH 2005) prepared for the BMI Common Areas will be used for confirmation soil sampling.

For each location, the proposed analyte list is composed of those chemicals that triggered the remediation at that location. Collectively, the analytes set includes; polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), dioxins/furans, metals and asbestos.

Following collection and analysis of confirmation soil samples, the data will be discussed with the NDEP. If results are considered acceptable, a risk assessment will be conducted to evaluate the potential risks to future on-site human receptors at each Site. The receptors identified to be evaluated in the risk assessment will be consistent with the proposed development of each Site.

# **Schedule**

Once final approval of the RAW is received from NDEP, field implementation activities can commence within one week. BEC will provide NDEP with at least two days notice prior to the initiation of field activities at the Site. It is anticipated that this work can be completed within one week, depending on field conditions. The confirmation soil samples will be submitted to the laboratories and placed on a standard turn around time. A report will be completed within three weeks after the final data are received from the laboratory and validated.

### **Closing Remarks**

See attached for appropriate certification language and signature. Please direct any remaining questions or comments you may have to me at 626-382-0001.

Sincerely,

Basic Environmental Company

Ranajit Sahu, CÉM Project Manager

cc: Brian Rakvica, NDEP, BCA, Las Vegas, NV 89119 Jim Najima, NDEP, BCA, Carson City, NV 89701 Attachments: Figure 1 – Tronox/BEC Parcel Map with Tronox Source Areas

Figure 2 – Remediation Areas – Parcels "C" and "D"

Figure 3 – Remediation Areas – Parcel "F" Figure 4 – Remediation Areas – Parcel "G" Figure 5 – Remediation Areas – Parcel "H"

# **References**

Basic Remediation Company (BRC) and MWH. 2005. BRC Health and Safety Plan, BMI Common Areas, Clark County, Nevada. October.

Basic Remediation Company (BRC), ERM, and MWH. 2007. BRC Field Sampling and Standard Operating Procedures, BMI Common Areas, Clark County, Nevada. August.

Basic Remediation Company (BRC) and ERM. 2008. BRC Quality Assurance Project Plan. BMI Common Areas, Clark County, Nevada. April.

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.

July 1, 2008

Dr. Ranajit Sahu, C.E.M. (No. EM-1699, Exp. 10/07/2009)

Date

BRC Project Manager









