



STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

July 23, 2010

Matt Paque
Tronox LLC
PO BOX 268859
Oklahoma City, OK 73134

Re: **Tronox LLC (TRX)**
NDEP Facility ID #H-000539
Nevada Division of Environmental Protection (NDEP) Response to:
*Excavation Plan for Phase B Soil Remediation of RZ-B, Addendum to the Removal Action
Work Plan, Tronox LLC, Henderson, Nevada*
Dated: July 15, 2010

Dear Mr. Paque,

The NDEP has received and reviewed TRX's above-identified Deliverable and provides conditional approval so that TRX may proceed with implementation of this Excavation Plan without further delay. As discussed at a WebEx meeting on July 23, 2010, TRX is to complete the bid documents for the excavation of RZ-B to prevent any delay to the remediation schedule and should be based on the conditions/comments provided in Attachment A for the revision of this Deliverable. TRX should submit an annotated response-to-comments letter with any errata necessary to address NDEP's conditions/comments.

Please contact the undersigned with any questions at sharbour@ndep.nv.gov or 775-687-9332.

Sincerely,

Shannon Harbour, P.E.
Staff Engineer III
Bureau of Corrective Actions
Special Projects Branch
NDEP-Carson City Office
Fax: 775-687-8335

SH:sh

EC: Jim Najima, Bureau of Corrective Actions, NDEP
Greg Lovato, Bureau of Corrective Actions, NDEP
Mike Skromyda, Tronox LLC
Michael J. Foster, Tronox LLC
Keith Bailey, Environmental Answers LLC



Susan Crowley, Tronox LLC (Contractor)
Deni Chambers, Northgate Environmental
Brian Rakvica, McGinley and Associates
Barry Conaty, Holland & Hart LLP
Brenda Pohlmann, City of Henderson
Mitch Kaplan, U.S. Environmental Protection Agency, Region 9
Ebrahim Juma, Planning Manager, Air Quality and Environmental Management
Joe McGinley, McGinley & Associates
Ranjit Sahu, BRC
Rick Kellogg, BRC
Mark Paris, Landwell
Craig Wilkinson, TIMET
Kirk Stowers, Broadbent & Associates
Victoria Tyson, Tyson Contracting
George Crouse, Syngenta Crop Protection, Inc.
Nick Pogoncheff, PES Environmental
Lee Erickson, Stauffer Management Company
Michael Bellotti, Olin Corporation
Curt Richards, Olin Corporation
Paul Sundberg, Montrose Chemical Corporation
Joe Kelly, Montrose Chemical Corporation of CA
Jeff Gibson, AMPAC
Larry Cummings, AMPAC
Paul Hackenberry, Hackenberry Associates, LLC
Paul Black, Neptune and Company, Inc.
Kelly Black, Neptune and Company, Inc.
Teri Copeland, Neptune and Company, Inc.
Kurt Fehling, The Fehling Group, LLC
Joanne Otani
Brian Giroux, McGinley and Associates
Dave Gratson, Neptune and Company, Inc.
Mike Balshi, Neptune and Company, Inc.
Julie Panko, ChemRisk, Inc.

CC: Ebrahim Juma, Planning Manager, Air Quality and Environmental Management
Susan Crowley, C/O Tronox LLC, PO Box 55, Henderson, NV 89009
Lee Erickson, Stauffer Management Company

Attachment A

1. General comment, TRX states throughout this Deliverable that excavation will not be conducted in excess of 10 feet below ground surface (fbgs). NDEP does not believe that this statement meets the intention of the December 14, 2010 Order issued by NDEP to TRX. The Deliverable should be revised to address source control and leaching. Please note that the following comments do not address each instance this topic is mentioned in the Deliverable.
2. General comment, NDEP has noted that the excavation areas/remediation polygons are named differently throughout the document (i.e. Table 1 lists RZ-B-1 while the text and Figures name the same area RZ-B-01). TRX should revise this Deliverable for consistency in the nomenclature of the remediation polygons.
3. General comment, TRX should label the proposed sampling locations and include the names for the sampling locations throughout the document, especially in Table 1, Figure 1, and Appendix A Tables.
4. Response-to-comments (RTCs), NDEP provides the following comments:
 - a. RTC 1, TRX's revised language in Section 1.3 still does not adequately address the concept of data quality assessment (DQA); however, NDEP expects that this issue can be discussed during the development of the health risk assessment.
 - b. RTC 11.e, TRX should provide explanations for the derivation of the shape of each of the excavation polygons.
 - c. RTC 11.g, no data or polygon is shown for location RSAQ4, please clarify.
5. Section 1.0, page 1, NDEP provides the following comments:
 - a. TRX states that contaminated soil "within 10 feet below ground surface (fbgs) at the Site" will be addressed by this plan. As NDEP has discussed with TRX, some excavation in excess of 10 fbgs may be needed.
 - b. 2nd paragraph, TRX notes that this Deliverable does not address the soil-to-groundwater leaching pathway. As NDEP has noted to TRX previously, this represents a schedule concern for the NDEP.
 - c. 3rd paragraph, NDEP does not agree with TRX's definition of contaminated soil per the comments above. Please revise per NDEP's comments.
6. Section 1.3, page 5, 1st full paragraph, last sentence, there is a word(s) missing from this sentence that precludes understanding. Please revise.
7. Section 1.4, page 5, all production processes that occurred in this Remediation Zone (RZ) should be discussed, including perchlorate production.
8. Section 2.0, page 7, it appears that TRX is proposing to conduct additional sampling for only the chemicals that are driving remediation in a particular excavation polygon. TRX should also consider chemical drivers in adjacent excavation polygons and sample locations when determining the analytical list for each of the additional sampling locations. Please revise as necessary.
9. Section 2.1.2, page 8, please clarify when the sampling inside the Unit Buildings will be conducted.
10. Section 2.1.4, TRX should clarify that excavation limits for polygons RZ-B-08, -09, and -10 will extend to the limits of the membrane-lined concrete containment basin of the two referenced tanks.
11. Section 2.1.5, TRX should determine the depth and operational status of all known utilities that may potentially affect the limits of excavation as soon as possible so that NDEP

decisions about excavation limit restrictions can be made in a more timely and informed manner and, thereby, potentially reduce the number of quick-turn-around field decisions.

12. Section 3.3, pages 10-11, NDEP provides the following comments:
 - a. TRX's statement that the cutlines presented represent the top of slope in cases where an impediment to excavation (property boundary, existing buildings, etc.) exists would mean that a contaminated wedge of soil will potentially be left in place. NDEP does not concur as this is not conservative. Please revise this SOP to remove all contaminated materials per the NDEP's December 14, 2009 Order.
 - b. Considering NDEP's comment above, please discuss and provide a figure to show how adjacent remediation zones with differing depths will be addressed. TRX should develop a protocol so that contaminated materials are not left in place.
 - c. TRX states that "The contractor may elect to stockpile soil in the excavation area..." Please clarify that only remediated or non-contaminated areas of the Site will be used for stockpiling purposes.
 - d. TRX states that "It is Northgate's opinion that the historic pavement areas preceded the event(s) that resulted in asbestos contamination." This opinion must be supported with sampling data and presented to NDEP for approval or removed from the document.
13. Table 1, NDEP provides the following comments:
 - a. TRX should add the following chemicals to the Chemicals Driving Remediation column for the following as noted: (Please note that the nomenclature used in Table 1 has been used for this comment)
 - i. RZ-B-11: Asbestos
 - ii. RZ-B-12: Asbestos
 - iii. RZ-B-13: Arsenic, Dioxins/Furans, Hexachlorobenzene
 - iv. RZ-B-14: Benzo(a)pyrene
 - v. RZ-B-22: Dioxins/Furans, Hexachlorobenzene, Benzo(a)pyrene
 - b. TRX should note which polygons have additional sampling proposed.
 - c. TRX should not be constraining excavation areas with the roadways. NDEP has not concurred that these areas were controlled in such a way as to prevent these areas from becoming contaminated. Please revise this Table as necessary.
 - d. Depth of Excavation column, TRX should indicate in this column when a depth for an excavation area is pending and, therefore, subject to change.
 - e. RZ-B-15 and RZ-B-18, these excavation areas are within Unit Buildings 1 and 2, respectively. Section 2.1.2 states that additional sampling for the chemicals that are driving excavation will be conducted under the Unit Buildings. TRX should revise this Table to indicate that this sampling will include all Phase B Source Area Investigation analytical suites or provide conceptual site model (CSM) rationale for the elimination of analytical suites based on historical and current use.
14. Figure 1, NDEP provides the following comments:
 - a. Please clarify the constraints on the excavation area limits associated with SSAR3-01.
 - b. TRX should have a polygon associated with SSAQ4. Once the pending data have been received TRX can discuss any changes to the limits of excavation. Additionally, TRX should use confirmation sampling data from Parcels F and G as appropriate to constrain this excavation area.
 - c. TRX should demark excavation areas that are pending data for final limit determination.
 - d. NDEP provides the following comments and conditions for the noted excavation areas:

- i. TRX should note that the excavation limits currently shown in Figure 1 should be considered final and ready for bid unless otherwise stated below. Any additional sampling results received that potentially modify these limits should be submitted to and discussed with NDEP. No reduction of these limits may occur without NDEP approval.
 - ii. RZ-B-01: western excavation limit should continue to the property boundary unless additional sampling for chemical drivers indicate otherwise. TRX should note that dioxins/furans, hexachlorobenzene (HCB), arsenic, and benzo(a)pyrene [B(a)P] should be analyzed in any other proposed additional sampling for this excavation polygon.
 - iii. RZ-B-04: northern excavation limit should continue to the property boundary unless additional sampling for chemical drivers indicate otherwise.
 - iv. RZ-B-06: a pending depth of 10 fbg should be used for bidding purposes until sampling confirms and NDEP approves an alternate final depth.
 - v. RZ-B-09: the proposed 10 fbg depth may be used for bidding purposes but should be labeled as pending. TRX should present leaching, shallow and deep (as appropriate) background, risk considerations, etc to NDEP for approval of leaving contamination greater than BCLs or background in place.
 - vi. RZ-B-08: a pending depth of 10 fbg should be used for bidding purposes until sampling confirms and NDEP approves an alternate final depth.
 - vii. RZ-B-11: TRX should indicate that 10 fbg is the pending depth for bidding purposes and that sampling will confirm a final depth.
 - viii. RZ-B-14: western excavation limit should continue to the property boundary unless additional sampling for chemical drivers indicate otherwise.
 - ix. RZ-B-18: TRX should revise the amphibole concentration shown on this Figure from 0 to 1 based on the concentration reported in data table included with the Deliverable. NDEP notes that this does not change the excavation limits.
 - x. RZ-B-20 and RZ-B-21: the proposed 4 fbg depth may be used for bidding purposes but should be labeled as pending. TRX should present justification and discussion on the status and location of the utilities including a discussion on the feasibility of shoring/supporting the utilities so that excavation to 7 fbg and 9 fbg, respectively, (as indicated by the pre-confirmation sampling data) may occur. TRX may also provide discussion on alternative remediation for NDEP's consideration as previously discussed.
 - xi. RZ-B-23: please show the location of the referenced electrical substation.
 - xii. Sampling location RSAQ4: TRX should develop an excavation polygon based on currently received data from this sampling location.
15. Appendix A, NDEP provides the following comments:
- a. These Tables do not appear to include data deeper than 10 fbg. Please revise these Tables to include all sampled depths for RZ-B.
 - b. TRX should provide justification, rationale, and/or discussion in the Table for the corresponding excavation polygon if TRX is proposing any of the following situations:
 - i. To leave contamination in place in a specific excavation area
 - ii. To modify the limits of excavation because of CSM or land use restrictions
 - iii. Not to backfill an excavation polygon

- c. TRX should note any monitoring wells in the corresponding excavation area Table within the limits of excavation and how the well(s) be handled (protected during excavation, abandoned, or abandoned and replaced after excavation).
- d. RZ-B-04, the HCB and B(a)P at Start Depth 10 should be highlighted green.
- e. RZ-B-05 and RZ-B-06, the arsenic concentrations in SA84 for Start Depths 6 through 8 should be highlighted orange.
- f. RZ-B-11 and RZ-B-22, TRX should indicate that additional sampling will be conducted for these areas to determine final excavation depth in their respective Tables.
- g. RZ-B-20, Table indicates that 5-6 fbgs sample data would be eliminated; however, Figure 1 and Table 1 indicate that excavation depth is 4 fbgs. Please revise as necessary.