Revised Excavation Plan
for Phase B Soil Remediation of RZ-C
Addendum to the Removal Action Work Plan
Tronox LLC
Henderson, Nevada

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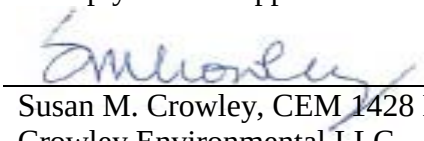
Responsible Certified Environmental Manager (CEM) for this project

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.



Susan M. Crowley, CEM 1428 Exp.:03/08/11
Crowley Environmental LLC

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1.0 INTRODUCTION

Northgate Environmental Management, Inc. (Northgate) has prepared this Excavation Plan (EP) for Remediation Zone C (RZ-C) at the Tronox LLC (Tronox) facility located in Henderson, Nevada (the Site). This EP is an addendum to the *Removal Action Work Plan for Phase B Soil Remediation of Remediation Zones RZ-B through RZ-E* (RAW) that was issued on May 4, 2010 (Northgate, 2010a), updated on August 13, 2010, and approved by the Nevada Division of Environmental Protection (NDEP) on May 12, 2010 and August 20, 2010. This EP presents the methods and procedures to be used to implement the remedial alternative approved by NDEP for RZ-C to address contaminated soil at the Site. The scope of work presented in this EP is based on the NDEP-approved scope of work contained in the RAW and incorporates the results of a pre-confirmation sampling program performed to identify the limits of the cleanup actions (described in Section 1.2). Soil remediation work will be performed in accordance with this EP, including the Standard Operating Procedures (SOPs) established by Basic Remediation Company (BRC, 2009a-j) for the Black Mountain Industrial (BMI) complex and the *Quality Assurance Project Plan* (QAPP; AECOM and Northgate, 2009). A human health risk assessment will be conducted for RZ-C in accordance with the *Health Risk Assessment Work Plan* (HRA; Northgate, 2010b).

The objective of this EP is to present a cleanup strategy that complies with the NDEP Order issued to Tronox on December 14, 2009 to remove impacted soil from RZ-C by the end of 2010. For purposes of the EP and designation of potential remediation areas, “contaminated soil” is generally defined as concentrations exceeding NDEP worker Basic Comparison Levels (BCLs), or the modified Site-specific risk-based concentration (RBRC) for dioxins/furans (in terms of a 2,3,7,8-TCDD toxicity equivalent [TEQ]) of 2,700 nanograms per kilogram (ng/kg) parts per trillion (ppt). For arsenic, the target remediation goal of 7.2 milligrams per kilogram (mg/kg) will be used for surface soil as it represents a regionally accepted background concentration. There are no NDEP BCLs for asbestos; therefore, for purposes of this EP, “contaminated” soil is defined as one or more long amphibole fibers and/or more than five long chrysotile fibers, which were the criteria used as the basis for remediation at Parcels A and B (BEC, 2007). Remediation is focused on removing impacted soils exceeding the criteria indicated above (Comparison Criteria) for protection of human health. Excavations below a depth of 10 feet are included to complete removal of contaminants per NDEP requirements. The final soil cleanup goals will achieve a cumulative theoretical upper-bound incremental carcinogenic risk level point of departure of 1 x 10-6 and a target organ-specific non-cancer hazard index of 1 for each decision unit at the Site. If needed, NDEP may re-evaluate these goals in accordance with U.S. Environmental Protection Agency (USEPA) guidance.

The final excavation areas will also address elevated concentrations of contaminants and the leaching-to-groundwater pathway. A side-wide evaluation to address leaching-to-groundwater has been conducted. As the evaluation is finalized, errata to this report will be submitted to address this pathway.

1.1 Site Description

The Tronox Site is a portion of a larger complex that was first developed by the U.S. government in 1942 as a magnesium plant for World War II operations. The Tronox LLC facility currently produces electrolytic manganese dioxide, used in the manufacturing of alkaline batteries; elemental boron, a component of automotive airbag igniters; and boron trichloride, used in the pharmaceutical and semiconductor industries and in the manufacturing of high-strength boron fibers for products including sporting equipment and aircraft parts.

RZ-C consists of approximately 64 acres that are sparsely occupied by existing buildings and ponds including the Laboratory Building, the Maintenance Building, the Steam Plant, as well as several other small buildings and sheds. An above-ground diesel fuel tank is also located in RZ-C. In the event that the natural gas supply is lost, this tank is the emergency source of fuel for the Steam Plant. The historic manganese tailings pile is located in the eastern portion of RZ-C. Removal of the historic tailings pile has been completed in accordance with procedures described in the RAW. Confirmation sampling will be performed to verify that chemical concentrations in the remaining soils meet the NDEP BCLs. The area of the manganese tailings pile includes the footprint of the former natural-draft cooling tower which used hexavalent chromium as a biocide and operated from 1941 to 1989. The tower foundations were encountered during the manganese tailings removal. Prior to 1976, the effluent was discharged to the Beta Ditch. After 1976, the effluent was not directly discharged; however, upsets during cooling tower operations released recirculation water over surface soils and in drainage swales into the Beta Ditch.

Former and currently operating ponds exist in RZ-C. Pond Mn-1 (Figure 1) is an operational pond used as an evaporation pond for non-hazardous manganese dioxide wastewater from the Unit 6 manganese dioxide production process. For ease of reading, the excavation areas are also represented as sub-areas, as shown in Figures 2a (west and south), 2b (north), and 2c (east). Some overlap of the areas is presented for clarity. A complete description of the Site, history of its use, and historical environmental investigations are presented in the RAW.

1.2 Background

At the completion of the Phase A and B Investigations and the Area I and II supplemental soil sampling, a pre-confirmation sampling program was developed in concert with NDEP to refine remediation planning and establish the vertical and horizontal extent (cutlines) of the proposed excavations in soils. These investigations are herein referred to as Soil Investigation Programs. The cutline identification also provides an opportunity for the final risk assessment calculations to be prepared in parallel with the excavation of contaminated soils, further facilitating completion of remedial excavation by the end of 2010, as required by the NDEP Order dated December 14, 2009 (NDEP, 2009).

1.3 Data Evaluation

Chemical analyses of soil samples collected in RZ-C during the Soil Investigation Programs indicated locations where dioxins/furans; hexachlorobenzene (HCB) and other semi-volatile organic compounds (SVOCs); asbestos; metals; and/or perchlorate exceed their respective soil cleanup criteria. Remedial excavation areas for RZ-C have been developed using the Phase A and B soil analytical data supplemented by the pre-confirmation sampling. The excavation areas define portions of the Site where soil exceeds Comparison Criteria, as specified in the Introduction to this report. Figures 2a, 2b, and 2c show the excavation area boundaries and the chemical data upon which they are based. The basis for the excavation areas are further discussed in Section 2.1.

A CD containing the soil sample analytical data from borings advanced during the Soil Investigation Programs is included in Appendix A. Appendix A also contains a set of summary tables presenting the sampling data for those chemicals identified to be remediated in RZ-C: dioxins/furans, HCB, arsenic, cobalt, lead, magnesium, manganese, polynuclear aromatic hydrocarbons (PAHS; referred to as benzo(a) pyrene TEQ), perchlorate and asbestos.

The Appendix A tables provide the following information:

- All data for all chemicals to be remediated for each soil boring in RZ-C (Table A). Cells highlighted in orange indicate soil concentrations for one or more of the constituents exceeding defined Comparison Criteria and soil will be excavated. These data will not be retained in the post-remediation health risk assessment (HRA). Cells highlighted in green indicate soil concentrations not exceeding defined Comparison Criteria. These data will be retained in the post-remediation HRA. Cells highlighted in yellow indicate data still pending. Cells highlighted in purple indicate soil concentrations to remain above their respective cleanup criteria based one of the following: (1) for perchlorate, alternative

remedial strategies including flushing and bioremediation are being evaluated, or (2) in the case of arsenic, concentrations are located at depths below 10 feet bgs and are less than the deep background concentration[1]

- Separate tables are also provided for each RZ-excavation area (Tables A-01 through A-54) that include data from the defining (def) and bordering (bor) soil borings. These tables provide the post-confirmation data, as well as original data that will be used in the HRA following excavation. RZ-C-46 and RZ-C-47 are located in the former manganese tailings area and a separate closure report will be prepared to document the remediation in these areas.

In instances where chemicals are not risk drivers, but excavation is occurring due to other chemicals (i.e., organophosphate pesticides [OPPs], SVOCs and metals that are not being remediated as concentrations are below their respective cleanup criteria), the existing data for those chemicals will be used in the risk assessment. For example, as shown in Appendix A tables, if an excavation is based on arsenic, the pre-confirmation data (green cell) for arsenic will replace the elevated arsenic concentrations (orange cells), but the existing data for the other remaining chemicals that are not above Comparison Criteria (highlighted in green) will be retained in the HRA. With regard to HCB and B(a)P TEQ, if either one of these two constituents are above the BCL, data for both will be replaced with pre-confirmation data as the entire USEPA 8270 suite of data is available. The same is true for asbestos, in that if either amphibole or chrystotile fibers exceed Comparison Criteria, both data points will be replaced with confirmation data. Therefore, Appendix A tables will include instances in which some cells are highlighted orange for HCB, B(a)P TEQ, amphibole and chrysotile, even though the soil concentrations are below their respective Comparison Criteria.

Finally, in instances of excavation in which backfill will be used, it is anticipated that chemical concentrations representing backfill soil will be generated and all existing data within the backfill depth zone will be replaced with representative backfill concentrations. The representative backfill concentrations will be discussed and agreed upon with NDEP prior to use in the HRA.

As part of the RZ-C post-remediation risk assessment, a data quality assessment will be conducted. An evaluation of all validated data will be conducted to document soil concentrations removed from further evaluation due to soil removal activities and remaining chemical concentrations. The risk assessment will discuss the sufficiency of the data to identify the COPCs and select an Exposure Point Concentration (EPC) for the exposure scenarios evaluated

[1] Deep background comparison based on NDEP directed use of RZ-A as the background dataset.

in the HRA. The EPC for use in the risk assessment is likely to be the maximum COPC concentration within the entire RZ area (i.e., RZs -B, -C and -D) following polygon excavations. In some instances, a 95% upper confidence limit may be used to evaluate the RZ-C area or subarea in which sufficient vertical and lateral data have been collected.

As pending data become available, errata to this report will be prepared presenting the data and any changes in excavation areas or depths of excavations.

1.4 RZ-C Site Conditions

RZ-C is generally rectangular in shape, with the long axis running roughly east/west. The southern boundary of RZ-C is the northern boundary of RZ-B, while the northern boundary of RZ-C coincides with the southern boundary of the Beta Ditch (RZ-E), as shown on Figure 1. In general, the land surface in RZ-C slopes northward at a gradient of approximately 0.023 feet per foot. The developed portions of RZ-C have been modified by grading to accommodate plant facility buildings, access roads, ponds, and other features.

RZ-C is crossed by asphaltic concrete roads and dirt roads. A network of active and inactive underground utility lines is present under the roads and some open areas of RZ-C. Figure 3 shows the approximate locations and types of utilities that are present in RZ-C, as well as the summary of the information provided on known utility lines. The locations of the lines have been field-checked by Tronox where surface expressions of the utilities are present. It is likely that unknown utilities, both active and inactive, also exist in RZ-C and may be encountered during remediation. Field procedures to address the possibility of encountering unknown utilities will be included in the contractor plans and specifications. It is Tronox's intent that the contractor be responsible for locating, avoiding, and protecting underground and above-ground utilities during remedial activities.

2.0 SCOPE OF WORK

The remediation program at RZ-C will consist of soil excavation and off-Site disposal. The proposed excavation areas were generated using information gathered during the Soil Investigation Programs, a conceptual site model (CSM) review, and a field check of the existing Site conditions.

Based on NDEP guidance and the results of the Soil Investigation Programs, Tronox will excavate contaminated soil to the excavation boundaries and depths shown on Figures 2a through 2c and in Table 1. Table 1 also shows the chemical group(s) driving the target excavation depths, the impacted soil location, the adjacent or bordering sample locations, excavation boundary modifications, designation of backfill use, and any additional pending samples for each excavation area. In some instances, additional samples have been collected to refine the bottom or the lateral extent of the excavation. Additional pre-confirmation samples have been collected to evaluate the property boundaries as directed by NDEP. These samples are noted in Table 1.

Excavated soil will be transported for permanent off-Site disposal at the Republic Landfill in Apex, Nevada, or other approved landfills in accordance with sampling results and landfill acceptance criteria.

All work conducted as part of this EP will be performed in accordance with the following plans:

- Dust Mitigation Plan and Clark County Dust Permit (to be submitted by the Remediation Contractor);
- *Perimeter Air Monitoring Plan* (Approved by NDEP on May 12, 2010);
- *Stormwater Pollution Prevention Plan* (Approved by NDEP on May 12, 2010) ;
- Contractor's Site-Specific Health and Safety Plan (HSP; to be submitted by the Remediation Contractor); and
- *Transportation Plan* (Approved by NDEP on May 12, 2010).

These plans are part of the RAW (Northgate, 2010), with the exception of the contractor's Dust Mitigation Plan, Clark County Dust Permit, and the Site-Specific Health and Safety Plan.

2.1 Excavation Boundary Constraints

RZ-C has been subdivided into excavation areas identified as RZ-C-01 through RZ-C-47, as listed in Table 1 and shown on Figures 1, 2a, 2b and 2c. Some of the excavation areas identified

for RZ-C are constrained by site features. This section provides a detailed description, on an excavation area-specific basis, of the constraints for the proposed excavations. In some instances CSM rationale is used to constrain the limit of the proposed excavations. These constraints are also listed in Table 1 under "Excavation Boundary Modification". Tronox will receive NDEP approval on boundary modifications prior to excavation.

The following methodology was used in determining the lateral and vertical limits of excavation, based on creation of Voronoi diagrams/Thiessen polygons.

a. The depth of the excavation polygon was determined by the depth to a non-impacted sample in a contaminated sampling location.

b. The lateral limits of excavation were generated by determining the half-way point between defining contaminated sampling location(s) and adjacent non-impacted sampling locations.

2.1.1 Property Lines

Ten of the proposed excavation areas (RZ-C-01, -04, -06, -13, -15, -24, -26, -27, -45, and -47) are constrained by the Tronox Site property lines. Because soil sampling has only been performed in areas owned by Tronox, no data exists in adjacent areas. Prior to excavation, confirmation samples at the limits of the proposed excavation areas that border the property line will be collected at a minimum of one sample per property line boundary excavation, or one sample per 150 lineal feet, whichever is greater. Samples will be collected near the proposed excavation sidewall at a depth coinciding with the maximum concentration in the nearest sample. Samples will be analyzed for the chemical(s) driving the excavation, as shown in Table 1.

2.1.2 RZ-E (Beta Ditch) Excavation Zone Boundary

Seven of the Excavation Areas border on RZ-E (the Beta Ditch). Those excavation areas are RZ-C-28, -28A, -29, -30, -31,-32, -37, and -38. The excavation areas were not carried into the Beta Ditch because this area will be excavated and removed in accordance with the Excavation Plan for RZ-E.

2.1.3 Pond Constraints

Nineteen of the excavation areas (RZ-C-9A, -10, -16, -17, -18, -19, -20, -21, -22A, -29, -30, -31, -31A, -32, -33, -35, -38, and 41A) border on, are part of, or all of the former ponds. The boundaries of these areas were altered because of the presence of the ponds. In the case that pond samples meet the project Comparison Criteria, the excavation area(s) abutting the ponds were truncated and the entire pond was considered to meet the Comparison Criteria. Generally, in the

case where one or more of the pond samples exceeded project Comparison Criteria, the entire pond was considered to exceed project Comparison Criteria, and the excavation area was extended to the full area of the pond. However, in the case of RZ-C-9 and -10, the pond was split due to sufficient available data (including data at depth) that justified splitting the pond. The resulting excavations were shallow for only asbestos in the west end and a 10-foot excavation in the eastern end driven by arsenic, dioxins/furans, HCB, magnesium, and perchlorate.

Pond MN-1 is located at the eastern end of RZ-C north of the former historic manganese tailings pile. This pond remains in service and will continue to be operational for the foreseeable future. No borings have been drilled in the pond during the Soil Investigation Programs; therefore, no excavation areas are associated with this pond, pending NDEP approval of Environmental Covenants.

2.1.4 Equalization (BT) Tanks

Four tanks exist in the northern central portion of RZ-C, as shown on Figure 1. Two of these tanks are currently in use by Veolia for their water treatment operations. These tanks are expected to continue to be in use for the foreseeable future. The tank area is a depressed area designed for containment in case of a tank leak. An approximately 4 foot high concrete containment wall surrounds the area. The floor of the containment area slopes slightly to the center. The base area is approximately 4.5 feet lower than the adjacent grade. The area is lined with 6-inches of concrete, and according to the construction plans, the concrete is underlain by 6 inches of aggregate base, making the total depth to native soil approximately 5.5 feet. Concrete ring footing foundations are present below the four tanks. These foundations extend only about 0.5 feet below the bottom of the slab. The excavation areas around the BT Tanks in RZ-C range from 7 feet to 10 feet below grade. Tronox proposes to delay remediation of the BT Tank area until the tanks are no longer needed. This proposed delay is based on the small amount of contaminated soil that could be removed if the concrete containment slab and walls were demolished and aggregate base removed, as well as the cost of replacement of the concrete containment. Tronox will discuss this BT Tank area proposal with NDEP.

2.1.5 Steam Plant

The steam plant and its various smaller supporting buildings are currently an integral part of the Tronox Facility. The steam plant is currently utilized and cannot be taken out of service without completely shutting down Tronox manufacturing operations. The steam plant is expected to continue to be in use for the foreseeable future. Two excavation areas, RZ-C-16 and RZ-C-41, currently include portions of the steam plant facilities. Both of these areas are slated to be excavated to a depth of one foot. Tronox proposes to excavate to one foot to the limits of the

buildings and equipment pads without undermining any of the foundations. The remaining excavations will be deferred until the steam plant is no longer in use.

2.1.6 Utility Lines

No excavation boundary modifications are currently proposed for existing utilities. However, as shown on Figure 3, a number of overhead and buried utilities are present in proposed excavation areas. It is Tronox's intent to excavate to the boundaries and depths shown on Figures 2a through 2c. NDEP has indicated a preference to address known utility conflict issues prior to excavation. Tronox is currently identifying these areas throughout the Site and intends to meet with NDEP before excavation proceeds to resolve the identified areas. If additional areas are discovered during excavation, it may become necessary to keep some existing soil in place for support of utilities that cannot be moved or temporarily taken out of service. If and when these situations arise, Tronox will contact NDEP to discuss the situation and Tronox's proposed procedure measures.

3.0 REMEDIATION

3.1 Work Area Preparation

This section describes the preparation activities that will be performed prior to excavating and transporting soil from the RZ excavation areas. As described in the RAW, the following remediation support features will be established and/or constructed prior to performing soil excavation activities in RZ-C, as delineated in Figure 5 of the RAW:

- Access routes for authorized visitor and contractor Site ingress and egress;
- Haul roads to the public access roads;
- Clearing and disposal of vegetation in excavation areas, access and haul roads;
- Dust-control water source(s);
- Visitor area;
- Management/engineering trailers;
- Parking areas for workers, vehicles, and heavy equipment;
- Debris storage area; and
- Vehicular and personnel decontamination areas.

Portions of RZ-C contain excess soil materials derived on-Site and concrete debris. Prior to beginning soil excavation in the excavation areas, debris and excess soil will be moved from the work area and disposed or stockpiled in non-working areas. Provided that the excess soil meets the project Comparison Criteria, it is also possible that this excess soil and concrete debris could be recycled and used as fill. Tronox prefers to use imported fill materials. Post-excavation backfilling is discussed further in Section 3.4.

3.2 Well Abandonment

Twenty-two active wells are located within RZ-C, as shown approximately on Figure 4. Wells M-147, M-148, M-33, M-32, M-31A, M-149, and M-153 are in the former manganese tailings pile area in the eastern portion of RZ-C. In order to accommodate the manganese tailings removal, M-148 was abandoned. Based on the location of planned excavation areas, five of the wells (M-111, M-111A, M-147, M-123, and M-17A) will be impacted during remediation activities. M-17A is located in an area where the excavation depth is proposed to be 6 feet. Well M-123 is in an area where the excavation depth is 3 feet. Well M-147 is in an area where the excavation depth is 4 feet. Wells M-111 and M-111A are located in an area where excavation is planned for a depth of 10 feet. These deeper wells could be protected during excavation and

backfilling by marking and placing barricades and caution tape, or they could be properly abandoned prior to excavation. If wells become damaged beyond repair, they will be properly abandoned and similar wells will be installed after remediation work is complete in order to continue groundwater characterization and remediation activities, if appropriate. Well abandonment procedures will be performed in accordance with Nevada Division of Water Resources (NDWR) requirements.

3.3 Excavation

This section describes the excavation of contaminated soil from RZ-C. The excavation areas are shown on Figure 1, with areas impacted by asbestos shown in blue and the remainder of excavation areas shaded in tan. The target depths of excavation areas are shown on Figures 2a through 2c and summarized in Table 1.

In general, the cutlines represent the lateral limit of the bottom of the excavation area. The excavations will generally be sloped or benched outward and upward from the cutline at a 1:1 slope (horizontal to vertical). If a proposed excavation abuts a structure or buried foundation as deep or deeper than the proposed excavation, the excavation will be dug to the full depth at the obstruction boundary. NDEP has requested that steps be taken to minimize the amount of contaminated soil left behind against obstructions and property lines (obstructions). In order to accomplish this objective, Tronox proposes to attempt to excavate against obstructions in relatively narrow slots perpendicular to the obstruction/property line. Slots would be excavated as steep as possible and be backfilled immediately upon removal of the contaminated soil. Workers would not be allowed in the slots until the excavation height reaches a safe level. The intent is to maintain support for the obstructions and, at the same time, protect workers.

Where excavation areas abut each other, the deeper excavation will be excavated to the full depth at the limits shown on the plan figure, then sloped upward at 1:1 horizontal to vertical toward the shallower excavation, to avoid leaving any contaminated soil (See Figure 5 for a typical cross-section illustrating this condition).

Where data is pending that may change the shape of the excavation area, it is Tronox's intent that the sampling location not be incorporated into the design of the excavation area shapes. When the data become available, the shape and number of excavation areas may change. At that time, an errata will be prepared to reflect these changes and will be sent to NDEP for review and approval.

The excavations will generally be sloped or benched outward and upward from the cutline at a slope of 1:1 slope (horizontal to vertical). In general, the lateral boundaries at the ground surface

will be expanded to accommodate 1:1 slopes so that the bottom of the excavation area encompasses the entire excavation polygon. In cases where the excavation abuts a structure, feature, or property line that cannot be removed, the cutline represents the top-of-slope. Temporary fencing will be placed along the perimeter of excavations 5 feet or more in depth and in areas where the excavations represent a potential traffic or safety hazard. If excavations are to be left un-backfilled, the side slopes will be flattened to 2:1 (horizontal to vertical). During construction, portions of the excavation sidewalls may also be flattened or the excavation partially backfilled to facilitate vehicle traffic or soil handling activities.

The target excavation depths may be revised based on visual staining, odors, monitoring instrumentation readings, or other indications. Depths may also be modified in the field if utilities and other buried structures are encountered. Northgate will obtain NDEP approval of any changes to the excavation depths shown in Table 1 and Figures 2a through 2c as field work progresses and if special cases are encountered.

It is anticipated that excavations deeper than 1 foot will be performed with heavy earth-moving excavators. Excavations less than 1 foot deep will be performed either with an excavator or motor grader (blade). The contractor may elect to stockpile soil in the excavation area or may load the soil directly into trucks for off-Site disposal.

3.4 Post-Excavation Backfilling

Tronox will backfill some of the excavations in RZ-C with clean material. Backfill will be required in instances where contaminated soil is left in place at 10 feet to provide a minimum 10-foot thickness of clean soil from the ground surface. Backfill will also be required to maintain vehicle access in excavation areas where roadways exist. Such backfilling will be performed by the contractor in accordance with the remediation plans and specifications. Backfill materials will be tested by Northgate for geotechnical engineering and environmental compliance requirements. Test results will be provided to NDEP before the material is accepted for use in backfilling. Imported backfill will have sufficient analytical testing to support a health risk assessment. It is anticipated that soil backfill borrow sources will be from clean areas on the project Site. “Clean areas” are defined as areas with soil concentrations meeting the NDEP worker BCLs, background metals concentrations consistent with RZ-A, and modified risk-based cleanup goals. If backfilling to the previous surface grades is not proposed, Tronox will discuss these areas with NDEP.

Analytical test results indicate that the existing upper portion of the north-south Trade Effluent Pond berm in the north-west corner of RZ-D is clean soil and is suitable for use as backfill. Additional testing is being performed to evaluate the lower portions of the berm.

The areas and thickness of backfill that Tronox anticipates will be backfilled are noted on Table 1.

3.5 Air Monitoring

Air monitoring will be performed for fugitive dust emissions, chemicals of concern, and volatile chemical emissions in accordance with the *Perimeter Air Monitoring Plan* (PAMP; Appendix B of the RAW) and the Contractor's HSP. Table 1 of the PAMP presents the RZ-C specific list of constituents to be monitored. Because of the relatively small size of the excavation area in comparison to the overall Site, it is Tronox's opinion that perimeter monitoring at the edges of individual excavation areas is not necessary to demonstrate that the dust control measures are adequate. Tronox proposes to perform perimeter air monitoring at the Site perimeter as described in the PAMP. In addition, particulate matter with a diameter of 10 micrometers or less (PM10) real-time monitoring will be performed on selected workers in the work area. Perimeter and worker air monitoring will be used to evaluate the effectiveness of dust control measures in mitigating emissions. If emissions exceed the action levels outlined in the PAMP, actions will be taken in accordance with the PAMP to bring the emissions into conformance with the plan. Mitigation actions include additional soil wetting, covering exposed soil stockpiles, use of dust palliatives, ceasing operations if the wind velocity exceeds the value set in the PAMP, and ceasing operations until effective measures are implemented.

4.0 INSTITUTIONAL AND ENGINEERING CONTROLS

It is Tronox's intent to excavate contaminated soils in RZ-C excavation areas to the lateral extent and to the depths described in Table 1 and shown on Figures 2a through 2c. Currently, there are no locations where institutional or engineering controls are proposed within RZ-C. However, there are several areas of concern that could be proposed for engineering and institutional controls. These areas include:

- The Equalization (BT) Tanks used by Veolia;
- The Steam Plant (main building, support buildings and equipment pads); and
- Avenues E and F.

The Equalization (BT) Tank area is divided between two proposed excavation areas. These areas have associated 7-foot and 10-foot depths of excavation. There are no borings within the tank area that drive the excavations. Currently on the RZ-C Figures, The BT Tank area has been excluded. The steam plant out-buildings are located within an excavation area where a 1-foot depth of excavation is proposed. There are also no borings in the out-building area. Avenues E and F cross Parcel C and contain a significant number of shallow active utility lines (see Figure 3).

Tronox proposes to minimize these potential engineering and institutional control areas by performing additional sampling in strategic areas where, if samples are clean, controls become unnecessary.

If a situation arises where engineering or institutional controls become necessary, Tronox will contact NDEP and a decision will be made in concert with NDEP. If a decision is made to institute institutional or engineering controls, the procedures will be in accordance with the *Revised Environmental Covenants, Institutional and Engineering Control Plan* issued by Tronox on June 9, 2010 for NDEP review and comment.

5.0 REFERENCES

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FIGURES

TABLE

APPENDIX A
RZ-C ANALYTICAL DATA
(Provided on DVD)