



environmental management, inc.

March 25, 2010

Mr. Matt Paque  
3301 NW 150<sup>th</sup> Street  
Oklahoma City, Oklahoma 73134-2009

RE: Final Revised Pre-Confirmation Sampling Work Plan  
Remediation Zones RZ-A through RZ-E  
Phase B Investigation, Tronox Facility, Henderson, Nevada  
*Project # 2027.01*

Dear Mr. Paque:

During a meeting held on February 22, 2010, a program for implementing a pre-confirmation sampling plan at the Tronox Henderson Facility (Site) was presented to the Nevada Department of Environmental Protection (NDEP). Tronox presented maps showing proposed boundaries of potential excavation areas where particular chemical constituents are present in the upper 10 feet of soil at concentrations above various comparison criteria<sup>1</sup>, based on the results of sampling during the Phase A and B Environmental Condition Assessment (ECA) programs. Tronox also presented proposed pre-confirmation sampling locations to further refine the vertical and horizontal extent of the excavation areas.

At the conclusion of the meeting, NDEP and Tronox reached an agreement on the conceptual scope and implementation of the pre-confirmation sampling program. The final meeting minutes were documented and submitted by NDEP to Tronox via email on March 1, 2010. On March 9, 2010, Tronox submitted a Pre-Confirmation Sampling Work Plan to NDEP describing the proposed approach and methodology for pre-confirmation sampling within each of the agreed upon remediation zones<sup>2</sup>. Table 1 of the Work Plan was revised and re-submitted on March 15, 2010. NDEP provided comments on the Work Plan in a letter dated March 17, 2010. A revised Work Plan was submitted on March 19, 2010 responding to NDEP's comments. Our Response to Comments (RTC) letter is included as Attachment B of this submittal. In a letter dated March 22, 2010, NDEP indicated that the Work Plan would be acceptable following receipt of an errata

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<sup>1</sup> Criteria 1 (dark blue polygons): Arsenic greater than 18 milligrams per kilogram (mg/kg), chrysotile long fiber count greater than 13, amphibole long fiber count greater than 1, dioxin greater than 2,200 parts per trillion (ppt), all other constituents greater than NDEP worker basic comparison levels (BCLs).

Criteria 2 (light blue polygons): Arsenic greater than 7.2 and less than 18 mg/kg, chrysotile long fiber count greater than 5 and less than or equal to 13, dioxin greater than 1,000 and less than or equal to 2,200 ppt, and low levels of polycyclic aromatic hydrocarbons (PAH)s, Criteria 3 (teal polygons): one long amphibole fiber with no other risk drivers.

<sup>2</sup> For investigation purposes, the Site was divided into four areas (I, II, III, IV). For remediation planning purposes, it was agreed that the Site would be divided into five Remediation Zones ( RZ-A, RZ-B, RZ-C, RZ-D, RZ-E).

(which includes an RTC letter addressing a few additional comments). This final revised document addresses those comments and includes an additional RTC letter as Attachment C.

This final revised Work Plan has also been updated to reflect recent NDEP clarification (email from Brian Rakvica to Susan Crowley on March 23, 2010) regarding the basic comparison level (BCLs) of total chromium and hexavalent chromium. Using this guidance, when both hexavalent chromium and total chromium data are collected, total chromium concentrations should be compared to the BCL for trivalent chromium, not the BCL for total chromium as was done originally. Because there are no measured total chromium or hexavalent concentrations at the Site above their respective BCL in the upper 10 feet of soil, sampling for total chromium has been eliminated from this pre-confirmation sampling program.

## **OBJECTIVE**

The objective of the pre-confirmation program is to refine remediation planning while establishing the vertical and horizontal extent (“cutlines”) of the proposed excavations in shallow soils (0 to 10 feet below ground surface [bgs]). In addition to determining the extent of remediation, identification of cutlines will allow final risk assessment calculations to be prepared in parallel with the excavation of soils exceeding NDEP limits. This will facilitate completion of remedial excavation by the end of 2010 as required by the NDEP Order dated December 14, 2009 (NDEP, 2009).

## **BACKGROUND AND SAMPLING RATIONALE**

For general background information, the reader is referred to the *Phase A Source Area Investigation Work Plan Tronox LLC-Henderson, Nevada* (ENSR, 2006) and the Phase B Work Plans for Area I, Area II, Area III and Area IV describing the Phase B Source Area Investigations for the individual investigation areas (AECOM, 2008).

Chemical analyses from soil samples collected during the Phase A and B sampling programs showed that within the upper 10 feet of soil, there are locations where dioxin, hexachlorobenzene (HCB), and other semi-volatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs)<sup>3</sup>, asbestos, metals, organochlorine pesticides (OCPs); and/or perchlorate exceed the various criteria as defined in Footnote 1.

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<sup>3</sup> There was only one instance where PCBs exceeded the BCL in shallow soil (aroclor-1260 within boring SA165), however, deeper soil samples (1.0-1.5’ and 1.5-2.0’) at that location were found to be below the BCL for PCBs, therefore, no additional analyses for PCBs are recommended.



Voronoi/Thiessen polygons were generated for the Site using the Phase A and B soil analytical data. The polygons define areas with BCL exceedances or other criteria (as specified on Figure 1-1 and defined in Footnote 1). There are a few locations where total petroleum hydrocarbons (TPH) exceed 100 milligrams per kilogram (mg/kg) but concentrations of individual TPH constituents such as benzene, toluene, ethyl benzene, xylenes (BTEX)<sup>4</sup> or the individual polycyclic aromatic hydrocarbons (PAHs) do not exceed worker BCLs. As approved by NDEP, “TPH only” polygons are not included as potential excavation locations. In total, 104 polygons have been retained for additional evaluation and/or remediation.

During the meeting on February 22, it was agreed that the Site would be divided into five remediation zones that are roughly based on geographic groupings of elevated detections of contaminants and conceptual site model (CSM) considerations. Figure 1-1 shows the five remediation zones (named RZ-A through RZ-E).

Table 1 incorporates analytical data collected during Phase A and B of the Source Area Investigations for each of the 104 remediation polygons for RZ-B, -C, -D, and -E. The Table includes a description of the proposed pre-confirmation sampling program and includes a brief description of the sampling rationale. There are no remediation polygons within the southernmost zone (RZ-A); therefore, no further pre-confirmation sampling is proposed in RZ-A. As requested by NDEP, we are also providing tables which summarize the sampling program for each remediation zone, RZ-B, -C, -D and -E, in Tables 2 through 5, respectively.

As shown in Tables 1 through 5, there are two types of boring locations associated with the pre-confirmation sampling program: 1) borings to be installed adjacent to existing Phase A and B sampling locations (*existing locations*); and 2) borings to be installed at new locations (*new locations*). Sample locations are shown on Figures 1-2 through 1-5 for remediation zones RZ-B through RZ-E, respectively. Analytical data for constituents exceeding the NDEP worker BCLs or other criteria in the upper 10 feet of soil are shown on these maps<sup>5</sup>.

Data from the new borings installed at *existing locations* will be used to establish remediation depths (i.e., used as pre-confirmation samples and will establish cutlines). Eighty-four borings are proposed at existing locations as shown on Figure 1-1.

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<sup>4</sup> There were no samples within the upper 10 feet of soil with where BTEX compounds were reported above worker BCLs.

<sup>5</sup> Analytical results of samples from the next depth sampled below 10 feet bgs are also shown on Tables 1-5 and Figures 1-2 through 1-5 for reference purposes.



Borings installed at *new locations* will define the horizontal extent of remediation. Sampling at new locations will also include vertical delineation. Ninety-one new sampling locations are proposed.

### **Asbestos/Arsenic**

Asbestos is generally only expected within the surficial soil (0-6 inches)<sup>6</sup>. As agreed to in the February 22, 2010 meeting and documented in the meeting notes under number 13, when asbestos is co-located with other contaminants that will result in the removal of the soil to a depth of at least 1 foot bgs (that is, at least 6 inches below the surface soil) then additional asbestos sampling is not proposed. This agreement was made by NDEP with the caveat that the asbestos only polygon data demonstrates that the asbestos is only a surficial issue. As requested, Tronox will be prepared to submit a technical memorandum detailing the asbestos results. This memo will also include a conclusion as to whether the asbestos results and monitoring data collected during excavation support the conclusion that asbestos is limited to the surface soil.

There are a few exceptions where co-located asbestos will be sampled under the following specific conditions:

- If a polygon contains dioxin and asbestos only and the dioxin concentrations are in the range of 1,000 to 3,000 ppt, there is the potential that the results of the bioaccessibility extraction testing program (Northgate, 2010) may preclude the need for removal of the dioxin; therefore, asbestos in the soil that occurs at concentrations above the established criteria must be sampled and analyzed to establish the cutline for removal.
- If a polygon contains perchlorate and asbestos only, there is potential for perchlorate flushing to be used in this area; therefore, asbestos must be sampled to establish the cutline for removal.
- If a polygon contains arsenic and asbestos only, and the arsenic is relatively low in concentration, it may be found to be within background levels; therefore, asbestos must be sampled to establish the cutline for removal.

Sampling locations for arsenic are not based on a specific concentration level since the BCL for arsenic (1.77 mg/kg) is less than background levels. The polygons were developed based on arsenic concentrations greater than 7.2 mg/kg; however, a specific level for cutline has not been agreed upon at this time. During the February 22<sup>nd</sup> meeting, NDEP and Tronox reviewed the

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<sup>6</sup> One noted exception is the possibility of deeper asbestos in the area of the demolished unit building basements located in RZ-B. This possibility was discussed in the February 22, 2010 meeting and documented in the meeting notes. The soil in the vicinity of the demolished unit buildings will be sampled and analyzed early in the program which will allow for additional deeper sampling and analysis during the same mobilization if warranted.



draft Table 1 and determined the locations where additional arsenic evaluation sampling was recommended. The revised Table 1 that was submitted on March 9 and revised on March 15 reflected the agreed-upon sampling locations for arsenic. The comment letter provided by NDEP on March 17 revised the sampling status at a few of these locations. In general, samples for arsenic will be collected in the range of 3 to 9 feet bgs for existing locations and 1 to 10 feet bgs for new locations. There are a few select instances where samples for arsenic at existing locations will be collected at additional depths.

Tronox is currently performing statistical calculations to establish background arsenic concentrations for the upper 10 feet of soil within each of the remediation zones. Once the background concentrations of arsenic have been established and approved by Tronox and NDEP, sampling and analysis relative to arsenic will be revised as appropriate based on the approved background evaluation. If the background evaluation has not been approved at the time of sample collection, the arsenic samples outlined in the plan will be collected and they will be selectively analyzed to provide an indication of the spatial variability considering statistical background calculations. Final decisions regarding arsenic remediation will be based on a background statistical evaluation.

## **SCOPE OF WORK**

Work will be conducted following BMI standard operating procedures (SOPs). Specific SOPs employed are described below.

### **Vertical Delineation Sampling at Existing Locations**

The vertical delineation sampling for constituents of interest (other than asbestos) at the existing Phase A and B sampling points will generally start at approximately 3 feet bgs, as Phase A and B data generally exists for the interval from 0 to 2 feet bgs and at 10 feet bgs. Samples will be collected at 1-foot depth intervals to a depth of 9 feet bgs (3, 4, 5, 6, 7, 8, and 9 feet). There are a few instances where samples will also be collected at depths of 1 and/or 2 feet bgs as recommended in NDEP's comment letter and as deemed worthwhile for potentially reducing the cutline depth. There is also one location where a sample will be collected at 10 feet bgs, as a sample was previously collected at this depth.



At locations where perchlorate is found above the BCL at 10 feet bgs, samples will be collected and analyzed for perchlorate at 2 foot intervals in the upper 10 feet (4, 6, and 8 feet bgs<sup>7</sup>) to establish a profile for potential perchlorate flushing.

At locations where dioxin and/or HCB are scheduled for analysis, a subset of these samples will be analyzed using a screening method (EPA 4025 for dioxin and EPA 8081m for HCB). If the sample results from the screening are lower than the BCL or other criteria, the sample will be analyzed by the full suite confirmation methods (EPA 8290 for dioxin confirmation and EPA 8270 for HCB confirmation). Additional deeper confirmation analysis for dioxin or HCB may be necessary if the confirmation result does not pass the BCL or other criteria.

At locations where metals, OCPs, perchlorate, or SVOCs other than HCB are scheduled for collection and analysis, the samples will be submitted to a fixed laboratory and a subset of the samples will be analyzed on an iterative basis to establish cutlines. At least one confirmation sample will be analyzed for each of the constituents scheduled for sampling at a particular location to establish an acceptable outline.

Analytical data from samples collected at a depth of 10 feet bgs during the previous source identification programs are included in Tables 1 through 5. At select locations, previous analytical results indicate that soil at 2 and 10 feet bgs contains constituents that exceed the risk criteria. This plan includes deeper sampling at a few locations to provide additional information for final grade design.

### **Horizontal Refinement and Vertical Delineation Sampling at New Locations**

Sampling at the new step-out locations (except for asbestos) will start at 1 foot bgs. Samples will be collected at 1-foot depths to a depth of 10 feet bgs. A subset of these 10 samples will be analyzed as necessary to establish an acceptable outline as described in the previous section.

At step-out locations that are adjacent to an existing boring which has perchlorate above the BCL at 10 feet bgs, samples will be collected at 2 foot intervals in the upper 10 feet (2, 4, 6, 8, and 10 feet bgs). All 2-foot interval samples will be analyzed for perchlorate to establish a profile for potential perchlorate flushing.

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<sup>7</sup> Samples already exist at 2 and 10 feet bgs at existing locations.



## **Asbestos Sampling**

Asbestos samples will be collected according to SOP-12 (BRC, 2009c). Samples for horizontal refinement (step-out locations) will be collected at two depths: a surface sample collected from 0 to 2 inches bgs, and a second sample collected from 4 to 6 inches bgs, which will be held pending the results of the analysis of the surficial sample. Samples associated with the existing Phase A/B locations already have results for the 0 to 2 inch bgs, so samples will be collected from 4 to 6 inch bgs interval at these locations for confirmation purposes. If the 4 to 6 inch bgs sample does not produce results below the acceptable criteria for asbestos, an additional sample will be collected and analyzed from a depth of 8 to 10 inches bgs. The 8 to 10 inch bgs asbestos samples will not be collected at the time of the initial asbestos sampling. Upon receipt of an asbestos result which does not pass the acceptable criteria, Tronox will mobilize to collect and analyze an 8 to 10 inch bgs sample.

## **Sampling Techniques**

Soil samples may be collected using a variety of methods consisting of one or more of the following: sonic, hollow-stem auger, Geoprobe™ drilling, and near surface sampling with shovel and trowel. Soil borings at locations not previously sampled will be logged in the field using the procedures as described in *SOP-14 Field Documentation* (BRC, 2009d) and *SOP-17 Soil Logging* (BRC, 2009e). Soil samples will be collected following the procedures described in *SOP-07 Soil Sampling* (BRC, 2009b). If a sonic drill rig or hollow-stem auger drill rig is employed, a split-spoon sampler fitted with brass liners will be used to collect soil samples for laboratory analyses using the procedures described in BRC *SOP-23 Split Spoon Sampling* (BRC, 2009g). If a Geoprobe™ drill rig is used, soil samples will be collected using a Macrocorer™ sampler fitted with acetate liners.

Equipment cleaning or decontamination procedures will be followed using the procedures described in *SOP-31 Drilling Equipment Decontamination* (BRC, 2009h).

Sample containers will be sealed, labeled, and placed on ice inside an ice chest and provided to the laboratory under chain-of-custody protocol using the procedures described in *SOP-06 Sample Management and Shipping* (BRC, 2009a).



Analysis of the vast majority of the samples will be placed on hold pending initial screening in the field lab<sup>8</sup> of dioxin and HCB samples. Screened samples will be logged under a chain-of-custody and will be stored on site in a refrigerated, locked truck for proper storage and maintenance of samples prior to analysis. The samples that are not included in the screening program, but which must be analyzed by a fixed laboratory, will be shipped directly to the fixed laboratory for sample storage and/or analysis.

Each borehole will be abandoned once the target depth has been reached and the necessary samples are obtained. The boreholes will be abandoned by backfilling with a bentonite/neat cement grout using the procedures described in *SOP-19 Borehole Abandonment* (BRC, 2009f). Soil cuttings (including unused soil cores) will be temporarily stored in U.S. Department of Transportation (DOT) -approved steel 55-gallon drums while awaiting receipt of the final laboratory results. Each drum will be managed according to the procedures described in *SOP-34 Investigative Derived Waste (IDW) Management* (BRC, 2009i). At the end of each day, equipment decontamination water will be temporarily stored in DOT-approved 55-gallon drums. Each drum will be marked with water-proof labels and water-proof markers. Each drum will receive a unique identification number and will be catalogued for waste containment documentation purpose. Following characterization, each drum of material will be disposed of as appropriate per federal, state, and local requirements.

## **Analytical Program**

The analytical program is outlined in Tables 1 through 5. Analyses are proposed for the following chemical constituents:

- Dioxin (81 borings);
- SVOCs:
  - HCB (65 borings),
  - PAHs (6 borings);
- Asbestos (71 borings);
- Metals:
  - arsenic (62 borings),
  - cobalt (5 borings),
  - lead (2 borings),

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<sup>8</sup> Samples for dioxin or HCB analyses may also be screened by a fixed lab. Proper chain-of-custody, handling and shipping procedures will be followed for screening analyses.





- magnesium (6 borings),
- manganese (16 borings),
- Perchlorate (25 borings); and
- OCPs (7 borings).

The chemical constituents to be analyzed at each location are based on the result of the Phase A and B Investigation (see Tables 1 through 5 for specific analyses to be conducted at each boring location).

There are three fundamental analysis programs:

- 1) The asbestos analytical program follows the procedures outlined in SOP-12. This plan requires that a sample collected for asbestos analysis be submitted to the analyzing laboratory for determination of the short and long fiber chrysotile and amphibole content of the sample. The *Phase B Quality Assurance Project Plan (QAPP)*, (AECOM, 2009) and (AECOM/Northgate, 2009), will be used as the applicable quality assurance/quality control (QA/QC) guidance for field and laboratory QA/QC samples and for the reporting of asbestos analytical data. All asbestos samples will be submitted for analysis to the laboratory. At the new locations where samples from two depths are being collected (0-2 inches and 4-6 inches), analysis of the deeper samples will be put on hold pending results of the analysis of the shallow sample. If the risk criterion is exceeded in the shallow sample, the deeper sample will be analyzed and the results reported.
- 2) The dioxin and HCB analysis program incorporates a screening methodology to find the location of a potential depth that passes the risk criteria level for dioxin and HCB. Dioxin screening will be performed using method 4025 and HCB screening using a modified method 8081. Once a screened value falls below the risk criteria, the sample will be analyzed by a fixed laboratory (capable of providing EQuIS™ deliverables) as the compliance sample for full analyses using the applicable laboratory analytical method (8290 for dioxin and 8270C for SVOCs). Results for the full suite of each analytical method will be reported. The screening data will only be used to evaluate the depth of a potential passing sample.
- 3) OCPs, SVOCs other than HCB, perchlorate and metals will not be screened. OCPs samples will be analyzed using method 8081A, SVOCs will be analyzed using method 8270C, perchlorate will be analyzed using method 314.0, and individual metals, as necessary for each location (refer to Tables 1 through 5 for metal to be analyzed at each location), will be analyzed by methods 6010B/6020. Results for the full suite of OCPs, the full suite of SVOCs, perchlorate and the individual metals will be reported with EQuIS™ deliverables.



### **Field Quality Assurance/Quality Control Requirements**

Field QA/QC requirements will follow the procedures defined in the Phase B Sampling and Analysis Plans (SAPs) and QAPP (June 2009). Summary information is provided below for these requirements.

#### ***Field QA/QC Samples***

Field QA/QC procedures will be followed to ensure viability and integrity of sample analytical data. The field investigative team will be responsible for submitting QA/QC samples to the laboratory. QA/QC samples include field duplicates, equipment decontamination blanks, and field blanks. In addition, matrix spike and matrix spike duplicate samples will be collected at five percent of the sampling locations to supplement laboratory quality control sample analyses.

#### ***Field Duplicate Samples***

One field duplicate will be collected for every 10 samples submitted for analysis. The duplicate sample will be tested for the same suite of analytical parameters as the corresponding original sample.

#### ***Equipment Decontamination Blank Samples***

Equipment decontamination blanks will consist of laboratory-grade distilled water rinsed through clean sampling devices. These devices include the soil sampling equipment used in the investigation. Equipment decontamination blanks will be collected at five percent of the sampling locations.

#### ***Field Blank Samples***

Field blank samples consisting of the decontamination source water will be analyzed for the full suite of analytes shown on Tables 1 through 5, except for asbestos. Field blank samples will be collected from water used for the equipment blank samples. As with the previous Phase B sampling, the decontamination water source will be laboratory-grade water obtained from the Tronox onsite laboratory.



## CLOSING

If you have any questions or comments on this Work Plan, please contact either of the undersigned.

Sincerely,  
Northgate Environmental Management, Inc.



Deni Chambers, C.E.G., C.Hg.  
Principal-in-Charge



Derrick Willis  
Project Manager

Enclosures: **Attachment A** – References

**Attachment B** – Response to NDEP Comments Dated March 17, 2010

**Attachment C** – Response to NDEP Comments Dated March 22, 2010

**Table 1** - Pre-Confirmation Sampling Plan – Remediation Zones RZ-B, RZ-C, RZ-D, RZ-E

**Table 2** – Pre-Confirmation Sampling Plan –RZ-B

**Table 3** – Pre-Confirmation Sampling Plan –RZ-C

**Table 4** – Pre-Confirmation Sampling Plan –RZ-D

**Table 5** – Pre-Confirmation Sampling Plan –RZ-E

**Figure 1-1** - Exceedance Polygons for Shallow Soils (<10 feet bgs) Direct Contact Exposure

**Figure 1-2** - Remediation Zone B (RZ-B) – Unit Buildings and Current Leach Plant Production Area

**Figure 1-3** - Remediation Zone C (RZ-C) – Ammonia Perchlorate Production Area, Koch Material Area, Pond and Diesel Storage Tank Area, Manganese Tailings Area

**Figure 1-4** - Remediation Zone D (RZ-D) – Trade Effluent Ponds and AP Pad/Drum Recycling Area

**Figure 1-5** - Remediation Zone E (RZ-E) – Beta Ditch



# ATTACHMENT A

## REFERENCES

- AECOM, 2009. *Quality Assurance Project Plan*, Tronox LLC Facility, Henderson, Nevada. May 2009.
- AECOM, 2008. *Revised Phase B Site Investigation Work Plan, Text, Tables and Figures*. Tronox LLC Facility. Henderson, Nevada. December 2008.
- AECOM and Northgate Environmental Management, Inc., 2009. *Quality Assurance Project Plan*, Tronox LLC Facility, Henderson, Nevada. Revised June 18, 2009.
- Basic Remediation Company (BRC), 2009a. *BRC Standard Operating Procedure (SOP) 06. Sample Management and Shipping*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009b. *BRC Standard Operating Procedure (SOP) 07, Soil Sampling*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009c. *BRC Standard Operating Procedure (SOP) 12. Asbestos Soil Sampling*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009d. *BRC Standard Operating Procedure (SOP) 14. Field Documentation*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009e. *BRC Standard Operating Procedure (SOP) 17. Soil Logging*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009f. *BRC Standard Operating Procedure (SOP) 19. Borehole Abandonment*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009g. *BRC Standard Operating Procedure (SOP) 23. Split Spoon Sampling*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009h. *BRC Standard Operating Procedure (SOP) 31. Equipment Drilling Decon*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009i. *BRC Standard Operating Procedure (SOP) 34. Investigative Derived Waste (IDW) Management*. Revision 4. December 2009.
- Basic Remediation Company (BRC), 2009j. *BRC Standard Operating Procedure (SOP) 42. Soil Sampling by Geoprobe™ Methods*. Revision 4. December 2009.



## ATTACHMENT A

ENSR Corporation (ENSR), 2006. *Phase A Site Source Area Investigation Work Plan*. Tronox LLC Facility. Henderson, Nevada. September 2006.

Nevada Division of Environmental Protection (NDEP), 2009. *Enforcement Action for Failure to Complete Approved Site Remediation Activities, and Show Cause Meeting*. December 14, 2009.

Northgate, 2010. *Revised Memorandum: Protocol: Bioaccessibility Method for Dioxin/Furans in Soil*. February 19, 2010.



**From:** Deni Chambers

**Date:** March 19, 2010

**To:** Shannon Harbour, P.E.  
Nevada Division of Environmental Protection

**RE:** Response to NDEP Comments Dated March 17, 2010 on *Pre-Confirmation Sampling Work Plan, Remediation Zones, RZ-A through RZ-E, Phase B Investigation, Tronox LLC, Henderson, Nevada*

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1. General comment, at an NDEP-TRX meeting on February 22, 2010, NDEP asked what data TRX is planning on using for the post-remediation risk assessment for the calculation of cumulative risk if excavation removes some or all of the broad suite analysis data at a sampling point. (i.e. would current surface sample concentrations be used for any chemicals that didn't exceed BCLs or would the current 10 feet below ground surface (fbgs) samples be used?) To date, this issue has not been resolved and will affect the determination on whether the data collected as proposed in this Deliverable is adequate for post-remediation risk assessment. TRX should contact NDEP by **March 19, 2010** to schedule a meeting and establish the deadline for the submittal of a technical memo addressing this issue.
  - Response: Based on the NDEP conference call on March 19, 2010, Tronox will respond to this comment via a technical memorandum to be provided on March 22, 2010.
2. Asbestos Sampling section, page 5, please clarify whether the six to eight inches below ground surface (bgs) sample will be collected at the same time as the zero to two-inch bgs and four to six-inches bgs samples or collected as necessary in a separate sampling event after the receipt of the analytical results from the other two sampling depths.
  - Response: Eight- to 10-inch bgs samples (rather than 6- to 8- inches bgs samples) will be collected as necessary in a separate sampling event after receipt of the analytical results from the shallower depths. A statement has been added to the Work Plan to clarify the timing of the potential 8- to 10-inch bgs asbestos samples.
3. Analytical Program, NDEP has the following comments:
  - a. Pages 6-7, revise the bulleted text as necessary to address the comments in this letter.
    - Response: Bulleted text has been revised to address the comments.
  - b. Page 8, Item 3, the column headings in Table 1 should be modified as indicated by the text in this paragraph (i.e. the column headings should be grouped as SVOCs including

PAHs (Method 8270C) and OCPs (Method 8081A) as applicable since full suites for these analyses will be used and reported.

➤ Response: Column headings have been modified as requested.

c. Page 8, Items 2 and 3, TRX should clarify whether 8270B or 8270C or both will be used for the fixed lab analyses.

➤ Response: The text of Item 3 has been corrected to read “8270C”.

d. Perchlorate was not discussed in this section. Please revise as necessary.

➤ Response: A discussion relative to perchlorate sampling has been added to the section.

4. Table 1, NDEP has the following comments:

a. Please break this Table into four separate Tables for each of the Remediation Zone Areas.

➤ Response: Four separate tables have been generated (Tables 2 through 5 for RZ-B through RZ-E, as requested. Unnecessary blank columns within each of the individual remediation zone tables have been removed and column widths expanded for ease of reference. Table 1 has been retained to represent the entire sampling program.

b. TRX should indicate the cutline depth in the Rationale column for borings where the cutlines have already been established.

➤ Response: Cutline depths have been added to the “Rationale” column, as requested.

c. Asbestos sampling, there is no need to separate the chrysotile sampling from the amphibole sampling as the analytical method reports both. Please revise the sampling designation to include both types of fibers so that it is clear that both types of fibers will be analyzed and reported (Please note that TRX could combine the two asbestos columns for simplicity).

➤ Response: The two columns have been combined and both types of fibers are listed in the heading.

d. The following borings should indicate analysis of perchlorate at each depth through the soil column as stated in the Rationale (e.g. profile perchlorate concentration through the top ten feet of the soil column for potential soil flushing): RSAR7, SA65, SSAM4-02, SSAN4-01, SSAM5-02, RSAM5, and SA129 (soil profiling should be added to Rationale based on perchlorate concentrations).

➤ Response: The sampling program has been revised to include sampling and analysis for perchlorate at 2-foot depth intervals for locations where perchlorate is reported above the BCL at a depth of 10 fgbs. The sampling is being conducted to establish a profile for potential perchlorate flushing. Sampling and analysis for



perchlorate at 2-foot depth intervals is also included at horizontal sampling locations associated with these locations. This modification covers all of the locations listed in 4.d above, as well as SA104, SSAM6-01, SA106, SSAO5-02, SA72, SSAM5-01, and SSAL5-05. The "Rationale" cells have been updated to reflect these modifications.

- e. TRX should consider sampling at one foot intervals starting at 1 fbgs in the following borings because the cutline established by other contaminants (if any) is at 1 fbgs: SA63, SA43, SA42, SA40, SA51, RSAP6, SA139, RSAL3, RSAK8, SA165, SA17, and SA131.
  - Response: The plan has been revised to include sampling starting at 1 fbgs in the borings listed above as requested. However, if background arsenic concentrations are approved prior to sampling and/or analysis being conducted, the planned sampling and/or analysis will be revised as appropriate to eliminate sampling for arsenic at locations where it has been encountered below approved background levels.
- f. TRX should consider sampling at one foot intervals starting at 2 fbgs in the following borings because the cutline established by other contaminants is 1.5 fbgs or 2 fbgs: SA41, RSAJ2, and SA107.
  - Response: The plan has been revised to include sampling starting at 2 fbgs in the borings listed above, as requested.
- g. TRX needs to include confirmation sampling for asbestos in the following borings as confirmation samples must be collected for each analyte that is detected above the applicable comparison levels. (Please note that the code for asbestos (3) should be added in the column for Chemical Group Code Driving Additional Sampling and a sampling depth of 4-6" should be added.): SA102, SA41, SA39, SA130, RSAP6, RSAL2, RSAK5, RSAJ5, RSAJ6, and SA86.
  - Response: In the February 22, 2010 meeting it was agreed and documented in the notes (Item 13) that asbestos only polygons would be sampled and that polygons where asbestos is co-located with other contaminants would not be sampled beyond the surface. At all of the locations listed above, asbestos is co-located with other constituents which will result in the removal of the surficial soil (to a minimum depth of 1 foot).
- h. SA169, in the column for Chemical Group Code Driving Additional Sampling add the code for asbestos (3) and add a sampling depth of 4-6 feet for the asbestos sampling depth.
  - Response: As noted in 4.g. above, asbestos that is co-located with other contaminants that will result in the removal of the surficial asbestos will not be sampled. The "X" has been removed from the "Asbestos" column.
- i. SA203, the cutline at this sampling point should be set at 10 fbgs because of elevated arsenic concentration at this depth.





- Response: Analysis for arsenic at depths of 2, 4, 6, and 8 fbgs are proposed at location SA203 to establish profiling for potential risk calculations.
- j. SA04, arsenic is greater than background in both the surface and 10 fbgs samples. The cutline at this sampling point should be established at 10 fbgs.
- Response: Analysis for arsenic at depths of 2, 4, 6, and 8 fbgs are proposed at location SA04 to establish profiling for potential risk calculations.
- k. RSAN6, TRX should re-evaluate the need for sampling of arsenic at this sampling point. The arsenic concentration at this location may be too elevated to pass a background comparison and would therefore have to be excavated.
- Response: The arsenic concentration has potential to be below background. Sampling for arsenic at this location has been added to the sampling program for profiling per NDEP's request, but will be eliminated if found to be less than approved background concentration.
- l. SSAM7-03, TRX should add to the Rationale that the results of this boring could be used for refinement of the remediation polygon for SA49, which contains elevated HCB and perchlorate. As such, perchlorate should also be added for sampling and analysis.
- Response: Perchlorate was added to sampling schedule and the "Rationale" cell was modified as requested.
- m. SSAM7-04, in the column for Chemical Group Code Driving Additional Sampling, please add the code for HCB (2).
- Response: The HCB code (2) has been added to the "Chemical Group Code Driving Additional Sampling" column.
- n. SA137, TRX should add the collection of a sample at 10 fbgs as no 10 fbgs sample was initially collected.
- Response: A 10-foot sample has been added to location SA137.
- o. SSAL2-01, TRX should add OCP analysis to this boring to constrain RSAL2 polygon. If TRX plans on using the railroad tracks as a practical excavation constraint for RSAL2, then the samples as proposed is sufficient.
- Response: TRX plans on using the railroad tracks as a practical excavation constraint for RSAL2. No change was made.
- p. SSAJ8-01, TRX should consider adding arsenic to the proposed sampling for this boring.
- Response: SSAK8-02 should be sufficient to bound polygon RSAK7 to the east. No change was made.
- q. SA129, TRX should add OCP analysis to this boring since 4,4-DDE and 4,4-DDT concentrations were still elevated above the BCL at 2 fbgs.



- Response: OCPs 4,4-DDE and 4,4-DDT are both below the BCL at 1.5 to 2.0 fbgs at SA129. No change was made.
- r. SA86, TRX states in the Rationale that arsenic appears to be within background but has proposed arsenic sampling. Please revise as needed.
  - Response: Sampling for arsenic at SA86 has been removed.
- 5. Figures, NDEP has the following comments:
  - a. Please clarify the status of SA205 as it is unclear whether data for this sample has been received.
    - Response: SA205 has a green symbol indicating no BCL exceedances in the top 10 feet. It is partially covered by boring SA04, so this is difficult to discern. A note has been added to Figure 1-2 to help clarify the status of SA205.
  - b. TRX should remove any polygons from the Figures that are listed as being within background on Table 1.
    - Response: Polygons RSAQ5, SA33, and SA198 have been removed from the Figures.
  - c. Figure 1-3, exceedance data for boring SA139 should be added to this Figure.
    - Response: Exceedance data for boring SA139 has been added to Figure 1-3.



**From:** Deni Chambers

**Date:** March 25, 2010

**To:** Shannon Harbour, P.E.  
Nevada Division of Environmental Protection

**RE:** Response to NDEP Comments Dated March 22, 2010 on *Revised Pre-Confirmation Sampling Work Plan, Remediation Zones, RZ-A through RZ-E, Phase B Investigation, Tronox LLC, Henderson, Nevada*

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1. Response-To-Comment (RTC) 4.g, according to the minutes from our February 22, 2010 meeting, NDEP agreed to the following, "Asbestos that is co-located with other contaminants will not be sampled beyond the surface if the asbestos only polygon data demonstrate that the asbestos is only a surficial issue. The air monitoring data collected during excavation will also be used to support this decision." Therefore TRX should be prepared to submit a technical memo detailing the asbestos sampling results that should also contain a supported conclusion on whether the asbestos results data support that the asbestos contamination is limited to the surface (i.e. 0 – 6 inches below ground surface). Please add text clarifying this procedure to this Work Plan.
  - *Response: The text of the work plan has been revised to include additional clarifying text as requested.*
2. TRX should add "or to establish a cutline based on the arsenic data" to the Rationale of the following borings: SA203, SA04, RSAN6, SA42, SA41, and SA40
  - *Response: The Rationale sections of the appropriate tables have been revised as requested for the borings listed above.*
3. TRX should add "cutline established at 1.0 fbgs" to the Rationale of the following borings: SA104, SA105, and SA189
  - *Response: The Rationale sections of the appropriate tables have been revised as requested for the borings listed above.*
4. TRX should add "cutline established at 1.5 fbgs" to the Rationale of boring SA107
  - *Response: The Rationale sections of Tables 1 and 5 have been updated to include the cutline for boring SA107.*
5. TRX should modify the Rationale for boring RSAH3 to state that the cutline is established at 1.0 fbgs instead of 1.5 fbgs.

- *Response: The Rationale sections of Tables 1 and 4 have been corrected for boring RSAH3.*
6. The Rationale for boring SSAJ8-01 states that arsenic will be sampled for polygon control. RTC 4.p states that arsenic will not be sampled for this boring. Please review and revise as necessary for consistency.
- *Response: The Rationale sections of Tables 1 and 4 have been corrected to remove arsenic sampling from boring SSAJ8-01.*
7. Boring SA129 lists OCPs as being sampled; however, RTC 4.q states that OCPs will not be added to this boring and the Rationale does not mention OCP sampling. Please review and revise as necessary for consistency.
- *Response: Tables 1 and 5 have been corrected to remove OCP sampling from boring SA129.*



**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results										Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method												
					1	2	3	4	5	5	5	5	6	8/9				10	Dioxin	HCB	Asbestos	Arsenic	Cobalt	Lead	Mg	Mn	Perchlorate	SVOCs B(a)P/ other PAHs <sup>(1)</sup>	OCPs <sup>(2)</sup>	
					1,000 ppt	1.2 mg/kg	>5 chrysotile 1 amphibole	1.77 mg/kg	331 mg/kg	800 mg/kg	100,000 mg/kg	13,700 mg/kg	795 mg/kg																	
1	1-2 RZ-B	SA03	Q3	<u>Depth</u> 0.0-0.5'	<u>Asbestos</u> <b>1(amph)</b>									3	Sample for asbestos from 4 to 6"	4-6"			X											
2	1-2 RZ-B	RSAQ3	Q3	<u>Depth</u> 0.5-2.0' 0.5-2.0'D 10-11.5' 25-26.5'	<u>Dioxin</u> <b>13,000</b> <b>5,700</b> -	<u>Arsenic</u> <b>7.36</b> <b>10.1</b> <b>2.49</b> <b>13.6</b>	<u>B(a)A</u> 2.2 <b>2.5</b> <0.0006 <0.0006	<u>B(a)P</u> <b>2.5</b> <b>3</b> <0.0071 <0.0073	<u>B(b)F</u> <b>3.6</b> <b>4.1</b> <0.0012 <0.0013	<u>D(a,h)A</u> <b>0.77</b> <b>0.75</b> <0.00081 <0.00083	<u>IP</u> <b>2.7</b> <b>2.9</b> <0.00093 <0.0009	1,4,8,9	Sample dioxin and PAHs to establish cutline, arsenic appears to be background, sample to evaluate arsenic	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold			X							X Hold Hold Hold Hold Hold Hold					
3	1-2 RZ-B	SA169	Q3	<u>Depth</u> 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	<u>Asbestos</u> <b>1(amph)</b> - - -	<u>Dioxin</u> - <b>2,000</b> - -	<u>B(a)P</u> - <b>0.24</b> <0.015 0.044						1,8	Sample dioxin and B(a)P to establish cutline, removal of dioxin and B(a)P should remove asbestos, location of bioaccessibility testing	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold									X Hold Hold Hold Hold Hold Hold					
4	1-2 RZ-B	SA192	R3	<u>Depth</u> 0.0-0.5'	<u>Asbestos</u> <b>1(amph)</b>								3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X												
5	1-2 RZ-B	RSAR3	R3	<u>Depth</u> 0.0-0.5'	<u>Asbestos</u> <b>8(chrys)</b>								3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X												
6	1-2 RZ-B	SA193	Q3	<u>Depth</u> 0.0-0.5'	<u>Asbestos</u> <b>1(amph)</b>								3	Sample for asbestos from 4 to 6"	4-6"			X												
7	1-2 RZ-B	SA110	R3	<u>Depth</u> 0.5-2.0' 10-11.5' 25-26.5'	<u>B(a)P</u> <b>0.44</b> <0.00071 <0.00089								8	Sample for B(a)P to establish cutline	3' 4' 5' 6' 7' 8' 9'									X Hold Hold Hold Hold Hold Hold						
8	1-2 RZ-B	SA120	Q4	<u>Depth</u> 0.0-0.5'	<u>Asbestos</u> <b>17(chrys)</b>								3	Sample for asbestos from 4 to 6"	4-6"			X												
9	1-2 RZ-B	SA213	Q4	<u>Depth</u> 0.0-0.5'	<u>Asbestos</u> <b>8(chrys)</b>								3	Sample for asbestos from 4 to 6"	4-6"			X												
10	1-2 RZ-B	SSAQ4-01	Q4	New									3	Northwestern edge of SA213 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold												
11	1-2 RZ-B	SSAQ4-02	Q4	New									3,4	Northeastern edge of polygons SA213 and SA204 which have asbestos and arsenic, sample for asbestos and arsenic for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'			X Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold											
12	1-2 RZ-B	SA121	Q4	<u>Depth</u> 0.0-0.5'	<u>Asbestos</u> <b>8(chrys)</b>								3	Sample for asbestos from 4 to 6"	4-6"			X												
13	1-2 RZ-B	SSAQ4-03	Q4	New									3	Within island area of SA101 which had 5 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold												

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results								Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method													
																1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>			
																EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)			
14	1-2 RZ-B	SSAR4-03	R4	New											3	Within island area of SA101 which had 5 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold									
15	1-2 RZ-B	SA29	R4	Depth 0.0-0.5'	Asbestos 20(chrys)										3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X									
16	1-2 RZ-B	SA111	R4	Depth 0.0-0.5'	Asbestos 26(chrys)										3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X									
17	1-2 RZ-B	RSAR4	R4	Depth 0.0-0.5' 0.0-0.5'D	Asbestos 8(chrys) 12(chrys)										3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X									
18	1-2 RZ-B	SSAR4-01	R4	New											3	South of RSAR4 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold									
19	1-2 RZ-B	SA204	Q4	Depth 0.5-2.0' 10-11.5'	Arsenic 11.6 4.22										4	Sample for arsenic to evaluate trend	3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold								
20	1-2 RZ-B	SA203	Q4	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 7.56 26.7 2.88										4	Sample arsenic at 2, 4, 6, and 8 feet bgs to establish profiling for potential risk calculations or to establish a cutline based on the arsenic data	2' 4' 6' 8'				X X X X								
21	1-2 RZ-B	SA04	Q5	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 20-21.5'	Asbestos 13(chrys) - - -	Arsenic - 13.4 11.3 5.3									3,4	Sample for asbestos from 4 to 6", sample arsenic at 2 foot intervals to evaluate trend for potential risk calculation or to establish a cutline based on the arsenic data	4-6" 2' 4' 6' 8'			X									
22	1-2 RZ-B	SA84	Q4	Depth 0.5-2.0' 10-11.5' 25-26.5'	Dioxin 1,200 - -	HCB 1.8 <0.00088 <0.00087	Arsenic 189 3.81 6.28								1,2,4	Sample for dioxin, HCB, and arsenic to establish cutline, location of bioaccessibility testing	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold										
23	1-2 RZ-B	SA191	R4	Depth 0.0-0.5'	Asbestos 25(chrys)										3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X									
24	1-2 RZ-B	SSAR5-01	R5	New											3	Eastern edge of SA191 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold									
25	1-2 RZ-B	RSAQ5	Q5	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 7.36 3.95 2.88										-	No sampling - arsenic appears to be background, polygon removed from figure													
26	1-2 RZ-B	SA156	Q5	Depth 0.5-2.0' 10-11.5'	Dioxin 1,300 -	Arsenic 18.1 2.03	Perchlo 813 9.98	B(a)P 1.3 <0.0007	D(a,h)A 0.41 <0.0008						1,4,6,8,9	Sampling for dioxin, arsenic, perchlorate, and B(a)P, and D(a,h)A to establish cutline (perchlorate may only be in the shallow soil so sampling at 1 foot depth intervals is recommended)	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
27	1-2 RZ-B	SA05	Q6	Depth 0.0-0.5'	Asbestos 12(chrys)										3	Sample for asbestos from 4 to 6"	4-6"			X									
28	1-2 RZ-B	SA136	Q6	Depth 0.0-0.5'	Asbestos 7(chrys)										3	Sample for asbestos from 4 to 6"	4-6"			X									

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
29	1-2 RZ-B	SSAR6-01	R6	New							3	North of SA161 (no colored polygon) which had 4 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold							
30	1-2 RZ-B	SSAR6-02	R6	New							3	South of SA161 (no colored polygon) which had 4 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold							
31	1-2 RZ-B	SA32	R6/ R7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 9-10.5' 20-21.5'	HCB 3.6 2 0.03 0.3 0.027						-	No sampling - cutline established at 1.5 feet bgs											
32	1-2 RZ-B	RSAR7	R7	Depth 0.5-2.0' 9-10.5' 20-21.5'	Arsenic 17.8 2.96 4.76	Perchlo 201 1,260 2,970					4,6	Sample arsenic to establish profile, potential perchlorate flushing, sample perchlorate at 2 foot intervals to establish profile, portions of polygon within active area	3' 4' 5' 6' 7' 8' 9'						X X X				
33	1-2 RZ-B	SA33	R7	Depth 0.5-2.0' 10-11.5' 20-21.5'	Arsenic 7.42 2.12 9.81						-	No sampling - arsenic appears to be background, polygon removed from figure											
34	1-2 RZ-B	RSAS8	S8	Depth 0.0-0.5'	Asbestos 7(amph)						3	Sample for asbestos from 4 to 6"	4-6"			X							
35	1-2 RZ-B	SA77	S8	Depth 0.0-0.5'	Asbestos 1(amph)						3	Sample for asbestos from 4 to 6"	4-6"			X							
36	1-3 RZ-C	SA56	N2/ O2	Depth 0.0-0.5' 10-11.5' 25-26.5'	Arsenic 50.7 1.76 12.6	Mn 61,400 367 1,390					4,5	Sample Mn and arsenic to establish cutline	3' 4' 5' 6' 7' 8' 9'						X X X X X X X				
37	1-3 RZ-C	SSAN2-01	N2	New							4,5	Northeastern edge of polygon SA56 which has arsenic and Mn, sample for arsenic and Mn for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'						X X X X X X X X X				
38	1-3 RZ-C	SA09	O3	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 20-21.5'	Asbestos 1 (amph) - - -	Arsenic - 17 3 18					3,4	Sample for asbestos in shallow soil, sample for arsenic to evaluate vertical trend	4-6" 3' 4' 5' 6' 7' 8' 9'			X				X X X X X X			

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method														
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													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)				
39	1-3 RZ-C	SSAN3-01	N3	New							3,4	Northern edge of polygon SA09 which has asbestos and arsenic, sample for asbestos and arsenic for polygon control outside of LOU 35	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'			X Hold											
40	1-3 RZ-C	SSAN3-02	N3	New							3,4	Northeastern edge of polygon SA09 which has asbestos and arsenic, sample for asbestos and arsenic for polygon control outside of LOU 35	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'			X Hold											
41	1-3 RZ-C	SA48	O3	Depth 0.0-0.5' 10-11.5' 20-21.5'	Arsenic 8.84 3.88 11.7						4	Sample for arsenic to evaluate trend	3' 4' 5' 6' 7' 8' 9'														
42	1-3 RZ-C	SSAO3-01	O3	New							4	Southern portion of polygon SA48 which has arsenic, sample for arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'														
43	1-3 RZ-C	SA207	O3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 16,473 16,000 14,000 - -	HCB 7 9.9 6.8 0.17 <0.00091	Mg 240,000 - - 230,000 8,260				1,5	Mg above BCL at 2' and 10', assume need to excavate to 10', need to infill to have 10' of clean soil, or potentially sample from 12 to 18 to get information on Mg at deeper depths and provide potential for partial backfill, dioxin not expected deep, sample dioxin at 12' by EPA Method 8290 to confirm	12' 14' 16' 18'	X								X Hold Hold Hold					
44	1-3 RZ-C	SSAP3-01	P3	New							1,2,5	Southwestern edge of polygon SA207 which has dioxin, HCB, and Mg, sample for dioxin, HCB, and Mg for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold									X Hold Hold Hold Hold Hold Hold Hold Hold			



**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method															
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>					
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)					
45	1-3 RZ-C	SA182	O4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Dioxin 27,442 2,100 28,000 - -	HCB 16 9.9 6.8 <0.001 <0.0013	Arsenic 12.3 - - 2.91 19.8				1,2,4	Sample dioxin and HCB to establish outline, arsenic appears to be background, sample to evaluate trend	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold													
46	1-3 RZ-C	SSAO4-01	O4	New							1,2,4	Northern portion of polygon SA182 which has dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control outside of LOU 64	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold													
47	1-3 RZ-C	SSAO4-02	O4	New							1,2,4	Eastern portion of polygon SA182 which has dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold													
48	1-3 RZ-C	SA50	O5	Depth 0.0-0.5'	Asbestos 1 (amph)						3	Sample for asbestos from 4 to 6"	4-6"				X											
49	1-3 RZ-C	SSAO4-03	O4	New							3	Southwestern edge of SA50 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"				X Hold											
50	1-3 RZ-C	SSAO5-01	O5	New							3	Northwestern edge of SA50 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"				X Hold											
51	1-3 RZ-C	SA11	O5	Depth 0.0-0.5' 0.0-0.5'D	Asbestos 1 (amph) 0 (amph)						3	Sample for asbestos from 4 to 6"	4-6"				X											
52	1-3 RZ-C	SA106	O5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 12-13.5' 20-21.5'	Dioxin 10,723 4,500 4,700 - -	HCB 13 7.5 7.0 <0.001 <0.001	Arsenic 42.4 33.0 11.2 2.74 5.85	Mg 180,000 173,000 209,000 11,500 6,720	Perchlo 5,300 - - 1,050 859		1,2,4,5,6	Sample dioxin, HCB, arsenic, and Mg to establish outline, potential perchlorate soil flushing location, sample to establish profile	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold						X X X X X							
53	1-3 RZ-C	SSAO5-02	O5	New							1,2,3,4,5,6	Northern portion of SA109 and adjacent to polygon SA11, outside of LOU 8 to north which has dioxin, HCB, arsenic, asbestos, Mg, and perchlorate, sample for dioxin, HCB, asbestos, arsenic, and Mg for polygon control outside of 8, sample perchlorate at 2 foot intervals for profiling	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold							X X X X X X X X X					

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
54	1-3 RZ-C	SA187	O5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Dioxin 2,310 270 7.8 -	HCB 2 4.8 0.026 <0.001 <0.001	Arsenic 11.9 2.69 3.36 3.76 3.95	Mn 33,600 3,220 1,170 414 317	B(a)P 0.45 <0.071 <0.0007 <0.0071 <0.0072	-	No sampling - cutline established at 1.5 feet bgs												
55	1-3 RZ-C	SSAO5-03	O5	New						1,2,4,5,8	Western portion of polygon SA187 which has dioxin, HCB, arsenic, Mn, and B(a)P, sample for dioxin, HCB, arsenic, Mn, and B(a)P for polygon control outside of LOU 45, EPA 8270 confirmation sample result may preclude need for additional analyses for B(a)P if below BCL in confirmation sample - see shaded cells to right	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold Hold Hold Hold			
56	1-3 RZ-C	SA188	O5	Depth 0.5-2.0' 10-11.5' 25-26.5'	Mn 59,100 374 151					5	Sample Mn to establish cutline	3' 4' 5' 6' 7' 8' 9'									X Hold Hold Hold Hold Hold Hold		
57	1-3 RZ-C	SA65	M5	Depth 0.5-2.0' 10-11.5' 20-21.5'	Perchlo 647 1,690 984					6	Sample perchlorate to establish profile at 2 foot intervals, potential for perchlorate flushing	4' 6' 8'									X X X		
58	1-3 RZ-C	SSAM4-02	M4	New						6	Northwestern edge of SA65 which has perchlorate, sample for perchlorate at 2 foot intervals for polygon control and potential profiling	2' 4' 6' 8' 10'									X X X X X		
59	1-3 RZ-C	SSAN4-01	N4	New						6	Southern edge of SA65 which has perchlorate, sample for perchlorate at 2 foot intervals for polygon control and profiling	2' 4' 6' 8' 10'									X X X X X		
60	1-3 RZ-C	SSAM5-02	M5	New						3,6	Border of SA65, SA15, and RSAM5 which have perchlorate and asbestos, sample asbestos for polygon control and perchlorate at 2 foot intervals for polygon control and profiling	0-2" 4-6" 2' 4' 6' 8' 10'									X X X X X		
61	1-3 RZ-C	SA15	M5/ N5	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 20-21.5'	Asbestos 2 (amph) - -	Perchlo - 113 1,210 943				3	Sample for asbestos in upper 1.5', perchlorate above BCL below 10'	4-6"									X		
62	1-3 RZ-C	RSAM5	M5	Depth 1.5-2.0' 10-11.5'	Perchlo 4,920 2,620					6	Potential for perchlorate flushing, sample perchlorate at 2 foot intervals for profiling	4' 6' 8'									X X X		

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method																					
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>											
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)											
63	1-3 RZ-C	SA58	N5	Depth 0.0-0.5' 0.5-2.0' 1-1.5' 10-11.5'	Asbestos 8 (chrys) - -	Dioxin - 1,432 1,100 500						1,3	Dioxin (less than 3,000 mg/kg) and asbestos, sample dioxin and asbestos	4-6" 3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold		X																	
64	1-3 RZ-C	SSAN5-01	N5	New								1,3	Southern edge of SA58 which has dioxin and asbestos, sample for dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold																	
65	1-3 RZ-C	SA196	N5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 6,952 550 25 -	HCB 5.8 1.4 0.096 <0.001						-	No sampling - cutline established at 1.5 feet bgs																					
66	1-3 RZ-C	SSAN6-04	N6	New								1,2	Southern end and borders of SA196 and SA150 which have dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold																		
67	1-3 RZ-C	SA150	N6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 3,052 2 2.3							-	No sampling - cutline established at 1 foot bgs, location of bioaccessibility testing																					
68	1-3 RZ-C	SSAN6-03	N6	New								1,4	Borders of SA150 and RSAN6 which have dioxin and arsenic, sample for dioxin and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold																	
69	1-3 RZ-C	SA104	M6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 2,045 20 1.3 -	Perchlor 2,460 5,010 3,490 510						6	Dioxin vertical extent defined with a cutline established at 1.0 foot bgs, potential perchlorate flushing location, sample perchlorate at 2 foot intervals to establish profile	4' 6' 8'												X X X								
70	1-3 RZ-C	SA105	N6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,402 300 430							-	No sampling - cutline established at 1.0 foot bgs																					

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method																
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>						
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)						
71	1-3 RZ-C	SA60	N6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 12-13.5' 20-21.5'	Dioxin 4,550 1,900 5,600 - -	HCB 3.6 2 1.7 0.27 0.022					1,2	Sample dioxin and HCB to establish cutline	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold														
72	1-3 RZ-C	SA198	M6/ N6	Depth 0.5-2.0' 10-11.5'	Arsenic 7.51 3.94						-	No sampling - arsenic appears to be background, polygon removed from figure																	
73	1-3 RZ-C	SSAM6-01	M6	New							1,2,6	Near intersection of polygons SA60, SA105, and SA104 which have dioxin, HCB, and perchlorate, sample for dioxin, HCB, for polygon control, sample perchlorate at 2 foot intervals to establish profile, adjacent to LOU 53	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold											X X X X X			
74	1-3 RZ-C	RSAN6	N6	Depth 0.5-2.0' 10-11.5' 20-21.5'	Arsenic 8.61 2.23 4.45						4	Arsenic appears to be background, added to sampling schedule per request of NDEP for profiling and potentially to establish a cutline, sampling will be removed from schedule if found to be less than background	3' 4' 5' 6' 7' 8' 9'															X Hold Hold Hold Hold Hold Hold	
75	1-3 RZ-C	SSAN6-02	N6	New							1,2,4	Near intersection of polygons SA60, and RSAN6 which have dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold														
76	1-3 RZ-C	SA63	M7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 23-24.5'	Dioxin 5,854 49 5 - -	Arsenic 9.07 - - 4.57 21.7					4	Dioxin vertical extent defined with potential cutline at 1 foot bgs, arsenic may be background, but since background not yet determined, collect samples for arsenic from 1 to 9 feet, if found to be below background, the samples will not be analyzed, if background not determined, sample selectively to evaluate trend	1' 2' 3' 4' 5' 6' 7' 8' 9'															X Hold Hold Hold Hold Hold Hold Hold Hold	
77	1-3 RZ-C	SSAM7-03	M7	New							1,2,4,6	East end of SA63 and northeast end of SA49 which have dioxin, HCB, arsenic, and perchlorate, sample for dioxin HCB, arsenic and perchlorate for polygon control (perchlorate is only found in shallow soil of SA49)	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold														X Hold Hold Hold Hold Hold Hold Hold Hold Hold

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method												
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>		
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)		
78	1-3 RZ-C	SSAM7-04	M7	New							1,2,4	East of SA63 and LOU 18 which has dioxin and arsenic, add HCB per NDEP request, sample for dioxin, HCB, and arsenic	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										
79	1-3 RZ-C	SA49	N7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 12-13.5' 20-21.5'	Dioxin 4,018 3,900 23 - -	HCB 1.2 1.9 0.76 0.0044 <0.00087	Perchlo 1,330 707 509 56.9 10.5				-	No sampling - cutline established at 1.5 feet bgs													
80	1-3 RZ-C	SSAN6-01	N6	New							1,2,6	Western edge of polygon SA49 which has dioxin, HCB, and perchlorate, sample for dioxin, HCB, and perchlorate for polygon control (perchlorate is only found in shallow soil of SA49)	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold								X Hold Hold Hold Hold Hold Hold Hold Hold		
81	1-3 RZ-C	SA151	N6	Depth 0.0-0.5' 0.0-0.5'D	Asbestos 0 (amph) 1 (amph)						3	Sample for asbestos from 4 to 6"	4-6"				X								
82	1-3 RZ-C	SA200	O6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,027 560 10						-	No sampling - cutline established at 1 foot bgs													
83	1-3 RZ-C	SSAN6-06	N6	New							1	Northern portion of polygon SA200, outside of LOU 9 which has dioxin, sample dioxin for polygon control outside of LOU 9	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold											
84	1-3 RZ-C	SA114	O5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 2,522 8.2 3.1 -	HCB 2.7 0.033 0.015 0.001	Arsenic 7.37 2.37 2.15 2.91	Mg 126,000 10,500 10,000 10,200			-	No sampling - the cutline for dioxin, HCB, and Mg established at 1 foot bgs, arsenic below background beneath the cutline, location of bioaccessibility testing													
85	1-3 RZ-C	SA102	O6	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Asbestos 1 (amph) - - - -	Arsenic - 476 3.65 4.70 4.55					-	No sampling, arsenic cutline established at 1 foot bgs which will remove surficial asbestos													

**TABLE 1  
Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
86	1-3 RZ-C	SSAO6-01	O6	New						1,2,3,4,5,6	Between LOUs 9 (SA200), 13 (SA12 west end clean), 7 (SA102 and SA114), and 14 (SA51) which have dioxin, HCB, asbestos, arsenic, Mg, and perchlorate sample for dioxin, HCB, asbestos, arsenic, Mg, and perchlorate for polygon control between LOUs 9, 13, 7, and 14 (perchlorate in shallow soil only of SA51)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	
87	1-3 RZ-C	SSAO6-04	O6	New						1,2,3,4,5	Between LOUs 7 (SA102 and SA114) and 45 (SA43) which have dioxin, HCB, asbestos, arsenic, Mg, and Mn, sample for dioxin, HCB, asbestos, arsenic, Mg, and Mn for polygon control between LOUs 7 and 45	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold			
88	1-3 RZ-C	SA43	O6	<u>Depth</u> 0.5-2.0' 10-11.5' 25-26.5'	<u>Arsenic</u> 14.1 2.11 10.8	<u>Mn</u> 13,300 374 214				4,5	Sample for Mn to establish cutline and arsenic to evaluate trend starting at 1 foot bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						
89	1-3 RZ-C	SA42	O6	<u>Depth</u> 0.5-2.0' 10-11.5' 25-26.5'	<u>Arsenic</u> 9.2 2.52 11.5					4	Sample for arsenic to evaluate trend and potentially establish a cutline, may be within background and sampling may not be necessary	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						
90	1-3 RZ-C	SA41	O5	<u>Depth</u> 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	<u>Asbestos 1 (amph)</u> - - - - - -	<u>Dioxin</u> - 2,237 1,100 200 - -	<u>HCB</u> - 1.2 1.7 -<0.18 -<0.0009 -<0.0009	<u>Arsenic</u> - 7.58 - - 5.08 15.4	<u>B(a)P</u> - 0.43 0.28 -<0.14 -<0.0073 -<0.0074	4	Cutline established for dioxin, HCB and B(a)P, which should result in asbestos removal, sample for arsenic to evaluate trend and potentially establish cutline, sampling for arsenic may not be necessary if below background, location of bioaccessibility testing	2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						
91	1-3 RZ-C	SA40	O6	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	<u>Arsenic</u> 10.6 - - 2.16 7.34	<u>B(a)P</u> 0.35 0.1 -<0.0007 -<0.0071 -<0.0071				4	Cutline established for B(a)P at 1 foot bgs, sample arsenic starting at 1 foot to evaluate trend and potentially establish cutline, arsenic sampling may not be necessary if less than background	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method													
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>			
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)			
92	1-3 RZ-C	SSAO6-05	O6	New							3,4,5,8	Borders of polygons SA40 and SA130 which have asbestos, arsenic, Mn, and B(a)P, sample for asbestos, arsenic, Mn, and B(a)P for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'			X Hold						X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold			
93	1-3 RZ-C	SA39	O6	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	Asbestos 2 (amph) - - -	Arsenic - 238 2.63 9.6	Lead - 825 9.9 43.1	Mn - 19,800 414 799	Perchlo - 2,360 3.44 2.11		4,5,6	Sampling for arsenic, lead, Mn, and perchlorate (perchlorate may only be in shallow soil) to establish cutline, cutline will be deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold			X Hold Hold Hold Hold Hold Hold				
94	1-3 RZ-C	SA130	O6	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	Asbestos 8 (amph) - - -	Arsenic - 118 1.88 3.38	Mn - 15,500 339 293				4,5	Sampling for arsenic and Mn to establish cutline, cutline will be deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold			X Hold Hold Hold Hold Hold Hold						
95	1-3 RZ-C	RSAO6	O6	Depth 0.0-0.5' 0.0-0.5'D	Asbestos 1 (amph) 0 (amph)						3	Sample for asbestos from 4 to 6"	4-6"				X									
96	1-3 RZ-C	SSAN6-05	N6	New							3	Northwestern edge of RSAO6 polygon outside of LOU 13 which has asbestos, polygon to north (SA151) also has asbestos, sample asbestos for polygon control	0-2" 4-6"				X Hold									
97	1-3 RZ-C	SA51	O6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Dioxin 1,198 110 1.6 -	Arsenic 70.8 - - 2.88 8.33	Perchlo 1,960 40.7 16.8 19.2 182				4	Sampling to establish vertical extent of elevated arsenic starting at 1' since cutline for dioxin and perchlorate is at 1 foot bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold									
98	1-3 RZ-C	SSAO7-01	O7	New							1,2,3,4,5,6	Near intersection of polygons RSAO6, SA51, and SA137 which have dioxin, HCB, asbestos, arsenic, cobalt, Mn, and perchlorate, sample for dioxin, HCB, asbestos, arsenic, cobalt, Mn, and perchlorate for polygon control (perchlorate at SA51 only in shallow soil)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold	X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold			X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold						

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method													
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>			
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)			
99	1-3 RZ-C	SSAO6-03	O6	New							1,3,4,6	Between eastern end of LOUs 14 and 34W defined by polygons SA51 and RSAP6 which have dioxin, asbestos, arsenic, and perchlorate, sample for dioxin, asbestos, arsenic, and perchlorate for polygon control between eastern end of LOUs 14 and 34W (perchlorate at SA51 only found in shallow soil)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold									X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold			
100	1-3 RZ-C	SSAO6-02	O6	New							1,3,4,5,6	Between western end of LOUs 14 and 34W defined by polygons SA51 and SA39 which have dioxin, asbestos, arsenic, lead, Mn, and perchlorate, sample for dioxin, asbestos, arsenic, lead, Mn, and perchlorate for polygon control between western end of LOUs 14 and 34W (perchlorate may only be in shallow soil)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold			
101	1-3 RZ-C	RSAP6	P6	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	Asbestos 23(amph) - - -	Arsenic - 77.4 1.52 2.98					4	Sampling to establish vertical extent of elevated arsenic, removal of arsenic should take care of asbestos	1' 2' 3' 4' 5' 6' 7' 8' 9'											X Hold Hold Hold Hold Hold Hold Hold Hold		
102	1-3 RZ-C	SA137	O7	Depth 0.5-2.0' 15-16.5'	HCB 3.6 0.0058	Arsenic 38.2 4.88	Cobalt 784 8.6	Mn 41,900 461				2,4,5	Sampling to establish vertical extent of elevated arsenic, cobalt, Mn, and HCB	3' 4' 5' 6' 7' 8' 9' 10'		X Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold			
103	1-3 RZ-C	SSAN7-01	N7	New							2,4,5	Northeastern end of polygon SA137 which has HCB, arsenic, cobalt, and Mn, sample for HCB, arsenic, cobalt, and Mn for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold				



**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>	
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)	
104	1-3 RZ-C	SSAN7-02	N7	New							1,4	East of beta ditch, near beta ditch sample SA107 has dioxin and arsenic, sample for dioxin and arsenic	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										
105	1-3 RZ-C	SA139	N8	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 24.7 6.85 4.12	Cobalt 335 55.5 9.2	Mn 21,600 4,050 474				4,5	Sampling to establish vertical extent of elevated arsenic, cobalt and Mn starting at 1' bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'								X Hold Hold Hold Hold Hold Hold Hold Hold			
106	1-3 RZ-C	SSAO8-01	O8	New							4,5	Southern end of polygon SA139 which has arsenic, cobalt, and Mn, sample for arsenic, cobalt, and Mn for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'								X Hold Hold Hold Hold Hold Hold Hold Hold			
107	1-3 RZ-C	SA13	P7	Depth 0.0-0.5'	Asbestos 1(amph)						-	No sampling, outside of RZ-C within active area, but will sample polygon that extends into RZ-C to north												
108	1-3 RZ-C	SSAO8-02	O8	New							3	Northeastern edge of SA13 polygon which has asbestos, sample asbestos for polygon control in the area extending northward out of the active area	0-2" 4-6"											X Hold
109	1-3 RZ-C	SSAP7-01	P7	New							3	Northwestern edge of SA13 polygon which has asbestos, sample asbestos for polygon control in the area extending northward out of the active area	0-2" 4-6"											X Hold
110	1-4 RZ-D	RSAH3	H3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,360 190 380						-	No sampling, cutline established at 1.0 foot bgs, location of bioaccessibility testing												
111	1-4 RZ-D	SSAH3-01	H3	New							1,2	Borders of RSAH3 and RSAI3 polygons which have dioxin and HCB, sample for dioxin and HCB, sampling is for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold									

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
112	1-4 RZ-D	SSAI3-01	I3	New							1,2	Borders of RSAH3 and SA201 polygons which have dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold								
113	1-4 RZ-D	RSAI3	I3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 4,010 280,000 9,700 - -	HCB 15 710 12 19 0.29					1,2	HCB above BCL at 2' and 10', assume need to excavate to 10', need to infill to have 10' of clean soil, or potentially sample from 12 to 18' to get information on HCB at deeper depths and provide potential for partial backfill, sample dioxin at 12' by EPA Method 8290 to confirm below BCL	12' 14' 16' 18'	X Hold Hold Hold	X Hold Hold Hold								
114	1-4 RZ-D	SSAI3-02	I3	New							1,2	Borders of RSAH3, SA201, and RSAI3 polygons which have dioxin and HCB, sample dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold								
115	1-4 RZ-D	SSAI3-03	I3	New							1,2	Borders of RSAI3 and SA201 polygons which have dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold								
116	1-4 RZ-D	SSAI2-01	I2	New							1,2,10	Borders of RSAI3 and RSAI2 polygons which have dioxin, HCB, and beta-BHC, sample dioxin, HCB and beta-BHC for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold							X Hold Hold Hold Hold Hold Hold Hold Hold Hold	
117	1-4 RZ-D	RSAI2	I2	Depth 0.5-2.0' 10-11.5' 20-21.5'	Dioxin 13,141 - -	HCB 130 5 0.014	Beta-BHC 2.5 0.12 <0.00093				1,2	HCB above BCL at 2' and 10', assume need to excavate to 10', need to infill to have 10' of clean soil, or potentially sample from 12 to 18' to get information on HCB at deeper depths and provide potential for partial backfill, sample dioxin at 12' by EPA Method 8290 to confirm below BCL	12' 14' 16' 18'	X Hold Hold Hold	X Hold Hold Hold								

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
												1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
												EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
118	1-4 RZ-D	SSAI2-02	I2	New						1,2,10	Near south edge of RSAI2 polygon which has dioxin, HCB, and beta-BHC, sample dioxin, HCB and beta-BHC for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold							X Hold Hold Hold Hold Hold Hold Hold	
119	1-4 RZ-D	SA201	I3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 22,243 1,700 19,000 -	HCB 7.1 62 18 0.4					Dioxin and HCB above BCL at 2', HCB below BCL at 10' - sample dioxin and HCB to confirm outline	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold								
120	1-4 RZ-D	SSAJ3-01	J3	New						1,2	Southern edge of SA201 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold								
121	1-4 RZ-D	RSAJ2	J2	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 3,699 770 4.4 -	HCB 1.9 1.5 0.063 0.014 0.022	Arsenic 10.8 - - 3.53 8.51	Perchlor 19,300 - - 156 2.19		4,6	Dioxin and HCB do not require additional sampling as they are below BCL at 1 and 1.5', respectively, perchlorate needs additional vertical delineation, sample perchlorate starting at 2', sample arsenic to evaluate trend	2' 3' 4' 5' 6' 7' 8' 9'			X Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold	
122	1-4 RZ-D	SSAJ3-02	J3	New						1,2,4,6	Eastern edge of RSAJ2 polygon which has dioxin, HCB, perchlorate and arsenic, sample for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold		
123	1-4 RZ-D	SSAJ3-03	J3	New						1,2,4,6	Southeastern point of RSAJ2 polygon which has dioxin, HCB, perchlorate and arsenic, sample for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold		
124	1-4 RZ-D	SA202	J3	Depth 0-0.5'	Asbestos 3 (amph)					3	Sample for asbestos from 4 to 6"	4-6"				X						

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
125	1-4 RZ-D	SSAJ3-04	J3	New						3	Northern edge of SA202 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold								
126	1-4 RZ-D	SSAK3-01	K3	New						1,2,3	Borders of SA202 and SA88 polygons which have dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
127	1-4 RZ-D	RSAK3	K3	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	<u>Dioxin</u> 45,653 1,600 480 - -	<u>HCB</u> 17 2 0.5 0.0033 0.11				-	No sampling, cutline established at 1.5 feet bgs												
128	1-4 RZ-D	SA88	K3	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	<u>Dioxin</u> 5,812 710 420 - -	<u>HCB</u> 2.0 0.96 0.48 <0.0009 <0.0012				-	No sampling, cutline established at 1.0 feet bgs												
129	1-4 RZ-D	SSAK3-02	K3	New						1,2	Western edge of SA88 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
130	1-4 RZ-D	SSAK3-03	K3	New						1,2	Borders of SA88 and SA134 polygons which have dioxin and HCB, sample for dioxin, HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
131	1-4 RZ-D	SA134	K3	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0'	<u>Dioxin</u> 8,541 1,200 430					-	No sampling, cutline established at 1.5 feet bgs												

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**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>	
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)	
132	1-4 RZ-D	SSAK3-04	K3	New							1,2	Adjacent to pond and north of RR track between SA134 and RSAK4 polygons which have dioxin and HCB, sample for dioxin and HCB	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
133	1-4 RZ-D	RSAL2	L2	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin - 17,736 54 4,500 - -	HCB - 14 0.076 5.7 0.007 -<0.00091	Asbestos 7 (chry) - - - - -				1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10' - sample for dioxin and HCB, cutline expected to be deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold									
134	1-4 RZ-D	SSAK2-01	K2	New							1,2,3	Northwestern edge of RSAL2 polygon which has dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold								
135	1-4 RZ-D	SSAL2-01	L2	New							1,2,3	Southwestern edge of RSAL2 polygon which has dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold								
136	1-4 RZ-D	RSAL3	L3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 1,141 140 2.1 -	4,4-DDE 9.4 - - -<0.0019					10	Sample for 4,4-DDE at 1 foot intervals starting at 1 foot bgs, dioxin cutline established, location of bioaccessibility testing	1' 2' 3' 4' 5' 6' 7' 8' 9'										X Hold Hold Hold Hold Hold Hold Hold	
137	1-4 RZ-D	SSAL3-01	L3	New							1,10	Southern portion of RSAL3 outside of LOU 2, RSAL3 has dioxin and 4,4-DDE, analyze for dioxin and 4,4-DDE for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										X Hold Hold Hold Hold Hold Hold Hold

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>	
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)	
138	1-4 RZ-D	SSAL3-02	L3	New							1,10	Eastern portion of RSAL3 within LOU 2, RSAL3 has dioxin and 4,4-DDE, analyze for dioxin and 4,4-DDE for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									X Hold Hold Hold Hold Hold Hold Hold	
139	1-4 RZ-D	RSAK4	K4	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	<u>Dioxin</u> 1,556 160 69 - -	<u>HCB</u> 0.25 0.3 2.1 0.17 0.15					2	HCB above BCL at 2' and below BCL at 10', sample for HCB starting at 3', dioxin vertical extent established, location of bioaccessibility testing	3' 4' 5' 6' 7' 8' 9'		X Hold Hold Hold Hold Hold Hold									
140	1-4 RZ-D	SSAK4-01	K4	New							1,2	Western edge of RSAK4 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
141	1-4 RZ-D	SSAL4-01	L4	New							1,2	Southern portion of RSAK4 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
142	1-4 RZ-D	SSAK5-01	K5	New							1,2	Eastern edge of RSAK4 polygon north of RR which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
143	1-4 RZ-D	SA189	L4	<u>Depth</u> 0.0-0.5' 0.0-0.5'D 0.5-2.0' 1.0-1.5' 1.5-2.0'	<u>Dioxin</u> - - 1,117 930 3.1	<u>Asbestos</u> 1 (amph) 0 (amph) - - -					3	Dioxin cutline established at 1.0 foot bgs, however has potential for non-removal pending bioaccessibility testing, sample for asbestos since dioxin potentially may be left in place	4-6"				X							

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results	Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
									1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>	
									EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)	
144	1-4 RZ-D	SSAL4-02	L4	New		1,3	Northern portion of SA189 polygon which has dioxin (less than 3,000 mg/kg) and asbestos, sample dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold									
145	1-4 RZ-D	SSAL4-03	L4	New		1,3	Western portion of SA189 polygon which has dioxin (less than 3,000 mg/kg) and asbestos, sample dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold									
146	1-4 RZ-D	SSAM4-01	M4	New		1,3	Southern edge of SA189 polygon which has dioxin (less than 3,000) and asbestos, sample dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold									
147	1-4 RZ-D	SA173	L5	Depth 0.0-0.5'	Asbestos 6 (amph)	3	Sample for asbestos from 4 to 6"	4-6"			X									
148	1-4 RZ-D	SSAL5-01	L5	New		3	Northwestern portion of SA173 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold									
149	1-4 RZ-D	SA19	L5	Depth 0.0-0.5'	Asbestos 3 (amph)	3	Sample for asbestos from 4 to 6"	4-6"			X									
150	1-4 RZ-D	SSAL5-02	L5	New		3	Eastern edge of SA19 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold									
151	1-4 RZ-D	SA167	L5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 2,027 260 5.6	-	No sampling, cutline established at 1 foot bgs, location of bioaccessibility testing													

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
152	1-4 RZ-D	SSAL5-03	L5	New							1 North of SA167 which has dioxin within LOU 31, sample for dioxin for polygon control outside of LOU 31 to the north	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										
153	1-4 RZ-D	SSAL5-04	L5	New							1 West of SA167 which has dioxin within LOU 31, sample for dioxin for polygon control outside of LOU 31 to the west	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										
154	1-4 RZ-D	SA72	L5	Depth 0.0-0.5' 0.5-2.0' 10-11.5'	Asbestos 4 (amph) - -	Perchlor - 4,470 1,320					3,6 Sample for asbestos in the event perchlorate flushing used, sample perchlorate at 2 foot intervals to establish profile	4-6" 4' 6' 8'								X X X			
155	1-4 RZ-D	SSAM5-01	M5	New							3,6 Southern edge of LOU 31 which has asbestos and perchlorate, sample asbestos for control outside of LOU 31 to south, sample perchlorate at 2 foot intervals to establish profile	0-2" 4-6" 2' 4' 6' 8' 10'		X Hold						X X X X X			
156	1-4 RZ-D	SSAL5-05	L5	New							3,6 East of SA72 which has asbestos and perchlorate at SA72, sample asbestos for control outside of LOU 31 to east, sample perchlorate at 2 foot intervals to establish profile	0-2" 4-6" 2' 4' 6' 8' 10'		X Hold						X X X X X			
157	1-4 RZ-D	RSK5	K5	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 22-23.5	Dioxin - 5,329 5,000 35,000 - -	HCB - 7.4 5.5 40 0.24 0.13	Asbestos 1 (amph) - - - - -				1,2 Dioxin and HCB above BCL at 2', HCB below BCL at 10' - collect samples at one foot intervals and analyzed for dioxin and HCB to establish outline - Outline deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold									
158	1-4 RZ-D	SSAK5-02	K5	New							1,2,3 Southeastern edge of of RSK5 polygon which has dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold							



**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
159	1-4 RZ-D	RSAJ5	J5	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 19-20.5'	Dioxin - 3,417 210 42,000 - -	HCB - 4.4 5.5 53 0.16 1.4	Asbestos 6 (chrys) - - - - -				1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10', sample for dioxin and HCB, cutline deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold								
160	1-4 RZ-D	RSAJ6	J6	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 19-20.5'	Dioxin - 60,611 50,000 36,000 - -	HCB - 99 250 160 0.077 0.0058	Asbestos 1 (amph) - - - - -				1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10', sample for dioxin and HCB, cutline deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold								
161	1-4 RZ-D	SSAJ6-01	J6	New							1,2,3	Border of RSAJ6 and SA76 which have dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold							
162	1-4 RZ-D	SA76	K6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 17,750 400 120 - -	HCB 17 2.2 0.88 0.011 0.04					-	No sampling, cutline established at 1.5 feet bgs											
163	1-4 RZ-D	SSAK6-01	K6	New							1,2,3	Border of RSAK5 and SA76 which have dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold							
164	1-4 RZ-D	SA127	J6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 1,232 73,000 3,700 - -	HCB 2.7 300 3.4 0.12 0.068					1,2	Sample for dioxin and HCB to establish depth of passing samples	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold								
165	1-4 RZ-D	RSAJ7	J7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 41,935 59,000 50,000 - -	HCB 36 130 31 0.37 <0.00091					1,2	Sample for dioxin and HCB to establish depth of passing samples	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold								

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>	
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)	
166	1-4 RZ-D	SSAK7-01	K7	New							1,2	Borders of SA76, SA127 and RSAJ7 which have dioxin, and HCB, sample dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
167	1-4 RZ-D	RSAK7	K7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 160,260 63,000 180,000 - -	HCB 37 57 790 0.0056 0.0017	Arsenic 10.3 - - 4.26 21.4				1,2,4	Sample for dioxin and HCB to establish depth of passing samples, arsenic appears to be background, sample to evaluate trend	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold									
168	1-4 RZ-D	SSAK7-02	K7	New							1,2,4	Borders of RSAJ7 and RSAK7 which have dioxin, HCB, and arsenic, sample dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
169	1-4 RZ-D	RSAJ8	J8	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 39,979 21,000 43,000 - -	HCB 14 51 120 <0.001 0.15					1,2	Sample for dioxin and HCB to establish depth of passing samples	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold									
170	1-4 RZ-D	SSAJ8-01	J8	New							1,2	Southern portion of RSAJ8 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
171	1-4 RZ-D	SSAJ8-02	J8	New							1,2,4	Eastern portion of RSAJ8 polygon outside of LOU 1, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
172	1-4 RZ-D	RSAI7	I7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 31,441 11 12.6						-	No sampling, cutline established at 1 foot bgs												

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**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method																			
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>									
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)									
173	1-4 RZ-D	RSAK8	K8	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 1,826 10.3 450 -	Arsenic 8.65 - - 12.3						4	Dioxin below BCL at 1' and less than 3,000 mg/kg in shallow soil, sample arsenic to evaluate trend, sampling not necessary if found to be below background	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold														
174	1-4 RZ-D	SSAK8-03	K8	New								1,4	Northern portion of RSAK8 polygon outside of LOU 1, sample for dioxin and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold																	
175	1-4 RZ-D	SSAL8-01	L8	New								1,4	Southern portion of RSAK8 polygon which has dioxin and arsenic, sample for dioxin and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold																	
176	1-4 RZ-D	SSAK8-02	K8	New								1,2,4	Borders of RSAK7 and RSAK8 polygons which have dioxin, HCB and arsenic, sample for dioxin, HCB and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold																
177	1-4 RZ-D	SA75	L7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,265 1.5 2.4							-	No sampling, cutline established at 1 foot bgs, location of bioaccessibility testing																			
178	1-4 RZ-D	SSAK8-01	K8	New								1,2,4	Borders of RSAK7, SA75, and RSAK8 polygons which have dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold																

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**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>	
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)	
179	1-4 RZ-D	SSAK7-03	K7	New							1,2	Border of polygons SA75 and SA76 which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
180	1-4 RZ-D	SSAL7-01	L7	New							1	Western edge of polygon SA75 which has dioxin, sample for dioxin for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										
181	1-4 RZ-D	SSAL7-02	L7	New							1	Southeastern edge of polygon SA75 which has dioxin, sample for dioxin for polygon control (this sampling location is in subarea 2, but included here with polygon)	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										
182	1-4 RZ-D	RSAM7	M7	Depth 0.0-0.5'	Asbestos 1 (amph)						3	Sample for asbestos from 4 to 6"	4-6"			X								
183	1-4 RZ-D	SSAL7-03	L7	New							3	Western edge of RSAM7 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"		X Hold									
184	1-4 RZ-D	SSAM7-01	M7	New							3	Eastern edge of RSAM7 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"		X Hold									
185	1-4 RZ-D	SSAM7-02	M7	New							3	Southern edge of RSAM7 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"		X Hold									
186	1-5 RZ-E	SA66	M3/ M4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	HCB 4.2 2.4 11 0.31	4,4-DDE 100 <0.19 <0.18 5.5	4,4-DDT 19 <0.19 <0.18 0.96				2	Sample to establish HCB outline, 4,4-DDE/T below BCL at 1'	3' 4' 5' 6' 7' 8' 9'		X Hold Hold Hold Hold Hold Hold									
187	1-5 RZ-E	SSAM3-01	M3	New							2,10	Western edge of SA66 which has HCB, 4,4-DDE and 4,4-DDT, sample for HCB, 4,4-DDE and 4,4-DDT for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold Hold Hold Hold Hold Hold Hold Hold Hold								X Hold Hold Hold Hold Hold Hold Hold Hold Hold	

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**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results							Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
					1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg				5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>								
					EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020				EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)								
188	1-5 RZ-E	SA165	N4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 17,414 290 0.81 -	HCB 3.3 0.055 0.014 <0.001	Arsenic 385 - - 5.2	B(a)P 0.24 0.048 0.0036 <0.0071	Aroclor 7.9 <0.43 <0.04 <0.033			4	Dioxin, HCB, B(a)P and aroclor-1260 delineated at 1', arsenic elevated in shallow soil, sample for arsenic starting at 1 foot bgs to establish where it returns to background levels	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold								
189	1-5 RZ-E	SA128	M4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Arsenic 21.3 22.0 21.3 4.78	Lead 2,210 2,540 635 7.9	Aldrin 0.61 <0.064 <0.026 <0.001					4	Lead and aldrin cutline established, need to establish extent of shallow elevated arsenic	3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold								
190	1-5 RZ-E	SA129	M5/ M6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 1,420 2,100 1,500 -	HCB 2.3 4.8 3.3 0.13	Arsenic 11 4.09 1.22 2.85	Lead 1,880 493 75.6 20.2	Perchlor 22,800 - - 2,860	4,4-DDE/T 46/66 47/18 5.1/4.3 0.57/0.43	A-BHC 2 <0.92 <0.09 <0.05	1,2,6	Sample dioxin, HCB, to establish cutline, potential for perchlorate flushing, sample at 2 foot intervals to profile	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold								X X X		
191	1-5 RZ-E	SA16	M6	Depth 0.0-0.5'	Asbestos 2 (amph)							3	Sample for asbestos from 4 to 6"	4-6"				X								
192	1-5 RZ-E	SA175	M6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 5,153 13,000 26,000 -	HCB 1.4 32 22 0.42						1,2	Sample dioxin and HCB to establish cutline	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold										
193	1-5 RZ-E	SA86	M7	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin - 5,990 8.4 8.6 -	HCB - 3.1 66 44 0.3	Asbestos 29 (chrys) - - - -	Arsenic - 7.75 - - 2.37	Perchlor - 3,950 181 219 4.68	4,4-DDE - 110 <0.009 <0.009 0.018	4,4-DDT - 220 <0.009 <0.009 0.011	2	Establish cutline for HCB, arsenic appears to be background, removal of at least upper 2' for HCB should remove asbestos	3' 4' 5' 6' 7' 8' 9'		X Hold Hold Hold Hold Hold Hold										
194	1-5 RZ-E	SA155	M7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 6,097 720 6.3 -	HCB 1.3 0.94 0.33 0.3	B(a)P 0.63 <0.004 <0.001 <0.021					-	No sampling, cutline established at 1 foot bgs													
195	1-5 RZ-E	SA17	M8	Depth 0.5-2.0' 10-11.5' 20-21.5' 25-26.5'	Arsenic 22.1 4.2 13 13.7							4	Evaluate trend of elevated arsenic in shallow soil starting at 1 foot bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold								

**TABLE 1**  
**Pre-Confirmation Sampling Plan - Remediation Zones RZ-B, RZ-C, RZ-D, and RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method										
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>	10 OCPs <sup>(2)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540 R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)	EPA Method 8081A (Full Suite)
196	1-5 RZ-E	SA131	L8	Depth 0.5-2.0' 0.5-2.0'D 10-11.5'	Arsenic 11.1 14.3 D 3.99	Mn 4,800 13,800 D 573	4,4-DDE 1.3 13 D 0.071	4,4-DDT 0.72 11 D <0.02			4,5,10	Original below BCL, duplicate above BCL, sample Mn, 4,4-DDE, 4,4-DDT to confirm, arsenic appears to be background, sample beginning at 1 foot bgs to evaluate trend	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold			X Hold Hold Hold Hold Hold Hold Hold			
197	1-5 RZ-E	SA92	M7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,323 3.7 1.2					-	No sampling, cutline established at 1 foot bgs												
198	1-5 RZ-E	SA107	N7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 3,243 3,200 23 -	Arsenic 7.8 - - 4.16				4	Cutline established for dioxin at 1.5 feet bgs, sample arsenic to evaluate trend, arsenic sampling may not be necessary if found to be below accepted background concentration	2' 3' 4' 5' 6' 7' 8' 9'											

Notes:

New locations marked by yellow highlighting  
 0-0.5'D - D after depth indicates duplicate sample - duplicate samples only shown on table for those samples where duplicates were significantly different (all duplicates shown on Figures 1-2 through 1-5)  
 Dioxin will be screened using EPA 4025 and confirmed using EPA 8290. HCB will be screened using modified EPA 8081 and confirmed using EPA 8270C  
 HCB - Hexachlorobenzene  
 Mg - Magnesium  
 Mn - Manganese  
 Perchlo - Perchlorate  
 mg/kg - milligrams per kilogram  
 ppt - part per trillion  
 conf. - confirmation  
 Total petroleum hydrocarbon data not listed

<sup>(1)</sup> B(a)P - benzo(a)pyrene (BCL is 0.234 mg/kg)  
 Other PAHs (polycyclic aromatic hydrocarbons) found above the BCL and their BCLs  
 B(a)A - benzo(a)anthracene (BCL 2.34 mg/kg)  
 B(b)F - benzo(b)fluoranthene (BCL 2.34 mg/kg)  
 D(a,h)A - Dibenzo(a,h)anthracene (BCL 0.234 mg/kg)  
 IP - Indeno (1,2,3-cd)pyrene (BCL 2.34 mg/kg)

<sup>(2)</sup> OCPs - organochlorine pesticides found above BCL and their BCLs  
 A-BHC - Alpha-BHC (BCL is 0.399 mg/kg)  
 B-BHC - Beta-BHC (BCL is 1.4 mg/kg)  
 4,4-DDE and 4,4-DDT (BCL is 7.8 mg/kg)  
 Aldrin (BCL is 0.113 mg/kg)

Aroclor-1260 BCL is 0.826 mg/kg

**TABLE 2**  
**Pre-Confirmation Sampling Plan - RZ-B**

Line No. for Ref.	Boring ID	Grid	Depth	Results							Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
														1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>
														EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)
1	SA03	Q3	Depth 0.0-0.5'	Asbestos 1(amph)							3	Sample for asbestos from 4 to 6"	4-6"			X			
2	RSAQ3	Q3	Depth 0.5-2.0' 0.5-2.0'D 10-11.5' 25-26.5'	Dioxin 13,000 5,700 - -	Arsenic 7.36 10.1 2.49 13.6	B(a)A 2.2 2.5 <0.0006 <0.0006	B(a)P 2.5 3 <0.0071 <0.0073	B(b)F 3.6 4.1 <0.0012 <0.0013	D(a,h)A 0.77 0.75 <0.00081 <0.00083	IP 2.7 2.9 <0.00093 <0.0009	1,4,8,9	Sample dioxin and PAHs to establish cutline, arsenic appears to be background, sample to evaluate arsenic	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold			X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold	
3	SA169	Q3	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	Asbestos 1(amph) - - -	Dioxin - 2,000 - -	B(a)P - 0.24 <0.015 0.044					1,8	Sample dioxin and B(a)P to establish cutline, removal of dioxin and B(a)P should remove asbestos, location of bioaccessibility testing	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold	
4	SA192	R3	Depth 0.0-0.5'	Asbestos 1(amph)							3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X			
5	RSAR3	R3	Depth 0.0-0.5'	Asbestos 8(chrys)							3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X			
6	SA193	Q3	Depth 0.0-0.5'	Asbestos 1(amph)							3	Sample for asbestos from 4 to 6"	4-6"			X			
7	SA110	R3	Depth 0.5-2.0' 10-11.5' 25-26.5'	B(a)P 0.44 <0.00071 <0.00089							8	Sample for B(a)P to establish cutline	3' 4' 5' 6' 7' 8' 9'					X Hold Hold Hold Hold Hold Hold	
8	SA120	Q4	Depth 0.0-0.5'	Asbestos 17(chrys)							3	Sample for asbestos from 4 to 6"	4-6"			X			
9	SA213	Q4	Depth 0.0-0.5'	Asbestos 8(chrys)							3	Sample for asbestos from 4 to 6"	4-6"			X			
10	SSAQ4-01	Q4	New								3	Northwestern edge of SA213 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold			
11	SSAQ4-02	Q4	New								3,4	Northeastern edge of polygons SA213 and SA204 which have asbestos and arsenic, sample for asbestos and arsenic for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'			X Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold		
12	SA121	Q4	Depth 0.0-0.5'	Asbestos 8(chrys)							3	Sample for asbestos from 4 to 6"	4-6"			X			
13	SSAQ4-03	Q4	New								3	Within island area of SA101 which had 5 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold			
14	SSAR4-03	R4	New								3	Within island area of SA101 which had 5 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold			

**TABLE 2**  
**Pre-Confirmation Sampling Plan - RZ-B**

Line No. for Ref.	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
												1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>
												EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)
15	SA29	R4	Depth 0.0-0.5'	Asbestos 20(chrys)					3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X			
16	SA111	R4	Depth 0.0-0.5'	Asbestos 26(chrys)					3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X			
17	RSAR4	R4	Depth 0.0-0.5' 0.0-0.5'D	Asbestos 8(chrys) 12(chrys)					3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X			
18	SSAR4-01	R4	New						3	South of RSAR4 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold			
19	SA204	Q4	Depth 0.5-2.0' 10-11.5'	Arsenic 11.6 4.22					4	Sample for arsenic to evaluate trend	3' 4' 5' 6' 7' 8' 9'			X Hold Hold Hold Hold Hold Hold			
20	SA203	Q4	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 7.56 26.7 2.88					4	Sample arsenic at 2, 4, 6, and 8 feet bgs to establish profiling for potential risk calculations or to establish a cutline based on the arsenic data	2' 4' 6' 8'			X X X X			
21	SA04	Q5	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 20-21.5'	Asbestos 13(chrys) - - -	Arsenic - 13.4 11.3 5.3				3,4	Sample for asbestos from 4 to 6", sample arsenic at 2 foot intervals to evaluate trend for potential risk calculation or to establish a cutline based on the arsenic data	4-6" 2' 4' 6' 8'			X X X X			
22	SA84	Q4	Depth 0.5-2.0' 10-11.5' 25-26.5'	Dioxin 1,200 - -	HCB 1.8 <0.00088 <0.00087	Arsenic 189 3.81 6.28			1,2,4	Sample for dioxin, HCB, and arsenic to establish cutline, location of bioaccessibility testing	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold			
23	SA191	R4	Depth 0.0-0.5'	Asbestos 25(chrys)					3	Area includes demolished building with basement that was filled in, sample for asbestos	4-6"			X			
24	SSAR5-01	R5	New						3	Eastern edge of SA191 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold			
25	RSAQ5	Q5	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 7.36 3.95 2.88					-	No sampling - arsenic appears to be background, polygon removed from figure							
26	SA156	Q5	Depth 0.5-2.0' 10-11.5'	Dioxin 1,300 -	Arsenic 18.1 2.03	Perchlo 813 9.98	B(a)P 1.3 <0.0007	D(a,h)A 0.41 <0.0008	1,4,6,8,9	Sampling for dioxin, arsenic, perchlorate, and B(a)P, and D(a,h)A to establish cutline (perchlorate may only be in the shallow soil so sampling at 1 foot depth intervals is recommended)	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold		
27	SA05	Q6	Depth 0.0-0.5'	Asbestos 12(chrys)					3	Sample for asbestos from 4 to 6"	4-6"			X			
28	SA136	Q6	Depth 0.0-0.5'	Asbestos 7(chrys)					3	Sample for asbestos from 4 to 6"	4-6"			X			
29	SSAR6-01	R6	New						3	North of SA161 (no colored polygon) which had 4 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold			



**TABLE 2  
Pre-Confirmation Sampling Plan - RZ-B**

Line No. for Ref.	Boring ID	Grid	Depth	Results						Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
													1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>
													EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)
30	SSAR6-02	R6	New							3	South of SA161 (no colored polygon) which had 4 long fibers chrysotile, needed for risk calculations	0-2" 4-6"			X Hold			
31	SA32	R6/ R7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 9-10.5' 20-21.5'	HC 3.6 2 0.03 0.3 0.027						-	No sampling - cutline established at 1.5 feet bgs							
32	RSAR7	R7	Depth 0.5-2.0' 9-10.5' 20-21.5'	Arsenic 17.8 2.96 4.76	Perchlo 201 1,260 2,970					4,6	Sample arsenic to establish profile, potential perchlorate flushing, sample perchlorate at 2 foot intervals to establish profile, portions of polygon within active area	3' 4' 5' 6' 7' 8' 9'			X Hold Hold Hold Hold Hold	X  X  X		
33	SA33	R7	Depth 0.5-2.0' 10-11.5' 20-21.5'	Arsenic 7.42 2.12 9.81						-	No sampling - arsenic appears to be background, polygon removed from figure							
34	RSAS8	S8	Depth 0.0-0.5'	Asbestos 7(amph)						3	Sample for asbestos from 4 to 6"	4-6"			X			
35	SA77	S8	Depth 0.0-0.5'	Asbestos 1(amph)						3	Sample for asbestos from 4 to 6"	4-6"			X			

Notes:

New locations marked by yellow highlighting  
 0-0.5'D - D after depth indicates duplicate sample - duplicate samples only shown on table for those samples where duplicates were significantly different (all duplicates shown on Figures 1-2 through 1-5)  
 Dioxin will be screened using EPA 4025 and confirmed using EPA 8290. HCB will be screened using modified EPA 8081 and confirmed using EPA 8270C  
 HCB - Hexachlorobenzene  
 Perchlo - Perchlorate  
 mg/kg - milligrams per kilogram  
 ppt - part per trillion  
 conf. - confirmation  
 Total petroleum hydrocarbon data not listed

<sup>(1)</sup> B(a)P - benzo(a)pyrene (BCL is 0.234 mg/kg)  
 Other PAHs (polycyclic aromatic hydrocarbons) found above the BCL and their BCLs  
 B(a)A - benzo(a)anthracene (BCL 2.34 mg/kg)  
 B(b)F - benzo(b)fluoranthene (BCL 2.34 mg/kg)  
 D(a,h)A - Dibenzo(a,h)anthracene (BCL 0.234 mg/kg)  
 IP - Indeno (1,2,3-cd)pyrene (BCL 2.34 mg/kg)

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method												
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>			
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)			
1	SA56	N2/ O2	Depth 0.0-0.5' 10-11.5' 25-26.5'	Arsenic 50.7 1.76 12.6	Mn 61,400 367 1,390				4,5	Sample Mn and arsenic to establish outline	3' 4' 5' 6' 7' 8' 9'									X Hold Hold Hold Hold Hold Hold			
2	SSAN2-01	N2	New						4,5	Northeastern edge of polygon SA56 which has arsenic and Mn, sample for arsenic and Mn for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'										X Hold Hold Hold Hold Hold Hold Hold Hold Hold		
3	SA09	O3	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 20-21.5'	Asbestos 1 (amph) - - -	Arsenic - 17 3 18				3,4	Sample for asbestos in shallow soil, sample for arsenic to evaluate vertical trend	4-6" 3' 4' 5' 6' 7' 8' 9'										X Hold Hold Hold Hold Hold Hold Hold		
4	SSAN3-01	N3	New						3,4	Northern edge of polygon SA09 which has asbestos and arsenic, sample for asbestos and arsenic for polygon control outside of LOU 35	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'										X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		
5	SSAN3-02	N3	New						3,4	Northeastern edge of polygon SA09 which has asbestos and arsenic, sample for asbestos and arsenic for polygon control outside of LOU 35	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'										X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		
6	SA48	O3	Depth 0.0-0.5' 10-11.5' 20-21.5'	Arsenic 8.84 3.88 11.7					4	Sample for arsenic to evaluate trend	3' 4' 5' 6' 7' 8' 9'											X Hold Hold Hold Hold Hold Hold	

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method													
										1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>				
										EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)				
7	SSAO3-01	O3	New				4	Southern portion of polygon SA48 which has arsenic, sample for arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'														
8	SA207	O3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 16,473 16,000 14,000 - -	HCB 7 9.9 6.8 0.17 <0.00091	Mg 240,000 - - 230,000 8,260	1,5	Mg above BCL at 2' and 10', assume need to excavate to 10', need to infill to have 10' of clean soil, or potentially sample from 12 to 18 to get information on Mg at deeper depths and provide potential for partial backfill, dioxin not expected deep, sample dioxin at 12' by EPA Method 8290 to confirm	12' 14' 16' 18'	X							X Hold Hold Hold						
9	SSAP3-01	P3	New				1,2,5	Southwestern edge of polygon SA207 which has dioxin, HCB, and Mg, sample for dioxin, HCB, and Mg for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold Hold Hold Hold						
10	SA182	O4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Dioxin 27,442 2,100 28,000 - -	HCB 16 9.9 6.8 <0.001 <0.0013	Arsenic 12.3 - - 2.91 19.8	1,2,4	Sample dioxin and HCB to establish outline, arsenic appears to be background, sample to evaluate trend	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold Hold Hold Hold						
11	SSAO4-01	O4	New				1,2,4	Northern portion of polygon SA182 which has dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control outside of LOU 64	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold Hold Hold Hold						
12	SSAO4-02	O4	New				1,2,4	Eastern portion of polygon SA182 which has dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold Hold Hold Hold						
13	SA50	O5	Depth 0.0-0.5'	Asbestos 1 (amph)			3	Sample for asbestos from 4 to 6"	4-6"														
14	SSAO4-03	O4	New				3	Southwestern edge of SA50 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"									X Hold					
15	SSAO5-01	O5	New				3	Northwestern edge of SA50 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"									X Hold					

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method									
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)
16	SA11	O5	Depth 0.0-0.5' 0.0-0.5'D	Asbestos 1 (amph) 0 (amph)				3	Sample for asbestos from 4 to 6"	4-6"			X							
17	SA106	O5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 12-13.5' 20-21.5'	Dioxin 10,723 4,500 4,700 - -	HCB 13 7.5 7.0 <0.001 <0.001	Arsenic 42.4 33.0 11.2 2.74 5.85	Mg 180,000 173,000 209,000 11,500 6,720	Perchlo 5,300 - - 1,050 859	1,2,4,5,6 Sample dioxin, HCB, arsenic, and Mg to establish cutline, potential perchlorate soil flushing location, sample to establish profile	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold		X X X		
18	SSAO5-02	O5	New					1,2,3,4,5,6	Northern portion of SA109 and adjacent to polygon SA11, outside of LOU 8 to north which has dioxin, HCB, arsenic, asbestos, Mg, and perchlorate, sample for dioxin, HCB, asbestos, arsenic, and Mg for polygon control outside of 8, sample perchlorate at 2 foot intervals for profiling	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		X X X X X		
19	SA187	O5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Dioxin 2,310 270 3.36 -	HCB 2 4.8 0.026 <0.001 <0.001	Arsenic 11.9 2.69 3.36 3.76 3.95	Mn 33,600 3,220 1,170 414 317	B(a)P 0.45 <0.071 <0.0007 <0.0071 <0.0072	- No sampling - cutline established at 1.5 feet bgs											
20	SSAO5-03	O5	New					1,2,4,5,8	Western portion of polygon SA187 which has dioxin, HCB, arsenic, Mn, and B(a)P, sample for dioxin, HCB, arsenic, Mn, and B(a)P for polygon control outside of LOU 45, EPA 8270 confirmation sample result may preclude need for additional analyses for B(a)P if below BCL in confirmation sample - see shaded cells to right	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		
21	SA188	O5	Depth 0.5-2.0' 10-11.5' 25-26.5'	Mn 59,100 374 151				5	Sample Mn to establish cutline	3' 4' 5' 6' 7' 8' 9'							X Hold Hold Hold Hold Hold Hold			
22	SA65	M5	Depth 0.5-2.0' 10-11.5' 20-21.5'	Perchlo 647 1,690 984				6	Sample perchlorate to establish profile at 2 foot intervals, potential for perchlorate flushing	4' 6' 8'								X X X		
23	SSAM4-02	M4	New					6	Northwestern edge of SA65 which has perchlorate, sample for perchlorate at 2 foot intervals for polygon control and potential profiling	2' 4' 6' 8' 10'								X X X X X		
24	SSAN4-01	N4	New					6	Southern edge of SA65 which has perchlorate, sample for perchlorate at 2 foot intervals for polygon control and profiling	2' 4' 6' 8' 10'								X X X X X		

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
										1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>		
										EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)		
25	SSAM5-02	M5	New					3,6	Border of SA65, SA15, and RSAM5 which have perchlorate and asbestos, sample asbestos for polygon control and perchlorate at 2 foot intervals for polygon control and profiling	0-2" 4-6" 2' 4' 6' 8' 10'			X Hold							X X X X X	
26	SA15	M5/ N5	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 20-21.5'	Asbestos 2 (amph) - -	Perchlo - 113 1,210 943			3	Sample for asbestos in upper 1.5'; perchlorate above BCL below 10'	4-6"			X								
27	RSAM5	M5	Depth 1.5-2.0' 10-11.5'	Perchlo 4,920 2,620				6	Potential for perchlorate flushing, sample perchlorate at 2 foot intervals for profiling	4' 6' 8'										X X X	
28	SA58	N5	Depth 0.0-0.5' 0.5-2.0' 1-1.5' 10-11.5'	Asbestos 8 (chrys) - -	Dioxin - 1,432 1,100 500			1,3	Dioxin (less than 3,000 mg/kg) and asbestos, sample dioxin and asbestos	4-6" 3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold		X								
29	SSAN5-01	N5	New					1,3	Southern edge of SA58 which has dioxin and asbestos, sample for dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold								
30	SA196	N5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 6,952 550 25 -	HCB 5.8 1.4 0.096 <0.001			-	No sampling - cutline established at 1.5 feet bgs												
31	SSAN6-04	N6	New					1,2	Southern end and borders of SA196 and SA150 which have dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold									
32	SA150	N6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 3,052 2 2.3				-	No sampling - cutline established at 1 foot bgs, location of bioaccessibility testing												

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method									
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)
33	SSAN6-03	N6	New					1,4	Borders of SA150 and RSAN6 which have dioxin and arsenic, sample for dioxin and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
34	SA104	M6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 2,045 20 1.3 -	Perchlor 2,460 5,010 3,490 510			6	Dioxin vertical extent defined with a cutline established at 1.0 foot bgs, potential perchlorate flushing location, sample perchlorate at 2 foot intervals to establish profile	4' 6' 8'								X X X		
35	SA105	N6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,402 300 430				-	No sampling - cutline established at 1.0 foot bgs											
36	SA60	N6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 12-13.5' 20-21.5'	Dioxin 4,550 1,900 5,600 -	HCB 3.6 2 1.7 0.27 0.022			1,2	Sample dioxin and HCB to establish cutline	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold								
37	SA198	M6/ N6	Depth 0.5-2.0' 10-11.5'	Arsenic 7.51 3.94				-	No sampling - arsenic appears to be background, polygon removed from figure											
38	SSAM6-01	M6	New					1,2,6	Near intersection of polygons SA60, SA105, and SA104 which have dioxin, HCB, and perchlorate, sample for dioxin, HCB, for polygon control, sample perchlorate at 2 foot intervals to establish profile, adjacent to LOU 53	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold						X X X X X		
39	RSAN6	N6	Depth 0.5-2.0' 10-11.5' 20-21.5'	Arsenic 8.61 2.23 4.45				4	Arsenic appears to be background, added to sampling schedule per request of NDEP for profiling and potentially to establish a cutline, sampling will be removed from schedule if found to be less than background	3' 4' 5' 6' 7' 8' 9'		X Hold Hold Hold Hold Hold								
40	SSAN6-02	N6	New					1,2,4	Near intersection of polygons SA60, and RSAN6 which have dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold							

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
										1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>		
										EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)		
41	SA63	M7	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 23-24.5'	<u>Dioxin</u> 5,854 49 5 -	<u>Arsenic</u> 9.07 - -			4	Dioxin vertical extent defined with potential cutline at 1 foot bgs, arsenic may be background, but since background not yet determined, collect samples for arsenic from 1 to 9 feet, if found to be below background, the samples will not be analyzed, if background not determined, sample selectively to evaluate trend	1' 2' 3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold Hold Hold										
42	SSAM7-03	M7	New					1,2,4,6	East end of SA63 and northeast end of SA49 which have dioxin, HCB, arsenic, and perchlorate, sample for dioxin HCB, arsenic and perchlorate for polygon control (perchlorate is only found in shallow soil of SA49)	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold								X Hold Hold Hold Hold Hold Hold Hold Hold Hold	
43	SSAM7-04	M7	New					1,2,4	East of SA63 and LOU 18 which has dioxin and arsenic, add HCB per NDEP request, sample for dioxin, HCB, and arsenic	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold									
44	SA49	N7	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0' 12-13.5' 20-21.5'	<u>Dioxin</u> 4,018 3,900 23 -	<u>HCB</u> 1.2 1.9 0.76 0.0044 <0.00087	<u>Perchloro</u> 1,330 707 509 56.9 10.5		-	No sampling - cutline established at 1.5 feet bgs												
45	SSAN6-01	N6	New					1,2,6	Western edge of polygon SA49 which has dioxin, HCB, and perchlorate, sample for dioxin, HCB, and perchlorate for polygon control (perchlorate is only found in shallow soil of SA49)	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold								X Hold Hold Hold Hold Hold Hold Hold Hold Hold	
46	SA151	N6	<u>Depth</u> 0.0-0.5' 0.0-0.5'D	<u>Asbestos</u> 0 (amph) 1 (amph)				3	Sample for asbestos from 4 to 6"	4-6"			X								
47	SA200	O6	<u>Depth</u> 0.5-2.0' 1.0-1.5' 1.5-2.0'	<u>Dioxin</u> 1,027 560 10				-	No sampling - cutline established at 1 foot bgs												
48	SSAN6-06	N6	New					1	Northern portion of polygon SA200, outside of LOU 9 which has dioxin, sample dioxin for polygon control outside of LOU 9	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold										

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>		
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)		
49	SA114	O5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 2,522 8.2 3.1 -	HCB 2.7 0.033 0.015 0.001	Arsenic 7.37 2.37 2.15 2.91	Mg 126,000 10,500 10,000 10,200	-	No sampling - the cutline for dioxin, HCB, and Mg established at 1 foot bgs, arsenic below background beneath the cutline, location of bioaccessibility testing													
50	SA102	O6	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Asbestos 1 (amph) - - - -	Arsenic - 476 3.65 4.70 4.55			-	No sampling, arsenic cutline established at 1 foot bgs which will remove surficial asbestos													
51	SSAO6-01	O6	New					1,2,3,4,5,6	Between LOUs 9 (SA200), 13 (SA12 west end clean), 7 (SA102 and SA114), and 14 (SA51) which have dioxin, HCB, asbestos, arsenic, Mg, and perchlorate sample for dioxin, HCB, asbestos, arsenic, Mg, and perchlorate for polygon control between LOUs 9, 13, 7, and 14 (perchlorate in shallow soil only of SA51)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold			
52	SSAO6-04	O6	New					1,2,3,4,5	Between LOUs 7 (SA102 and SA114) and 45 (SA43) which have dioxin, HCB, asbestos, arsenic, Mg, and Mn, sample for dioxin, HCB, asbestos, arsenic, Mg, and Mn for polygon control between LOUs 7 and 45	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold			
53	SA43	O6	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 14.1 2.11 10.8	Mn 13,300 374 214			4,5	Sample for Mn to establish cutline and arsenic to evaluate trend starting at 1 foot bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'									X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold		
54	SA42	O6	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 9.2 2.52 11.5				4	Sample for arsenic to evaluate trend and potentially establish a cutline, may be within background and sampling may not be necessary	1' 2' 3' 4' 5' 6' 7' 8' 9'									X Hold Hold Hold Hold Hold Hold Hold Hold			
55	SA41	O5	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Asbestos 1 (amph) - - - - -	Dioxin - 2,237 1,100 200 - -	HCB - 1.2 1.7 - 0.18 - 0.0009 0.0009	Arsenic - 7.58 - - 5.08 15.4	B(a)P - 0.43 0.28 - 0.14 - 0.0073 0.0074	4	Cutline established for dioxin, HCB and B(a)P, which should result in asbestos removal, sample for arsenic to evaluate trend and potentially establish cutline, sampling for arsenic may not be necessary if below background, location of bioaccessibility testing	2' 3' 4' 5' 6' 7' 8' 9'									X Hold Hold Hold Hold Hold Hold Hold Hold		



**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results					Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
												1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>		
												EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)		
56	SA40	O6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Arsenic 10.6 - - 2.16 7.34	B(a)P 0.35 0.1 <0.0007 <0.0071 <0.0071					4	Cutline established for B(a)P at 1 foot bgs, sample arsenic starting at 1 foot to evaluate trend and potentially establish cutline, arsenic sampling may not be necessary if less than background	1' 2' 3' 4' 5' 6' 7' 8' 9'											
57	SSAO6-05	O6	New							3,4,5,8	Borders of polygons SA40 and SA130 which have asbestos, arsenic, Mn, and B(a)P, sample for asbestos, arsenic, Mn, and B(a)P for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'									X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		
58	SA39	O6	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	Asbestos 2 (amph) - - -	Arsenic - 238 2.63 9.6	Lead - 825 9.9 43.1	Mn - 19,800 414 799	Perchlo - 2,360 3.44 2.11		4,5,6	Sampling for arsenic, lead, Mn, and perchlorate (perchlorate may only be in shallow soil) to establish cutline, cutline will be deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'										X Hold Hold Hold Hold Hold Hold Hold	
59	SA130	O6	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	Asbestos 8 (amph) - - -	Arsenic - 118 1.88 3.38	Mn - 15,500 339 293				4,5	Sampling for arsenic and Mn to establish cutline, cutline will be deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'										X Hold Hold Hold Hold Hold Hold	
60	RSAO6	O6	Depth 0.0-0.5' 0.0-0.5'D	Asbestos 1 (amph) 0 (amph)						3	Sample for asbestos from 4 to 6"	4-6"											X
61	SSAN6-05	N6	New							3	Northwestern edge of RSAO6 polygon outside of LOU 13 which has asbestos, polygon to north (SA151) also has asbestos, sample asbestos for polygon control	0-2" 4-6"											X Hold
62	SA51	O6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 25-26.5'	Dioxin 1,198 110 1.6 - -	Arsenic 70.8 - - 2.88 8.33	Perchlo 1,960 40.7 16.8 19.2 182				4	Sampling to establish vertical extent of elevated arsenic starting at 1' since cutline for dioxin and perchlorate is at 1 foot bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'										X Hold Hold Hold Hold Hold Hold Hold Hold	
63	SSAO7-01	O7	New							1,2,3,4,5,6	Near intersection of polygons RSAO6, SA51, and SA137 which have dioxin, HCB, asbestos, arsenic, cobalt, Mn, and perchlorate, sample for dioxin, HCB, asbestos, arsenic, cobalt, Mn, and perchlorate for polygon control (perchlorate at SA51 only in shallow soil)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'											X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method									
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)
64	SSAO6-03	O6	New					1,3,4,6	Between eastern end of LOUs 14 and 34W defined by polygons SA51 and RSAP6 which have dioxin, asbestos, arsenic, and perchlorate, sample for dioxin, asbestos, arsenic, and perchlorate for polygon control between eastern end of LOUs 14 and 34W (perchlorate at SA51 only found in shallow soil)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold Hold						X Hold Hold Hold Hold Hold Hold Hold Hold Hold	
65	SSAO6-02	O6	New					1,3,4,5,6	Between western end of LOUs 14 and 34W defined by polygons SA51 and SA39 which have dioxin, asbestos, arsenic, lead, Mn, and perchlorate, sample for dioxin, asbestos, arsenic, lead, Mn, and perchlorate for polygon control between western end of LOUs 14 and 34W (perchlorate may only be in shallow soil)	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	
66	RSAP6	P6	Depth 0.0-0.5' 0.5-2.0' 10-11.5' 25-26.5'	Asbestos 23(amph) - -	Arsenic - 77.4 1.52 2.98			4	Sampling to establish vertical extent of elevated arsenic, removal of arsenic should take care of asbestos	1' 2' 3' 4' 5' 6' 7' 8' 9'			X Hold Hold Hold Hold Hold Hold Hold Hold							
67	SA137	O7	Depth 0.5-2.0' 15-16.5'	HCB 3.6 0.0058	Arsenic 38.2 4.88	Cobalt 784 8.6	Mn 41,900 461	2,4,5	Sampling to establish vertical extent of elevated arsenic, cobalt, Mn, and HCB	3' 4' 5' 6' 7' 8' 9' 10'		X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold		
68	SSAN7-01	N7	New					2,4,5	Northeastern end of polygon SA137 which has HCB, arsenic, cobalt, and Mn, sample for HCB, arsenic, cobalt, and Mn for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold Hold		
69	SSAN7-02	N7	New					1,4	East of beta ditch, near beta ditch sample SA107 has dioxin and arsenic, sample for dioxin and arsenic	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold							

**TABLE 3  
Pre-Confirmation Sampling Plan - RZ-C**

Line No. for Ref.	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method											
										1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Cobalt 331 mg/kg	5 Lead 800 mg/kg	5 Mg 100,000 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	8/9 SVOCs B(a)P/ other PAHs <sup>(1)</sup>		
										EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540- R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8270C (Full Suite)		
70	SA139	N8	Depth 0.5-2.0' 10-11.5' 25-26.5'	Arsenic 24.7 6.85 4.12	Cobalt 335 55.5 9.2	Mn 21,600 4,050 474		4,5	Sampling to establish vertical extent of elevated arsenic, cobalt and Mn starting at 1' bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold						
71	SSAO8-01	O8	New					4,5	Southern end of polygon SA139 which has arsenic, cobalt, and Mn, sample for arsenic, cobalt, and Mn for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'				X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold						
72	SA13	P7	Depth 0.0-0.5'	Asbestos 1(amph)				-	No sampling, outside of RZ-C within active area, but will sample polygon that extends into RZ-C to north												
73	SSAO8-02	O8	New					3	Northeastern edge of SA13 polygon which has asbestos, sample asbestos for polygon control in the area extending northward out of the active area	0-2" 4-6"				X Hold							
74	SSAP7-01	P7	New					3	Northwestern edge of SA13 polygon which has asbestos, sample asbestos for polygon control in the area extending northward out of the active area	0-2" 4-6"				X Hold							

Notes:

New locations marked by yellow highlighting  
 0-0.5'D - D after depth indicates duplicate sample - duplicate samples only shown on table for those samples where duplicates were significantly different (all duplicates shown on Figures 1-2 through 1-5)  
 Dioxin will be screened using EPA 4025 and confirmed using EPA 8290. HCB will be screened using modified EPA 8081 and confirmed using EPA 8270C  
 HCB - Hexachlorobenzene  
 Mg - Magnesium  
 Mn - Manganese  
 Perchlo - Perchlorate  
 mg/kg - milligrams per kilogram  
 ppt - part per trillion  
 conf. - confirmation  
 Total petroleum hydrocarbon data not listed

<sup>(1)</sup> B(a)P - benzo(a)pyrene (BCL is 0.234 mg/kg)  
 Other PAHs (polycyclic aromatic hydrocarbons) found above the BCL and their BCLs  
 B(a)A - benzo(a)anthracene (BCL 2.34 mg/kg)  
 B(b)F - benzo(b)fluoranthene (BCL 2.34 mg/kg)  
 D(a,h)A - Dibenzo(a,h)anthracene (BCL 0.234 mg/kg)  
 IP - Indeno (1,2,3-cd)pyrene (BCL 2.34 mg/kg)

**TABLE 4  
Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
1	1-4 RZ-D	RSAH3	H3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,360 190 380			-	No sampling, cutline established at 1.0 foot bgs, location of bioaccessibility testing							
2	1-4 RZ-D	SSAH3-01	H3	New				1,2	Borders of RSAH3 and RSAI3 polygons which have dioxin and HCB, sample for dioxin and HCB, sampling is for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
3	1-4 RZ-D	SSAI3-01	I3	New				1,2	Borders of RSAH3 and SA201 polygons which have dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
4	1-4 RZ-D	RSAI3	I3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 4,010 280,000 9,700 - -	HCB 15 710 12 19 0.29		1,2	HCB above BCL at 2' and 10', assume need to excavate to 10', need to infill to have 10' of clean soil, or potentially sample from 12 to 18' to get information on HCB at deeper depths and provide potential for partial backfill, sample dioxin at 12' by EPA Method 8290 to confirm below BCL	12' 14' 16' 18'	X Hold Hold Hold	X Hold Hold Hold				
5	1-4 RZ-D	SSAI3-02	I3	New				1,2	Borders of RSAH3, SA201, and RSAI3 polygons which have dioxin and HCB, sample dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
6	1-4 RZ-D	SSAI3-03	I3	New				1,2	Borders of RSAI3 and SA201 polygons which have dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
7	1-4 RZ-D	SSAI2-01	I2	New				1,2,10	Borders of RSAI3 and RSAI2 polygons which have dioxin, HCB, and beta-BHC, sample dioxin, HCB and beta-BHC for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold			X Hold Hold Hold Hold Hold Hold Hold Hold Hold	

**TABLE 4  
Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
												1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
												EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
8	1-4 RZ-D	RSAI2	I2	Depth 0.5-2.0' 10'-11.5' 20-21.5'	Dioxin 13,141 - -	HCB 130 5 0.014	Beta-BHC 2.5 0.12 <0.00093		1,2	HCB above BCL at 2' and 10', assume need to excavate to 10', need to infill to have 10' of clean soil, or potentially sample from 12 to 18' to get information on HCB at deeper depths and provide potential for partial backfill, sample dioxin at 12' by EPA Method 8290 to confirm below BCL	12' 14' 16' 18'	X    	X Hold Hold Hold				
9	1-4 RZ-D	SSAI2-02	I2	New					1,2,10	Near south edge of RSAI2 polygon which has dioxin, HCB, and beta-BHC, sample dioxin, HCB and beta-BHC for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold Hold Hold Hold
10	1-4 RZ-D	SA201	I3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 22,243 1,700 19,000 -	HCB 7.1 62 18 0.4			1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10' - sample dioxin and HCB to confirm outline	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
11	1-4 RZ-D	SSAJ3-01	J3	New					1,2	Southern edge of SA201 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
12	1-4 RZ-D	RSAJ2	J2	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 3,699 770 4.4 - -	HCB 1.9 1.5 0.063 0.014 0.022	Arsenic 10.8 - - 3.53 8.51	Perchlor 19,300 - - 156 2.19	4,6	Dioxin and HCB do not require additional sampling as they are below BCL at 1 and 1.5', respectively, perchlorate needs additional vertical delineation, sample perchlorate starting at 2', sample arsenic to evaluate trend	2' 3' 4' 5' 6' 7' 8' 9'			X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold		
13	1-4 RZ-D	SSAJ3-02	J3	New					1,2,4,6	Eastern edge of RSAJ2 polygon which has dioxin, HCB, perchlorate and arsenic, sample for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold		
14	1-4 RZ-D	SSAJ3-03	J3	New					1,2,4,6	Southeastern point of RSAJ2 polygon which has dioxin, HCB, perchlorate and arsenic, sample for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold		
15	1-4 RZ-D	SA202	J3	Depth 0-0.5'	Asbestos 3 (amph)				3	Sample for asbestos from 4 to 6"	4-6"			X			
16	1-4 RZ-D	SSAJ3-04	J3	New					3	Northern edge of SA202 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold			

**TABLE 4  
Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
17	1-4 RZ-D	SSAK3-01	K3	New				1,2,3	Borders of SA202 and SA88 polygons which have dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold			
18	1-4 RZ-D	RSAK3	K3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 45,653 1,600 480 - -	HCB 17 2 0.5 0.0033 0.11		-	No sampling, cutline established at 1.5 feet bgs							
19	1-4 RZ-D	SA88	K3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 5,812 710 420 - -	HCB 2.0 0.96 0.48 <0.0009 <0.0012		-	No sampling, cutline established at 1.0 feet bgs							
20	1-4 RZ-D	SSAK3-02	K3	New				1,2	Western edge of SA88 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				
21	1-4 RZ-D	SSAK3-03	K3	New				1,2	Borders of SA88 and SA134 polygons which have dioxin and HCB, sample for dioxin, HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				
22	1-4 RZ-D	SA134	K3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 8,541 1,200 430			-	No sampling, cutline established at 1.5 feet bgs							
23	1-4 RZ-D	SSAK3-04	K3	New				1,2	Adjacent to pond and north of RR track between SA134 and RSAK4 polygons which have dioxin and HCB, sample for dioxin and HCB	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				
24	1-4 RZ-D	RSAL2	L2	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin - 17,736 54 4,500 - -	HCB - 14 0.076 5.7 0.007 <0.00091	Asbestos 7 (chry) - - - - -	1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10' - sample for dioxin and HCB, cutline expected to be deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold				

**TABLE 4  
Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
25	1-4 RZ-D	SSAK2-01	K2	New				1,2,3	Northwestern edge of RSAL2 polygon which has dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				
26	1-4 RZ-D	SSAL2-01	L2	New				1,2,3	Southwestern edge of RSAL2 polygon which has dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold				
27	1-4 RZ-D	RSAL3	L3	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 1,141 140 2.1 -	4,4-DDE 9.4 - - <0.0019		10	Sample for 4,4-DDE at 1 foot intervals starting at 1 foot bgs, dioxin cutline established, location of bioaccessibility testing	1' 2' 3' 4' 5' 6' 7' 8' 9'						X Hold Hold Hold Hold Hold Hold Hold Hold
28	1-4 RZ-D	SSAL3-01	L3	New				1,10	Southern portion of RSAL3 outside of LOU 2, RSAL3 has dioxin and 4,4-DDE, analyze for dioxin and 4,4-DDE for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold
29	1-4 RZ-D	SSAL3-02	L3	New				1,10	Eastern portion of RSAL3 within LOU 2, RSAL3 has dioxin and 4,4-DDE, analyze for dioxin and 4,4-DDE for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold					X Hold Hold Hold Hold Hold Hold Hold Hold
30	1-4 RZ-D	RSAL4	K4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 1,556 160 69 - -	HCB 0.25 0.3 2.1 0.17 0.15		2	HCB above BCL at 2' and below BCL at 10', sample for HCB starting at 3', dioxin vertical extent established, location of bioaccessibility testing	3' 4' 5' 6' 7' 8' 9'		X Hold Hold Hold Hold Hold Hold				

**TABLE 4**  
**Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
31	1-4 RZ-D	SSAK4-01	K4	New				1,2	Western edge of RSAK4 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
32	1-4 RZ-D	SSAL4-01	L4	New				1,2	Southern portion of RSAK4 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
33	1-4 RZ-D	SSAK5-01	K5	New				1,2	Eastern edge of RSAK4 polygon north of RR which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
34	1-4 RZ-D	SA189	L4		Depth 0.0-0.5' 0.0-0.5'D 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin - - 1,117 930 3.1	Asbestos 1 (amph) 0 (amph) - - -	3	Dioxin outline established at 1.0 foot bgs, however has potential for non-removal pending bioaccessibility testing, sample for asbestos since dioxin potentially may be left in place	4-6"			X			
35	1-4 RZ-D	SSAL4-02	L4	New				1,3	Northern portion of SA189 polygon which has dioxin (less than 3,000 mg/kg) and asbestos, sample dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold				
36	1-4 RZ-D	SSAL4-03	L4	New				1,3	Western portion of SA189 polygon which has dioxin (less than 3,000 mg/kg) and asbestos, sample dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold				



**TABLE 4  
Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results		Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
										1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
										EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
37	1-4 RZ-D	SSAM4-01	M4	New				1,3	Southern edge of SA189 polygon which has dioxin (less than 3,000) and asbestos, sample dioxin and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold			
38	1-4 RZ-D	SA173	L5	Depth 0.0-0.5'	Asbestos 6 (amph)			3	Sample for asbestos from 4 to 6"	4-6"		X			
39	1-4 RZ-D	SSAL5-01	L5	New				3	Northwestern portion of SA173 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"		X Hold			
40	1-4 RZ-D	SA19	L5	Depth 0.0-0.5'	Asbestos 3 (amph)			3	Sample for asbestos from 4 to 6"	4-6"		X			
41	1-4 RZ-D	SSAL5-02	L5	New				3	Eastern edge of SA19 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"		X Hold			
42	1-4 RZ-D	SA167	L5	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 2,027 260 5.6			-	No sampling, cutline established at 1 foot bgs, location of bioaccessibility testing						
43	1-4 RZ-D	SSAL5-03	L5	New				1	North of SA167 which has dioxin within LOU 31, sample for dioxin for polygon control outside of LOU 31 to the north	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
44	1-4 RZ-D	SSAL5-04	L5	New				1	West of SA167 which has dioxin within LOU 31, sample for dioxin for polygon control outside of LOU 31 to the west	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
45	1-4 RZ-D	SA72	L5	Depth 0.0-0.5' 0.5-2.0' 10-11.5'	Asbestos 4 (amph) - -	Perchlor - 4,470 1,320		3,6	Sample for asbestos in the event perchlorate flushing used, sample perchlorate at 2 foot intervals to establish profile	4-6" 4' 6' 8'		X		X X X	
46	1-4 RZ-D	SSAM5-01	M5	New				3,6	Southern edge of LOU 31 which has asbestos and perchlorate, sample asbestos for control outside of LOU 31 to south, sample perchlorate at 2 foot intervals to establish profile	0-2" 4-6" 2' 4' 6' 8' 10'	X Hold		X X X X X		
47	1-4 RZ-D	SSAL5-05	L5	New				3,6	East of SA72 which has asbestos and perchlorate at SA72, sample asbestos for control outside of LOU 31 to east, sample perchlorate at 2 foot intervals to establish profile	0-2" 4-6" 2' 4' 6' 8' 10'	X Hold		X X X X X		

**TABLE 4**  
**Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
48	1-4 RZ-D	RSAK5	K5	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 22-23.5'	Dioxin - 5,329 5,000 35,000 - -	HCB - 7.4 5.5 40 0.24 0.13	Asbestos 1 (amph) - - - - -	1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10' - collect samples at one foot intervals and analyzed for dioxin and HCB to establish cutline - Cutline deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
49	1-4 RZ-D	SSAK5-02	K5	New				1,2,3	Southeastern edge of of RSAK5 polygon which has dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold				
50	1-4 RZ-D	RSAJ5	J5	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 19-20.5'	Dioxin - 3,417 210 42,000 - -	HCB - 4.4 5.5 53 0.16 1.4	Asbestos 6 (chrys) - - - - -	1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10', sample for dioxin and HCB, cutline deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
51	1-4 RZ-D	RSAJ6	J6	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 19-20.5'	Dioxin - 60,611 50,000 36,000 - -	HCB - 99 250 160 0.077 0.0058	Asbestos 1 (amph) - - - - -	1,2	Dioxin and HCB above BCL at 2', HCB below BCL at 10', sample for dioxin and HCB, cutline deeper than asbestos expected to be found	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
52	1-4 RZ-D	SSAJ6-01	J6	New				1,2,3	Border of RSAJ6 and SA76 which have dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold				
53	1-4 RZ-D	SA76	K6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 17,750 400 120 - -	HCB 17 2.2 0.88 0.011 0.04		-	No sampling, cutline established at 1.5 feet bgs							
54	1-4 RZ-D	SSAK6-01	K6	New				1,2,3	Border of RSAK5 and SA76 which have dioxin, HCB, and asbestos, sample dioxin, HCB, and asbestos for polygon control	0-2" 4-6" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold				

**TABLE 4  
Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results			Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method						
											1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>	
											EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)	
55	1-4 RZ-D	SA127	J6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 1,232 73,000 3,700 - -	HCB 2.7 300 3.4 0.12 0.068			1,2	Sample for dioxin and HCB to establish depth of passing samples	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
56	1-4 RZ-D	RSAJ7	J7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 41,935 59,000 50,000 - -	HCB 36 130 31 0.37 <0.00091			1,2	Sample for dioxin and HCB to establish depth of passing samples	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
57	1-4 RZ-D	SSAK7-01	K7	New					1,2	Borders of SA76, SA127 and RSAJ7 which have dioxin, and HCB, sample dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
58	1-4 RZ-D	RSAK7	K7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 160,260 63,000 180,000 - -	HCB 37 57 790 0.0056 0.0017	Arsenic 10.3 - - 4.26 21.4		1,2,4	Sample for dioxin and HCB to establish depth of passing samples, arsenic appears to be background, sample to evaluate trend	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold			
59	1-4 RZ-D	SSAK7-02	K7	New					1,2,4	Borders of RSAJ7 and RSAK7 which have dioxin, HCB, and arsenic, sample dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
60	1-4 RZ-D	RSAJ8	J8	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5' 20-21.5'	Dioxin 39,979 21,000 43,000 - -	HCB 14 51 120 <0.001 0.15			1,2	Sample for dioxin and HCB to establish depth of passing samples	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold				
61	1-4 RZ-D	SSAJ8-01	J8	New					1,2	Southern portion of RSAJ8 polygon which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				

**TABLE 4**  
**Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results	Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
									1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
									EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
62	1-4 RZ-D	SSAJ8-02	J8	New		1,2,4	Eastern portion of RSAJ8 polygon outside of LOU 1, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold			
63	1-4 RZ-D	RSAI7	I7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 31,441 11 12.6	-	No sampling, cutline established at 1 foot bgs							
64	1-4 RZ-D	RSAK8	K8	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 1,826 10.3 450 -	Arsenic 8.65 - - 12.3	4 Dioxin below BCL at 1' and less than 3,000 mg/kg in shallow soil, sample arsenic to evaluate trend, sampling not necessary if found to be below background	1' 2' 3' 4' 5' 6' 7' 8' 9'			X Hold Hold Hold Hold Hold Hold Hold Hold			
65	1-4 RZ-D	SSAK8-03	K8	New		1,4	Northern portion of RSAK8 polygon outside of LOU 1, sample for dioxin and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold Hold			
66	1-4 RZ-D	SSAL8-01	L8	New		1,4	Southern portion of RSAK8 polygon which has dioxin and arsenic, sample for dioxin and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold		X Hold Hold Hold Hold Hold Hold Hold Hold Hold			
67	1-4 RZ-D	SSAK8-02	K8	New		1,2,4	Borders of RSAK7 and RSAK8 polygons which have dioxin, HCB and arsenic, sample for dioxin, HCB and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold			
68	1-4 RZ-D	SA75	L7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,265 1.5 2.4	-	No sampling, cutline established at 1 foot bgs, location of bioaccessibility testing							
69	1-4 RZ-D	SSAK8-01	K8	New		1,2,4	Borders of RSAK7, SA75, and RSAK8 polygons which have dioxin, HCB, and arsenic, sample for dioxin, HCB, and arsenic for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold			

**TABLE 4  
Pre-Confirmation Sampling Plan - RZ-D**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results	Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method					
									1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
									EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
70	1-4 RZ-D	SSAK7-03	K7	New		1,2	Border of polygons SA75 and SA76 which has dioxin and HCB, sample for dioxin and HCB for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold Hold Hold				
71	1-4 RZ-D	SSAL7-01	L7	New		1	Western edge of polygon SA75 which has dioxin, sample for dioxin for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold					
72	1-4 RZ-D	SSAL7-02	L7	New		1	Southeastern edge of polygon SA75 which has dioxin, sample for dioxin for polygon control (this sampling location is in subarea 2, but included here with polygon)	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'	X Hold Hold Hold Hold Hold Hold Hold Hold Hold					
73	1-4 RZ-D	RSAM7	M7	Depth 0.0-0.5'	Asbestos 1 (amph)	3	Sample for asbestos from 4 to 6"	4-6"			X			
74	1-4 RZ-D	SSAL7-03	L7	New		3	Western edge of RSAM7 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold			
75	1-4 RZ-D	SSAM7-01	M7	New		3	Eastern edge of RSAM7 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold			
76	1-4 RZ-D	SSAM7-02	M7	New		3	Southern edge of RSAM7 polygon which has asbestos, sample asbestos for polygon control	0-2" 4-6"			X Hold			

Notes:

New locations marked by yellow highlighting  
 0-0.5'D - D after depth indicates duplicate sample - duplicate samples only shown on table for those samples where duplicates were significantly different (all duplicates shown on Figures 1-2 through 1-5)  
 Dioxin will be screened using EPA 4025 and confirmed using EPA 8290. HCB will be screened using modified EPA 8081 and confirmed using EPA 8270C  
 HCB - Hexachlorobenzene  
 Perchlo - Perchlorate  
 mg/kg - milligrams per kilogram  
 ppt - part per trillion  
 conf. - confirmation  
 Total petroleum hydrocarbon data not listed

<sup>(1)</sup> OCPs - organochlorine pesticides found above BCL and their BCLs  
 A-BHC - Alpha-BHC (BCL is 0.399 mg/kg)  
 B-BHC - Beta-BHC (BCL is 1.4 mg/kg)  
 4,4-DDE and 4,4-DDT (BCL is 7.8 mg/kg)  
 Aldrin (BCL is 0.113 mg/kg)

**TABLE 5  
Pre-Confirmation Sampling Plan - RZ-E**

Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results							Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method						
					1	2	3	4	5	6	10										
					Dioxin 1,000 ppt	HCb 1.2 mg/kg	Asbestos >5 chrysotile 1 amphibole	Arsenic 1.77 mg/kg	Mn 13,700 mg/kg	Perchlorate 795 mg/kg	OCPs <sup>(1)</sup>										
EPA 4025 screen/ EPA 8290 conf.		EPA 8081m screen/ EPA 8270C conf.		EPA Method 540-R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)													
1	1-5 RZ-E	SA66	M3/ M4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	HCb 4.2 2.4 11 0.31	4,4-DDE 100 <0.19 <0.18 5.5	4,4-DDT 19 <0.19 <0.18 0.96					2	Sample to establish HCB cutline, 4,4-DDE/T below BCL at 1'	3' 4' 5' 6' 7' 8' 9'		X Hold Hold Hold Hold Hold Hold					
2	1-5 RZ-E	SSAM3-01	M3	New								2,10	Western edge of SA66 which has HCB, 4,4-DDE and 4,4-DDT, sample for HCB, 4,4-DDE and 4,4-DDT for polygon control	1' 2' 3' 4' 5' 6' 7' 8' 9' 10'		X Hold Hold Hold Hold Hold Hold Hold Hold Hold				X Hold Hold Hold Hold Hold Hold Hold Hold Hold	
3	1-5 RZ-E	SA165	N4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 17,414 290 0.81 -	HCb 3.3 0.055 0.014 <0.001	Arsenic 385 - - 5.2	B(a)P 0.24 0.048 0.0036 <0.0071	Aroclor 7.9 <0.43 <0.04 <0.033			4	Dioxin, HCB, B(a)P and aroclor-1260 delineated at 1', arsenic elevated in shallow soil, sample for arsenic starting at 1 foot bgs to establish where it returns to background levels	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold			
4	1-5 RZ-E	SA128	M4	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Arsenic 21.3 22.0 21.3 4.78	Lead 2,210 2,540 635 7.9	Aldrin 0.61 <0.064 <0.026 <0.001					4	Lead and aldrin cutline established, need to establish extent of shallow elevated arsenic	3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold			
5	1-5 RZ-E	SA129	M5/ M6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 1,420 2,100 1,500 -	HCb 2.3 4.8 3.3 0.13	Arsenic 11 4.09 1.22 2.85	Lead 1,880 493 75.6 20.2	Perchlor 22,800 - - 2,860	4,4-DDE/T 46/66 47/18 5.1/4.3 0.57/0.43	A-BHC 2 <0.92 <0.09 <0.05	1,2,6	Sample dioxin, HCB, to establish cutline, potential for perchlorate flushing, sample at 2 foot intervals to profile	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold		X X X			
6	1-5 RZ-E	SA16	M6	Depth 0.0-0.5'	Asbestos 2 (amph)							3	Sample for asbestos from 4 to 6"	4-6"			X				
7	1-5 RZ-E	SA175	M6	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 5,153 13,000 26,000 -	HCb 1.4 32 22 0.42						1,2	Sample dioxin and HCB to establish cutline	3' 4' 5' 6' 7' 8' 9'	X Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold					
8	1-5 RZ-E	SA86	M7	Depth 0.0-0.5' 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin - 5,990 8.4 8.6 -	HCb - 3.1 66 44 0.3	Asbestos 29 (chrys) - - - -	Arsenic - 7.75 - - 2.37	Perchlor - 3,950 181 219 4.68	4,4-DDE - 110 <0.009 <0.009 0.018	4,4-DDT - 220 <0.009 <0.009 0.011	2	Establish cutline for HCB, arsenic appears to be background, removal of at least upper 2' for HCB should remove asbestos	3' 4' 5' 6' 7' 8' 9'		X Hold Hold Hold Hold Hold Hold					

**TABLE 5  
Pre-Confirmation Sampling Plan - RZ-E**

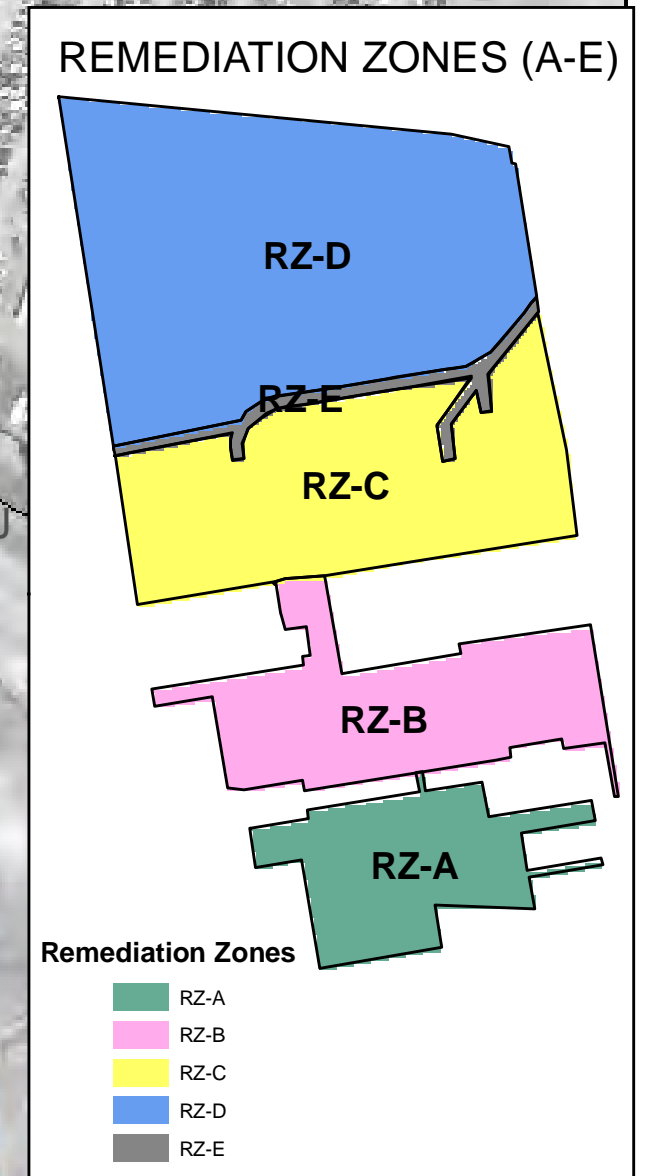
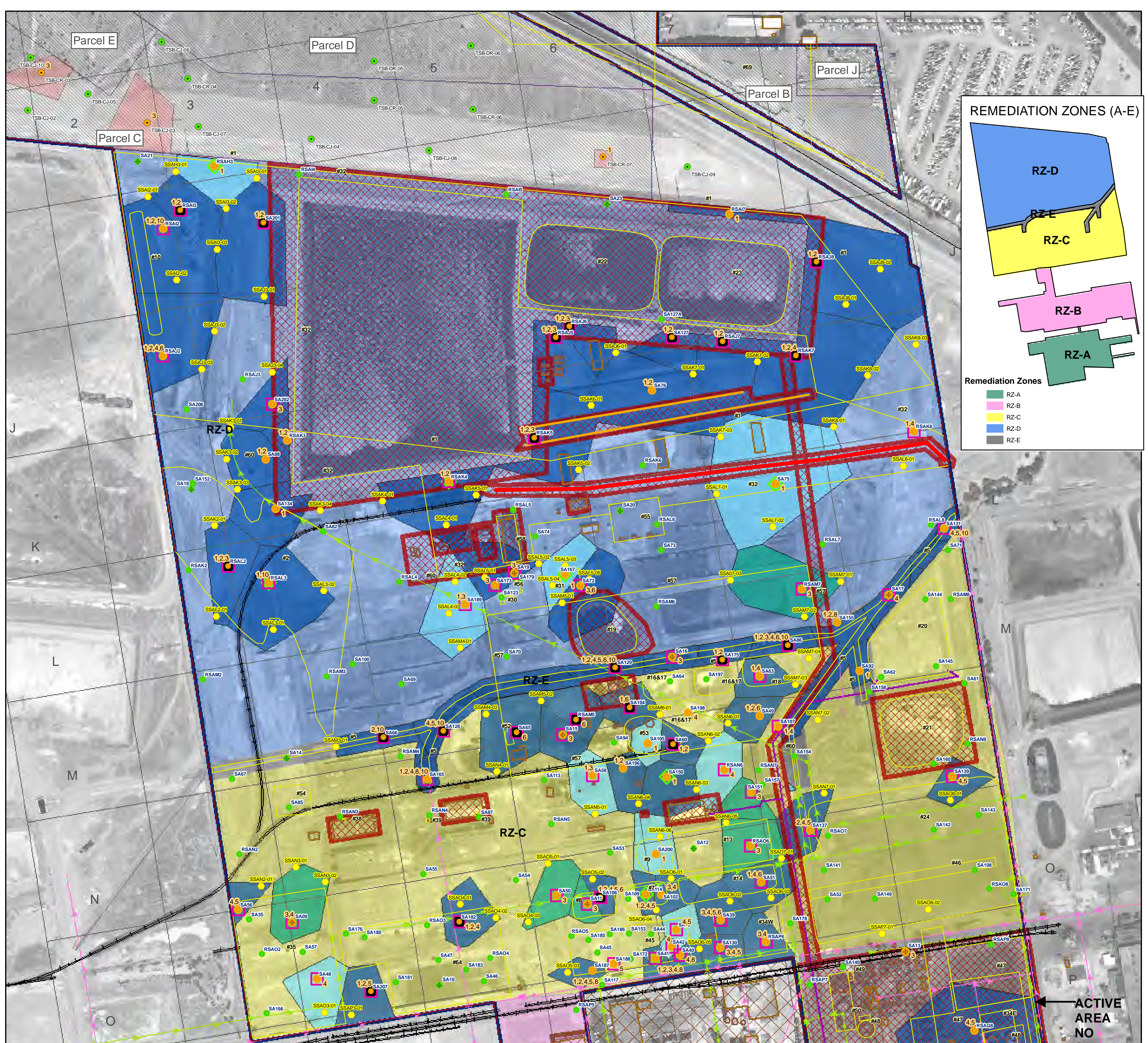
Line No. for Ref.	Figure No. and Rem. Zone	Boring ID	Grid	Depth	Results				Chem. Group Code Driving Add'l Sampling	Rationale	Sample Depths	Chemical Code Number - Analyte of Concern and BCL or Analyte Group - Analytical Method						
												1 Dioxin 1,000 ppt	2 HCB 1.2 mg/kg	3 Asbestos >5 chrysotile 1 amphibole	4 Arsenic 1.77 mg/kg	5 Mn 13,700 mg/kg	6 Perchlorate 795 mg/kg	10 OCPs <sup>(1)</sup>
												EPA 4025 screen/ EPA 8290 conf.	EPA 8081m screen/ EPA 8270C conf.	EPA Method 540-R-97-028	EPA 6010B 6020	EPA 6010B 6020	EPA Method 314.0	EPA Method 8081A (Full Suite)
9	1-5 RZ-E	SA155	M7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 6,097 720 6.3 -	HC 1.3 0.94 0.33 0.3	B(a)P 0.63 <0.004 <0.001 <0.021				-	No sampling, cutline established at 1 foot bgs						
10	1-5 RZ-E	SA17	M8	Depth 0.5-2.0' 10-11.5' 20-21.5' 25-26.5'	Arsenic 22.1 4.2 13 13.7						4	Evaluate trend of elevated arsenic in shallow soil starting at 1 foot bgs	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold	
11	1-5 RZ-E	SA131	L8	Depth 0.5-2.0' 0.5-2.0'D 10-11.5'	Arsenic 11.1 14.3 D 3.99	Mn 4,800 13,800 D 573	4,4-DDE 1.3 0.72 0.071	4,4-DDT 0.72 11 D <0.02			4,5,10	Original below BCL, duplicate above BCL, sample Mn, 4,4-DDE, 4,4-DDT to confirm, arsenic appears to be background, sample beginning at 1 foot bgs to evaluate trend	1' 2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold Hold	X Hold Hold Hold Hold Hold Hold Hold
12	1-5 RZ-E	SA92	M7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0'	Dioxin 1,323 3.7 1.2						-	No sampling, cutline established at 1 foot bgs						
13	1-5 RZ-E	SA107	N7	Depth 0.5-2.0' 1.0-1.5' 1.5-2.0' 10-11.5'	Dioxin 3,243 3,200 23 -	Arsenic 7.8 - - 4.16					4	Cutline established for dioxin at 1.5 feet bgs, sample arsenic to evaluate trend, arsenic sampling may not be necessary if found to be below accepted background concentration	2' 3' 4' 5' 6' 7' 8' 9'				X Hold Hold Hold Hold Hold Hold Hold	

Notes:

New locations marked by yellow highlighting  
 0-0.5'D - D after depth indicates duplicate sample - duplicate samples only shown on table for those samples where duplicates were significantly different (all duplicates shown on Figures 1-2 through 1-5)  
 Dioxin will be screened using EPA 4025 and confirmed using EPA 8290. HCB will be screened using modified EPA 8081 and confirmed using EPA 8270C  
 HCB - Hexachlorobenzene  
 Mn - Manganese  
 Perchlo - Perchlorate  
 mg/kg - milligrams per kilogram  
 ppt - part per trillion  
 conf. - confirmation  
 Total petroleum hydrocarbon data not listed

<sup>(1)</sup> OCPs - organochlorine pesticides found above BCL and their BCLs  
 A-BHC - Alpha-BHC (BCL is 0.399 mg/kg)  
 B-BHC - Beta-BHC (BCL is 1.4 mg/kg)  
 4,4-DDE and 4,4-DDT (BCL is 7.8 mg/kg)  
 Aldrin (BCL is 0.113 mg/kg)

Aroclor-1260 BCL is 0.826 mg/kg



**Legend**

**Proposed Sampling Locations**

- Proposed Deeper Sampling Location
- Proposed Horizontal Delineation Sample
- Proposed Bioaccessibility Sampling Location

**Existing Soil Sample Locations and Results**

- Phase A Sample Location (2006)
- Phase B Sample Location (2008-2009)
- Analyses Detected Above BCL in Soil Samples From Less Than 10 bgs (chemicals identified by posted code numbers)
- Impacted by compounds that exceed BCL at 2 feet bgs (2,200 ppt criteria used for Dioxin).
- Analyte Not Detected Above BCL (less than 10 ft bgs)

**Parcels C,D,F,G,& H**

- No BCL Exceedance at 0 ft bgs
- BCL Exceedance(s) at 0 ft bgs (identified by posted number)
- LOU Boundaries
- Groundwater recharge trenches to be retained
- Groundwater barrier wall to be retained
- Associate LOU Pipelines
- LOU #60 Acid Drain System
- LOU #59 Storm Sewer System
- Site Boundary
- 4 Acre Grid
- Site features (Buildings and Tanks)
- Tronox Facilities to be retained
- ChemStar Property to be retained
- Parcels
- Proposed Scrape Areas

**Polygon Interpolation Areas (Soil less than 10 ft bgs) (Voronoi/Thiessen Polygons)**

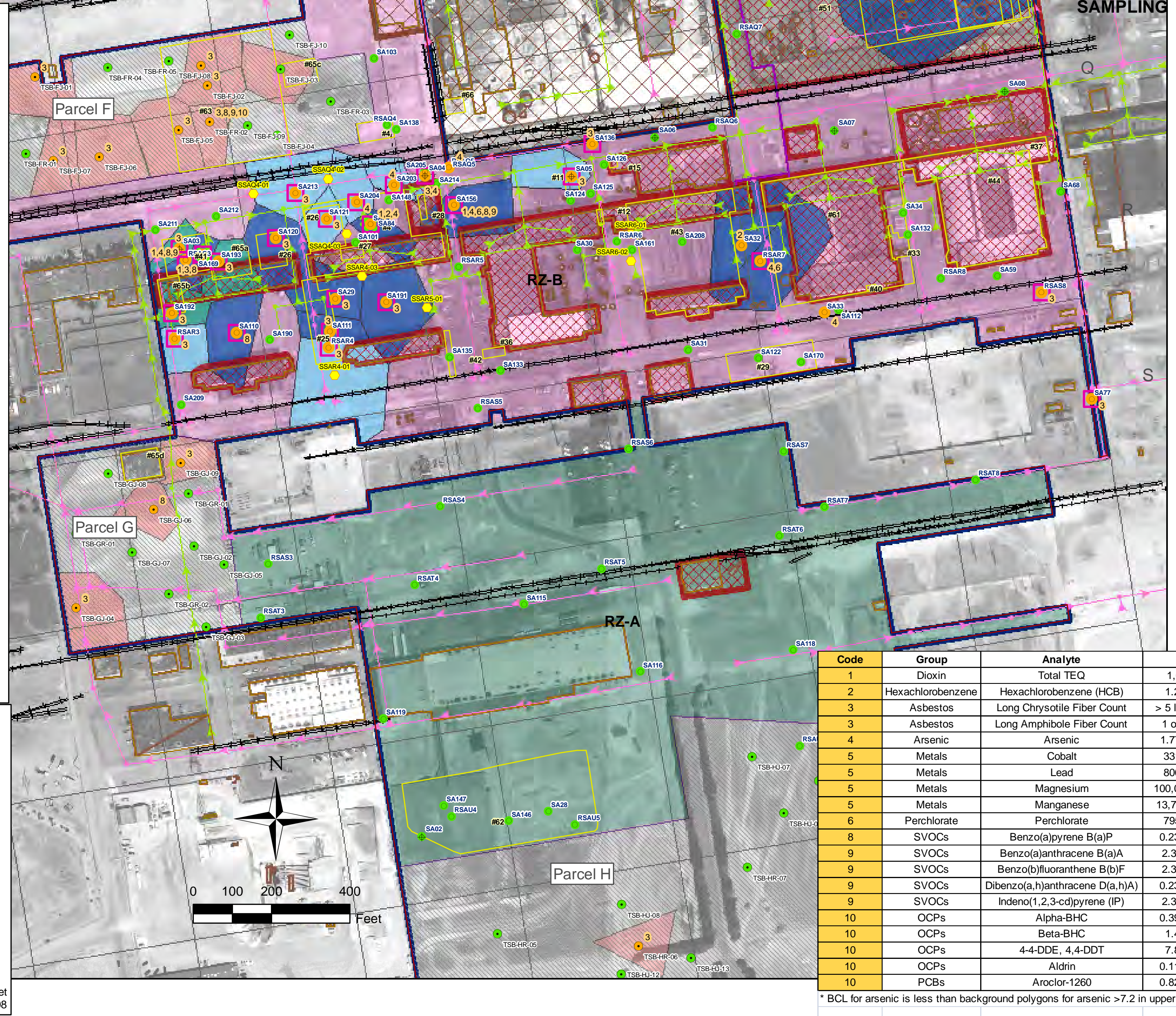
- Polygon area based on single sample location above Criteria 1\*
- 1 long amphibole fiber with no other risk drivers
- Polygon area based on single sample location above Criteria 2\*

**\*Polygon Area Exceedance Criteria**

**Criteria 1 [Dark Blue]:** Analyses detected above NDEP Worker BCLs or following criteria:  
 Arsenic greater than 18 milligrams per kilogram (mg/kg)  
 Chrysotile long fiber count greater than 13  
 Amphibole long fiber count greater than 1  
 Dioxin greater than 2,200 parts per trillion (ppt)

**Criteria 2 [Light Blue]:** Analyses detected above NDEP Worker BCLs or following criteria:  
 Arsenic greater than 7.2 mg/kg and less than 18 mg/kg  
 Chrysotile long fiber count greater than 5 and less than or equal to 13  
 Dioxin greater than 1,000 ppt and less than 2,200 ppt, and/or low levels of PAHs

Coordinate Projection: Stateplane, Nevada East, NAD83, Feet  
 Base Aerial Photo: September, 2008



Code	Group	Analyte	BCL
1	Dioxin	Total TEQ	1,000 ppt
2	Hexachlorobenzene	Hexachlorobenzene (HCB)	1.2 mg/kg
3	Asbestos	Long Chrysotile Fiber Count	> 5 long fibers
3	Asbestos	Long Amphibole Fiber Count	1 or greater
4	Arsenic	Arsenic	1.77 mg/kg*
5	Metals	Cobalt	331 mg/kg
5	Metals	Lead	800 mg/kg
5	Metals	Magnesium	100,000 mg/kg
5	Metals	Manganese	13,700 mg/kg
6	Perchlorate	Perchlorate	795 mg/kg
8	SVOCs	Benzo(a)pyrene B(a)P	0.234 mg/kg
9	SVOCs	Benzo(a)anthracene B(a)A	2.34 mg/kg
9	SVOCs	Benzo(b)fluoranthene B(b)F	2.34 mg/kg
9	SVOCs	Dibenzo(a,h)anthracene D(a,h)A	0.234 mg/kg
9	SVOCs	Indeno(1,2,3-cd)pyrene (IP)	2.34 mg/kg
10	OCPs	Alpha-BHC	0.399 mg/kg
10	OCPs	Beta-BHC	1.4 mg/kg
10	OCPs	4-4-DDE, 4,4-DDT	7.8 mg/kg
10	OCPs	Aldrin	0.113 mg/kg
10	PCBs	Aroclor-1260	0.826 mg/kg

\* BCL for arsenic is less than background polygons for arsenic >7.2 in upper 10 feet

**EXCEEDANCE POLYGONS FOR SHALLOW SOILS (<10 FT BGS) DIRECT CONTACT EXPOSURE**

Tronox LLC  
 Henderson, Nevada

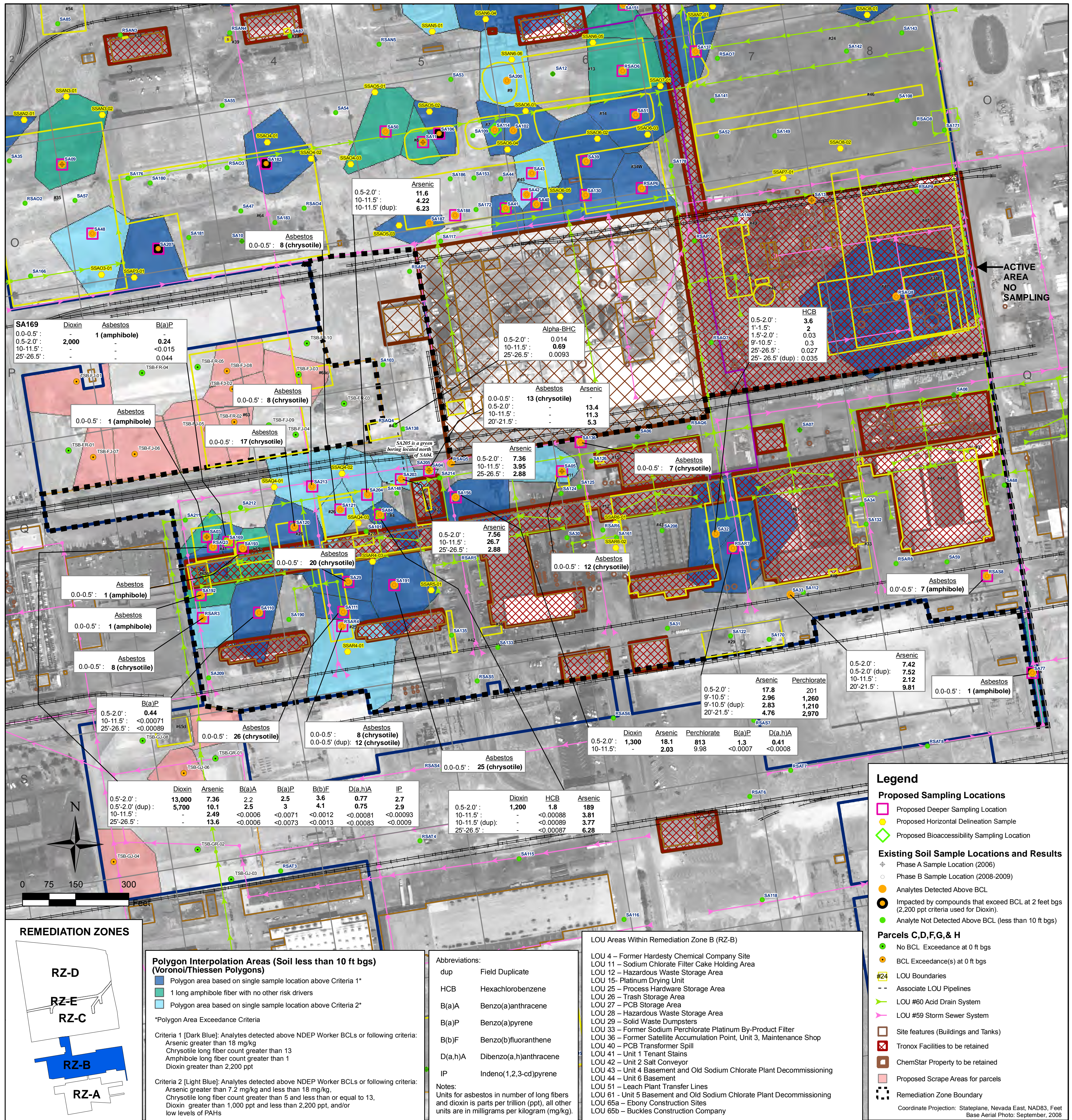
SCALE: 1" = 200'  
 DATE: 03/24/2010  
 PROJECT NUMBER: 2027.01

DESIGNED BY:	NO.:	REVISIONS	DESCRIPTION:	DATE:	BY:
DRAWN BY:					
CHECKED BY:					
APPROVED BY:					

**northgate**  
 environmental management, inc.

**TRONOX** <http://www.ngem.com>





## REMEDATION ZONE B (RZ-B) UNIT BUILDINGS

Tronox LLC  
Henderson, Nevada

SCALE: 1" = 150'	DATE: 03/24/2010	PROJECT NUMBER: 2027.01
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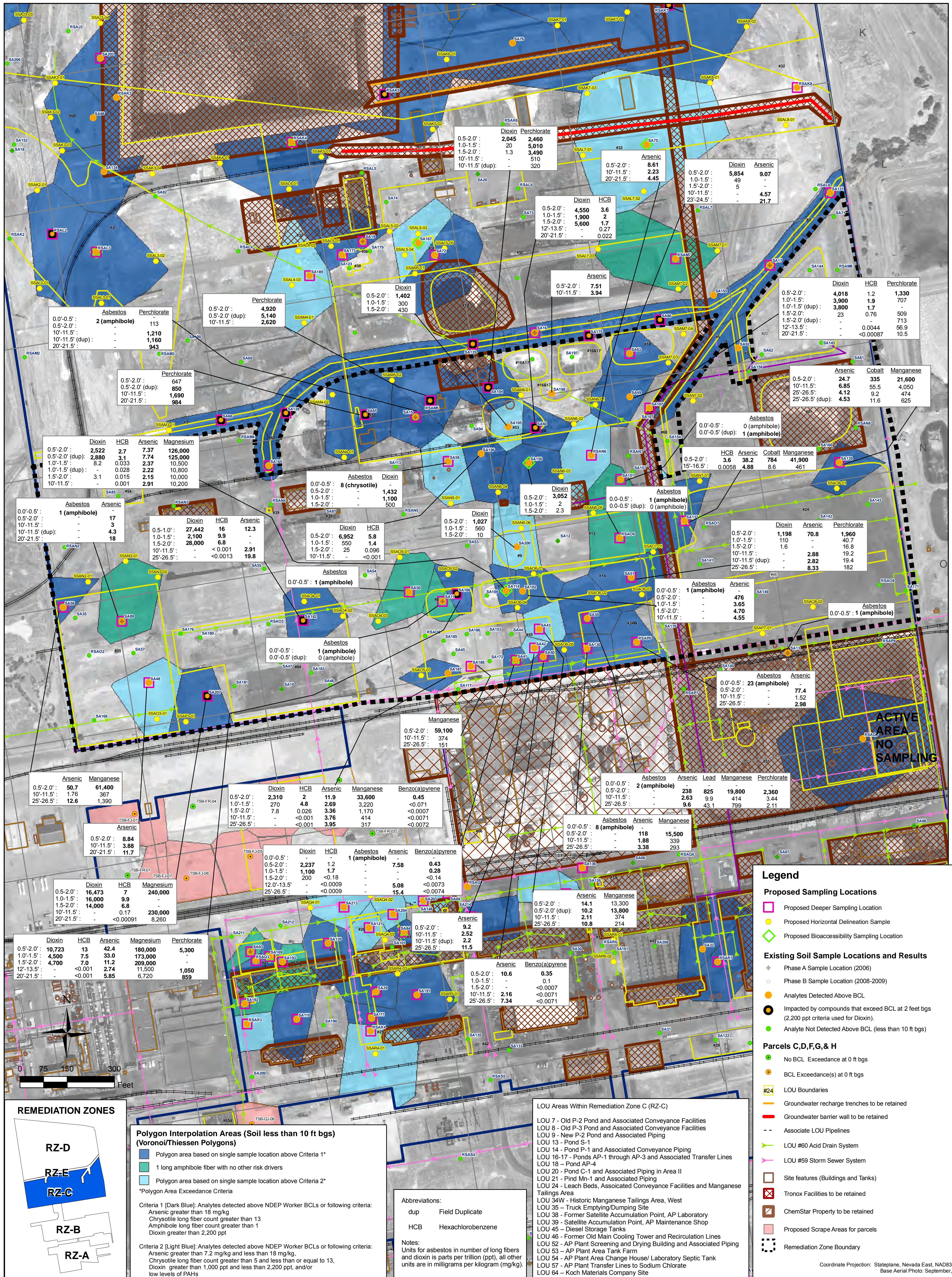
DESIGNED BY:	NO.:	REVISIONS	DESCRIPTION:	DATE:	BY:
DRAWN BY:					
NGEM					
CHECKED BY:					
NGEM					
APPROVED BY:					
NGEM					

**northgate**  
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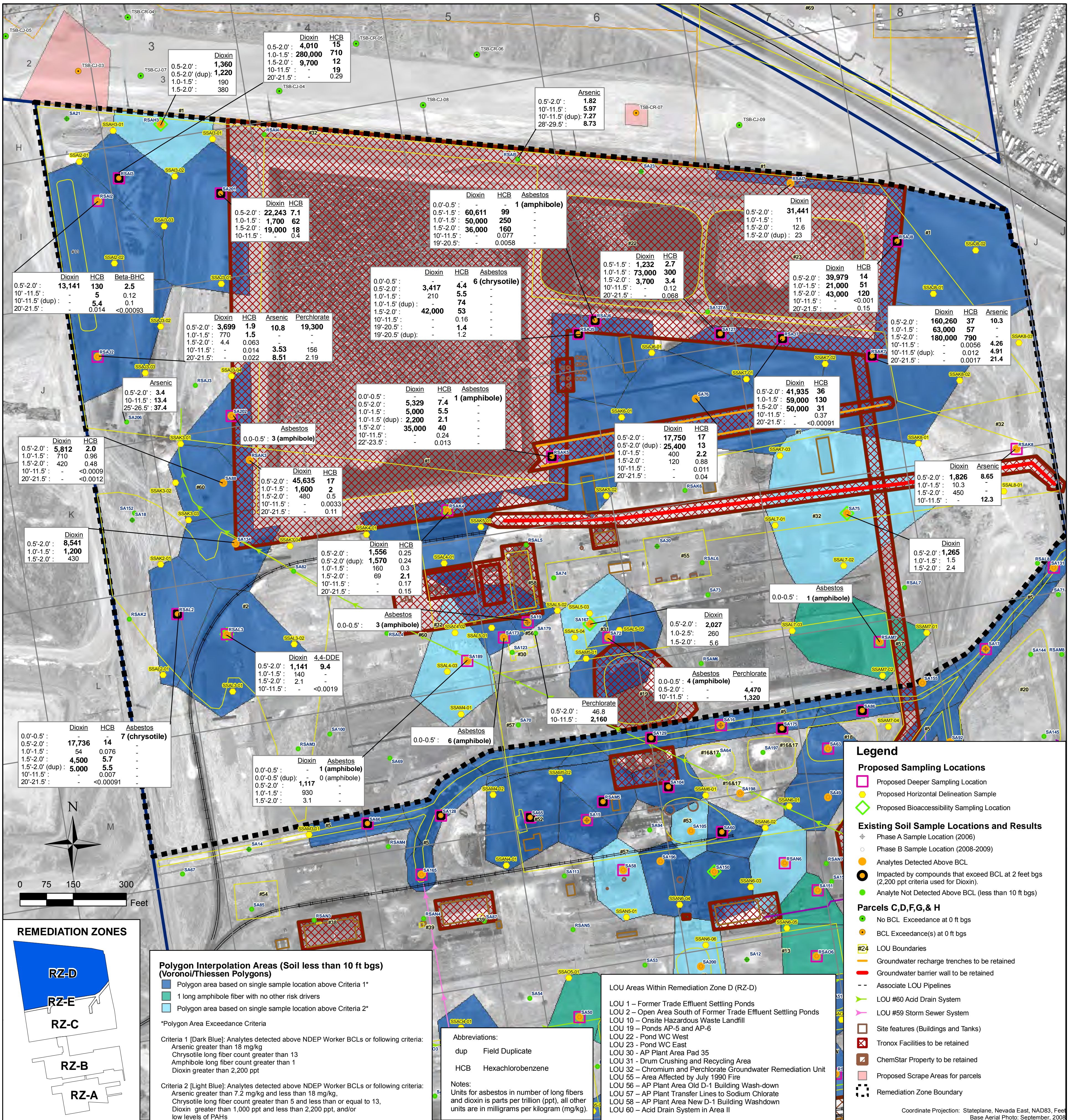
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FIGURE NUMBER:  
**1-2**

SHEET NUMBER:  
**1**



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**REMEDATION ZONE D (RZ-D)  
 TRADE EFFLUENT PONDS & AP PAD/DRUM  
 RECYCLING AREA**

Tronox LLC  
 Henderson, Nevada

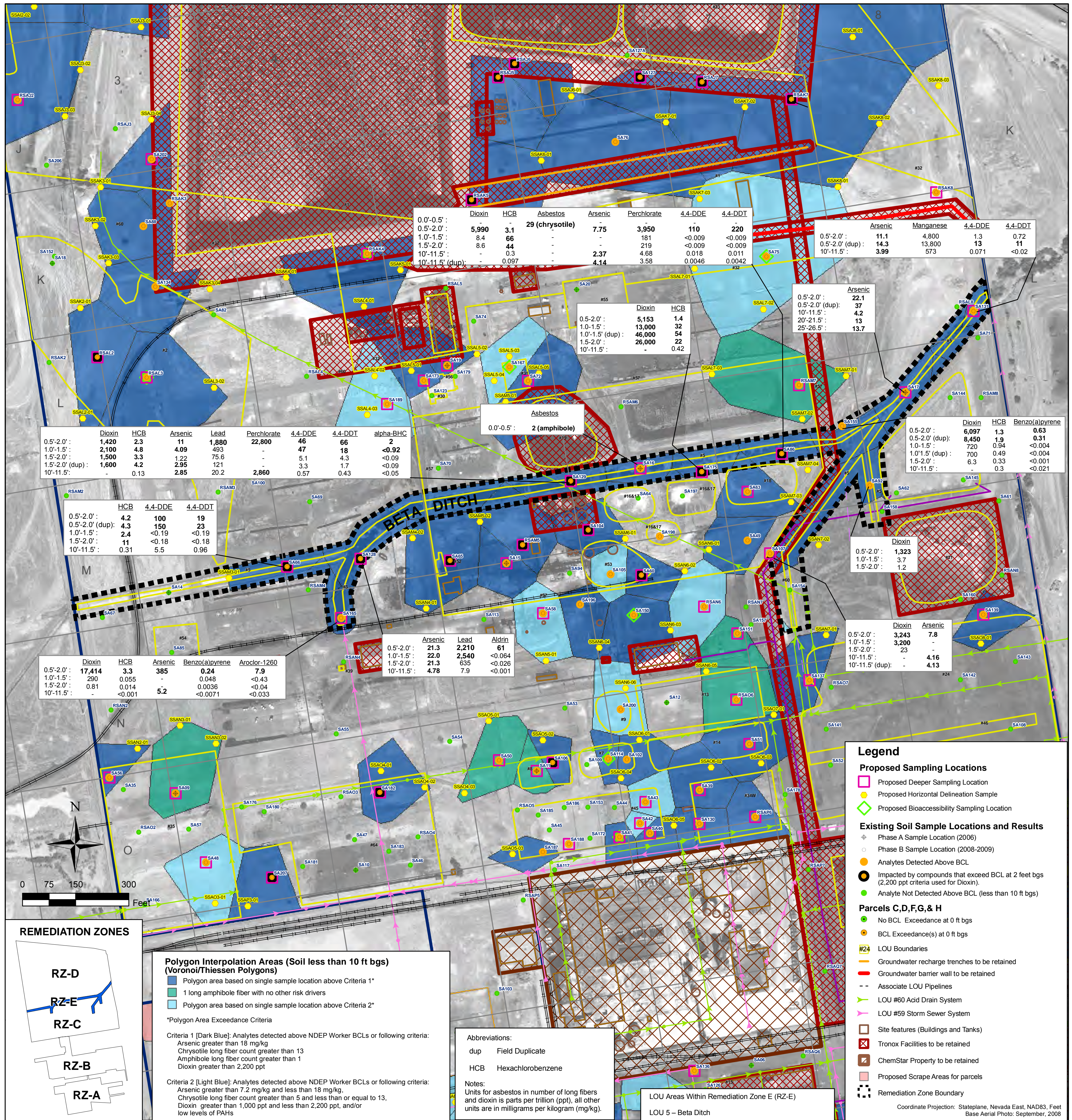
SCALE: 1" = 150'	DATE: 03/24/2010	PROJECT NUMBER: 2027.01
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	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY: NGEM				
CHECKED BY: NGEM				
APPROVED BY: NGEM				

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FIGURE NUMBER:  
**1-4**

SHEET NUMBER:  
**1**



	Dioxin	HCB	Arsenic	Lead	Perchlorate	4,4-DDE	4,4-DDT	alpha-BHC
0.5'-2.0'	1,420	2.3	11	1,880	22,800	46	66	2
1.0'-1.5'	2,100	4.8	4.09	493	-	47	18	<-0.92
1.5'-2.0'	1,500	3.3	1.22	75.6	-	5.1	4.3	<-0.09
1.5'-2.0' (dup)	1,600	4.2	2.95	121	-	3.3	1.7	<-0.09
10'-11.5'	-	0.13	2.85	20.2	2,860	0.57	0.43	<-0.05

	Dioxin	HCB	Asbestos	Arsenic	Perchlorate	4,4-DDE	4,4-DDT
0.0'-0.5'	-	-	-	-	-	-	-
0.5'-2.0'	5,990	3.1	29 (chrysotile)	7.75	3,950	110	220
1.0'-1.5'	8.4	66	-	-	181	<0.009	<0.009
1.5'-2.0'	8.6	44	-	-	219	<0.009	<0.009
10'-11.5' (dup)	-	0.3	-	2.37	4.68	0.018	0.011
10'-11.5'	-	0.097	-	4.14	3.58	0.0046	0.0042

	Arsenic	Manganese	4,4-DDE	4,4-DDT
0.5'-2.0'	11.1	4,800	1.3	0.72
0.5'-2.0' (dup)	14.3	13,800	13	11
10'-11.5'	3.99	573	0.071	<-0.02

	Dioxin	HCB
0.5'-2.0'	5,153	1.4
1.0'-1.5'	13,000	32
1.0'-1.5' (dup)	46,000	54
1.5'-2.0'	26,000	22
10'-11.5'	-	0.42

**Asbestos**  
0.0'-0.5' : 2 (amphibole)

	Arsenic
0.5'-2.0'	22.1
0.5'-2.0' (dup)	37
10'-11.5'	4.2
20'-21.5'	13
25'-26.5'	13.7

	Dioxin	HCB	Benzo(a)pyrene
0.5'-2.0'	6,097	1.3	0.63
0.5'-2.0' (dup)	8,450	1.9	0.31
1.0'-1.5'	720	0.94	<-0.004
1.0'-1.5' (dup)	700	0.49	<-0.004
1.5'-2.0'	6.3	0.33	<-0.001
10'-11.5'	0.3	0.3	<-0.021

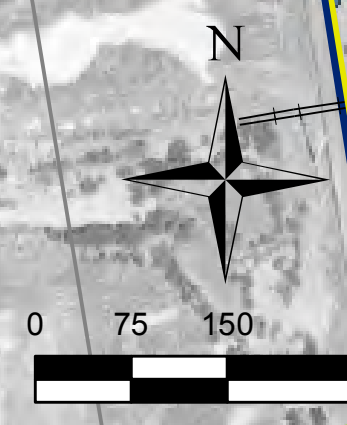
	HCB	4,4-DDE	4,4-DDT
0.5'-2.0'	4.2	100	19
0.5'-2.0' (dup)	4.3	150	23
1.0'-1.5'	2.4	<0.19	<0.19
1.5'-2.0'	11	<0.18	<0.18
10'-11.5'	0.31	5.5	0.96

	Dioxin	HCB	Arsenic	Benzo(a)pyrene	Aroclor-1260
0.5'-2.0'	17,414	3.3	385	0.24	7.9
1.0'-1.5'	290	0.055	-	0.048	<0.43
1.5'-2.0'	0.81	0.014	0.0036	0.004	<0.04
10'-11.5'	<0.001	5.2	<0.0071	<0.033	

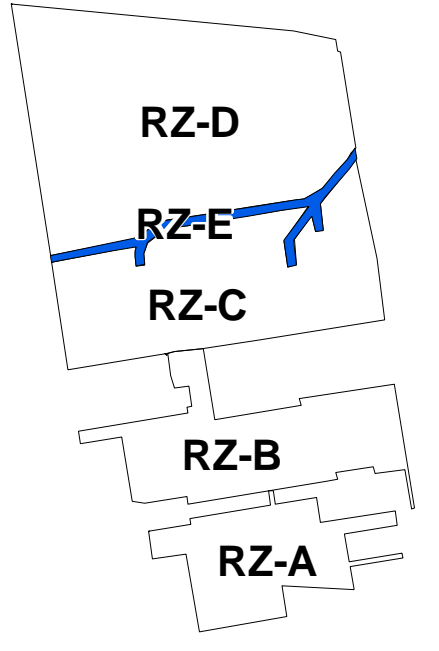
	Arsenic	Lead	Aldrin
0.5'-2.0'	21.3	2,210	61
1.0'-1.5'	22.0	2,540	<0.064
1.5'-2.0'	21.3	635	<0.026
10'-11.5'	4.78	7.9	<0.001

	Dioxin	Arsenic
0.5'-2.0'	1,323	7.8
1.0'-1.5'	3,200	-
1.5'-2.0'	23	-
10'-11.5'	-	4.16
10'-11.5' (dup)	-	4.13

	Dioxin	Arsenic
0.5'-2.0'	3,243	7.8
1.0'-1.5'	3,200	-
1.5'-2.0'	23	-
10'-11.5'	-	4.16
10'-11.5' (dup)	-	4.13



**REMEDIATION ZONES**



**Polygon Interpolation Areas (Soil less than 10 ft bgs) (Voronoi/Thiessen Polygons)**

- Polygon area based on single sample location above Criteria 1\*
  - 1 long amphibole fiber with no other risk drivers
  - Polygon area based on single sample location above Criteria 2\*
- \*Polygon Area Exceedance Criteria
- Criteria 1 [Dark Blue]: Analytes detected above NDEP Worker BCLs or following criteria:  
 Arsenic greater than 18 mg/kg  
 Chrysotile long fiber count greater than 13  
 Amphibole long fiber count greater than 1  
 Dioxin greater than 2,200 ppt
- Criteria 2 [Light Blue]: Analytes detected above NDEP Worker BCLs or following criteria:  
 Arsenic greater than 7.2 mg/kg and less than 18 mg/kg,  
 Chrysotile long fiber count greater than 5 and less than or equal to 13,  
 Dioxin greater than 1,000 ppt and less than 2,200 ppt, and/or  
 low levels of PAHs

Abbreviations:  
 dup Field Duplicate  
 HCB Hexachlorobenzene

Notes:  
 Units for asbestos in number of long fibers and dioxin is parts per trillion (ppt), all other units are in milligrams per kilogram (mg/kg).

**Legend**

- Proposed Sampling Locations**
- Proposed Deeper Sampling Location
  - Proposed Horizontal Delineation Sample
  - ◇ Proposed Bioaccessibility Sampling Location
- Existing Soil Sample Locations and Results**
- ⊕ Phase A Sample Location (2006)
  - Phase B Sample Location (2008-2009)
  - Analytes Detected Above BCL
  - Impacted by compounds that exceed BCL at 2 feet bgs (2,200 ppt criteria used for Dioxin).
  - Analyte Not Detected Above BCL (less than 10 ft bgs)
- Parcels C,D,F,G,& H**
- No BCL Exceedance at 0 ft bgs
  - BCL Exceedance(s) at 0 ft bgs
- #24 LOU Boundaries
- Groundwater recharge trenches to be retained
  - Groundwater barrier wall to be retained
  - Associate LOU Pipelines
  - LOU #60 Acid Drain System
  - LOU #59 Storm Sewer System
- Site features (Buildings and Tanks)
  - ⊠ Tronox Facilities to be retained
  - ⊠ ChemStar Property to be retained
  - ⊠ Proposed Scrape Areas for parcels
  - ⊠ Remediation Zone Boundary
- Coordinate Projection: Stateplane, Nevada East, NAD83, Feet  
 Base Aerial Photo: September, 2008

**REMEDIATION ZONE E (RZ-E) BETA DITCH**

Tronox LLC  
 Henderson, Nevada

SCALE: 1" = 150'	DATE: 03/24/2010	PROJECT NUMBER: 2027.01
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DESIGNED BY:	REVISIONS			
	NO.:	DESCRIPTION:	DATE:	BY:
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APPROVED BY: NGEM				

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