

Prepared for:
Tronox LLC
Henderson, Nevada

Phase B Source Area Investigation Work Plan
Area III (Eastern LOUs)
Tronox LLC Facility
Henderson, Nevada

ENSR Corporation
June 2008
Document No.: 04020-023-430 – III

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TRONOX

Susan Crowley
Staff Environmental Specialist

(702) 651-2234
Fax (405) 302-4607
susan.crowley@tronox.com

June 27, 2008

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

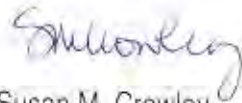
**Subject: Phase B Source Area Investigation – Area III Work Plan
TRONOX LLC, Henderson, Nevada**

Dear Ms. Harbour:

Tronox LLC (Tronox) has undertaken an Environmental Conditions Assessment (ECA) as directed by the Nevada Division of Environmental Protection (NDEP). Towards this work, Tronox has prepared the attached *Phase B Source Area Investigation – Area III, Tronox LLC, Henderson Nevada*. This is the fifth of the "Area" work plans, and incorporates NDEP comments on the Area I and Area IV documents. This is one of the set of six Phase B work plans which collectively will provide information to be used in assessing soil, soil gas and groundwater impacts at the Tronox Henderson facility. The associated CD will be provided under a separate submittal to NDEP within two business days.

Please contact me at (702) 651-2234 if you have any comments or questions concerning this correspondence.

Sincerely,



Susan M. Crowley
Staff Environmental Specialist

Overnight Mail

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Mack	Joel	Montrose Counsel			

**Phase B Source Area Investigation
Work Plan – Area III
Tronox LLC Facility
Henderson, Nevada**

Responsible CEM for this project

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and, to the best of my knowledge, comply with all applicable federal, state and local statutes, regulations and ordinances.

 6-26-08

Susan M. Crowley, CEM 1428 exp. date 3/8/09
Staff Environmental Specialist
Tronox LLC

Technical Contributions by:

Keith Bailey, Ph.D.
Lisa Bradley, Ph.D., DABT
Michael Flack, PG
Brian Ho, CEM
Robert Kennedy
Carmen Schnell, PG

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ABBREVIATIONS AND ACRONYMS

AP	Ammonium Perchlorate
ASTM	American Society for Testing and Materials
bgs	below ground surface
BMI	Black Mountain Industrial
BRC	Basic Remediation Company
CAS	Columbia Analytical Services
CEM	Certified Environmental Manager
CSM	Conceptual Site Model
ECA	Environmental Conditions Assessment
EDD	electronic data deliverable
ft/ft	feet per foot
HASP	Health and Safety Plan
HHRA	Human Health Risk Assessment
LOU	Letter of Understanding
MCfg1	Muddy Creek Formation – first fine-grained facies
ml	milliliter
MSSL	Medium Specific Screening Levels
NDEP	Nevada Division of Environmental Protection
OCHs	organochlorine herbicides
OCPs	organochlorine pesticides
OPPs	organophosphorus pesticides
PCBs	polychlorinated biphenyl
Qal	Quaternary Alluvium
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
SAPs	sampling and analytical plans
SPLP	Synthetic Precipitation Leaching Procedure
SRCs	Site-related chemicals
SVOC	semi-volatile organic compound
Tronox	Tronox LLC
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WDC	Water Development Corporation

1.0 Introduction

This document presents the Area III Work Plan (Work Plan), which is part of the Phase B Source Area Investigation at the Tronox LLC (Tronox) facility located within the Black Mountain Industrial (BMI) Complex in Henderson, Nevada (the Site). The Site is owned and operated by Tronox, headquartered in Oklahoma City, Oklahoma. Tronox was formerly known as Kerr-McGee Chemical LLC. The Source Area Investigation, including Phase A and Phase B, is being conducted under the regulatory oversight of the Nevada Division of Environmental Protection (NDEP) and is being submitted as part of the Environmental Conditions Assessment (ECA) as required by NDEP (2004).

The Phase B activities follow the Phase A Source Area Investigation (ENSR 2007b) and are intended to further characterize soil and groundwater conditions at the source areas within the roughly 450-acre Site (**Figure 1**).

At the request of NDEP, the Phase B Source Area Investigation field activities have been segmented into investigations of soil gas, soil and groundwater, and background groundwater conditions with each segment requiring separate, stand-alone work plans that describe the goals, scope of work, and methods used to implement each investigation.

To investigate the approximately 70 source areas on the Site and their potential affect on soil conditions, the Site has been subdivided into four "Areas" (Area I, II, III, and IV) as shown on **Figure 2**. The Phase B soil investigation by ENSR does not include investigation of soils in Parcels A through D, F, G, and H (**Figure 2**), which are for sale, and are being investigated by the Basic Remediation Company (BRC) independently, of ENSR's Phase B Source Area Investigation. (Parcel E consists of land that is jointly used by Montrose Chemical and others, and evaluation of this parcel will be addressed at a later date.)

Whereas the Site has been subdivided into four Areas for the soil investigation, Tronox will evaluate groundwater conditions and soil gas on a Site-wide basis.

Individual work plan documents have been prepared that describe the scope of work to investigate each of the four Areas. This document presents the work plan to investigate soil and groundwater conditions in Area III. The Area I Work Plan was submitted on April 3, 2008 (ENSR 2008c), and NDEP provided conditional approval and comments on May 6, 2008 (NDEP 2008b). The Area IV Work Plan was submitted on May 16, 2008 (ENSR 2008e), and NDEP provided conditional approval and comments on June 18, 2008. Additionally, a separate work plan to evaluate soil gas and the vapor intrusion pathway for the entire Site has been prepared (ENSR 2008b). This work plan was approved with conditions by NDEP on March 26, 2008. The work plan for Area II is being submitted concurrently with this document for review by NDEP.

The four Area investigation work plans focus on evaluation of potential source areas for the Site-related analytes as shown on **Table 1**, (which was updated and forwarded to NDEP on May 29, 2008; Tronox 2008). (The site-related analytes, herein after referred to as Site-related chemicals [SRCs], increased slightly from the full list of SRCs addressed in previous reports.) Potential source areas were identified by NDEP in their August 15, 1994 Letter of Understanding (LOU). Seventy areas have been identified as potential source areas on the Tronox Site. Sixty-nine areas are formally designated as LOUs (i.e., LOU 1 through LOU 69). An area identified as the former U.S. Vanadium Site has not been designated an LOU, but is considered herein as the

70th potential source area. Of the 70 potential source areas identified on the NDEP LOU, 20 are within Area III as shown in **Figure 3** and as listed below:

- LOU 20 – Pond C-1 and Associated Piping (in Area III)
- LOU 21 – Pond Mn-1 and Associated Piping
- LOU 22 – Pond WC-West Associated Piping (in Area III)
- LOU 23 – Pond WC-East Associated Piping (in Area III)
- LOU 24 – Leach Beds, Associated Conveyance Facilities, and Manganese Tailings Area
- LOU 33 – Sodium Perchlorate Platinum By-Product Filter, Unit 5
- LOU 34E and 34W – Former Manganese Tailings Area (East and West)
- LOU 37 – Former Satellite Accumulation Point, Unit 6, Maintenance Shop
- LOU 40 – PCB Transformer Spill
- LOU 44 – Unit 6 Basement
- LOU 46 – Former Old Main Cooling Tower and Recirculation Lines
- LOU 47 – Current and Historical Leach Plant Area Manganese Ore Piles
- LOU 48 – Leach Plant Area Anolyte Tanks
- LOU 49 – Leach Plant Area Sulfuric Acid Storage Tanks
- LOU 50 – Current and Historical Leach Plant Area Leach Tanks
- LOU 51 – Leach Plant Transfer Lines
- LOU 59 – Storm Sewer System (in Area III)
- LOU 60 – Former Acid Drain System (in Area III)
- LOU 61 – Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning
- Area 70 – U.S. Vanadium Leasehold

The Area III Work Plan includes a compilation of individual sampling and analysis plans for each of the 19 LOUs and Area 70 that are presented in **Appendix A**. The LOUs adjacent to Area III are also shown on **Figure 3**, and are addressed in the work plans for Areas I, II, and IV.

It is important to note that the Area III Work Plan is designed to investigate both soil and groundwater within Area III (**Figure 3**). Results of the BRC soil investigations on Tronox sale Parcels A, B, C, D, F, G and H will be incorporated into the final Phase B Source Area Investigation report.

In several cases individual LOUs have been combined with overlapping or adjacent LOUs into a single consolidated LOU package in **Appendix A**. This has been done to simplify the discussion of the investigations to occur at each LOU. The combined LOU packages for Area III are: LOUs 22 and 23, LOUs 24 and 46; LOUs 34E, 47, 48, 49, 50, 51 and Area 70; LOUs 44 and 37; and LOUs 61, 33 and 40.

1.1 Purpose and Objectives

The purpose of this Area III Work Plan is to describe the assessment of each potential source area, the sampling and data-gathering methods to be used, the locations to be sampled, the rationale for the locations

proposed, and the analytical methodologies to be employed for the Phase B Source Area Investigation of Area III.

The objective of the Area III investigation is to gather information on the nature and extent of SRCs that may have been released to the environment in each of the respective potential source areas. Additionally, the scope-of-work has been designed to gather information for human health risk-based decision-making purposes. As such, samples of soil and groundwater will be collected and analyzed to support the evaluation of potential routes of exposure (e.g., direct contact pathway, soil-to-groundwater pathway, and groundwater pathway) in an industrial/commercial setting. The evaluation of the potential for migration of volatile organic compounds (VOCs) that may migrate from groundwater and/or soil to indoor air will be evaluated on a Site-wide basis under a separate soil gas survey work plan (ENSR 2008b) as noted above.

The distribution of sampling locations is designed in part to evaluate potential sources within each LOU and to provide general coverage within each Area supporting the planned future risk assessment, assuming that the receptors have equal probability of contacting environmental media within operationally (or on other basis) defined exposure areas of the Site. To evaluate source areas, proposed soil borings are placed at locations where constituents are anticipated to occur in soil at the highest concentrations or “worst case scenario” for most source areas. In a few cases, where containment structures cover “worst case” locations, sampling is proposed adjacent to the containments. Soil borings are also placed in locations outside the boundary of LOUs to gain additional insight into the horizontal extent of constituents in soil. The number of samples to be collected from Area III is designed to provide a large enough sample distribution to allow for completion of the planned risk assessment program.

Data from the investigation will be evaluated in conjunction with data from the other Area investigations to identify the exposure areas that will be used as part of the site-specific human health risk assessment (HHRA). The exposure areas will be identified based on current or planned operational areas, the SRC data, and chemical distribution across the Site. In addition, a screening level risk assessment will be performed for each of the source areas, using U.S. EPA Region VI Human Health Medium Specific Screening Levels (MSSLs) (updated March 2008 [USEPA 2008]) and screening levels from appropriate state and federal guidance, to provide further information for defining exposure areas. The screening level risk assessment will consist of a simple comparison of the sample analytical results to the MSSLs or other appropriate state and federal screening levels, which is in essence, the first step (Hazard Identification) of the full four-step risk assessment process to be used as part of the Site-specific HHRA.

The Site-specific HHRA will be performed generally consistent with the methods presented in Section 9 of the Basic Remediation Company (BRC) Closure Plan (BRC 2007a). However, some modifications to the BRC Closure Plan are necessary so that the methods are appropriate for the evaluation of Areas I through IV at the Site. Site-specific modifications to the BRC Closure Plan will be discussed in a separate memorandum that will be prepared following discussions with NDEP, and will include, but may not be limited to, the following:

- Exposure areas, pathways, receptors, and associated exposure factors;
- Selection of chemicals of potential concern; and
- Methodology for evaluation of soil gas results to evaluate the potential vapor intrusion pathway (i.e., soil gas measurements for the Site-specific HHRA instead of flux chamber measurements to assess the potential vapor intrusion inhalation pathway).

The HHRA will be prepared following completion of the Phase B Source Area Investigation report.

Upon completing field activities and receipt of the analytical results, the Area III investigation data will be compiled. The data will undergo comprehensive data validation as described by NDEP guidance (NDEP 2006) and in the *Quality Assurance Project Plan (QAPP)* (ENSR 2008d). Upon completion of the data validation, the Area III data will be discussed with NDEP. If data gaps are identified, additional field sampling may be proposed as an addendum to the Area III Work Plan.

1.2 Documents of Record

Previously prepared planning documents for the BMI Common Areas in general, and the Site in particular, have been reviewed and approved by NDEP. These documents are considered documents of record and are referenced as appropriate herein to refer the reader to detailed prior discussions on Site conditions and information used to develop the LOU data packages and sampling and analysis plans. These documents include the following:

- *Environmental Conditions Assessment* (Kleinfelder 1993);
- *Response to Letter of Understanding, Henderson, Nevada Facility* (Kerr-McGee 1996);
- *Phase II Environmental Conditions Assessment, Kerr-McGee Chemical LLC, Henderson, Nevada* (ENSR 1997);
- *Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada* (ENSR 2005);
- *Upgradient Investigation Work Plan, Tronox LLC Facility, Henderson, Nevada Site* (ENSR 2006a);
- *Upgradient Investigation Work Plan Addendum, Tronox LLC Facility, Henderson, Nevada Site* (ENSR 2006b);
- *Phase A Source Area Investigation Work Plan, Tronox LLC Facility, Henderson, Nevada Site* (ENSR 2006c);
- *Upgradient Investigation Results Report, Tronox LLC Facility, Henderson, Nevada Site* (ENSR 2006e);
- *Addendum to the Phase A Source Area Investigation Work Plan, Tronox LLC Facility, Henderson, Nevada Site* (ENSR 2007a);
- *Phase A Source Area Investigation Results Report, Tronox LLC Facility, Henderson, Nevada* (ENSR 2007b);
- *Revisions to the Upgradient Investigation Results, Tronox LLC Facility, Henderson, Nevada Site* (ENSR 2007c);
- *Phase B Source Area Investigation Work Plan – Soil Gas Survey, Tronox LLC Facility, Henderson, Nevada* (ENSR 2008b);

- *Phase B Source Area Investigation Work Plan Area I (Northern LOUs), Tronox LLC Facility, Henderson, Nevada (ENSR 2008c); and*
- *Phase B Source Area Investigation Work Plan Area IV (Western and Southern LOUs), Tronox LLC Facility, Henderson, Nevada [Draft] (ENSR 2008e).*
- *Phase B Source Area Investigation Work Plan Area II (Central LOUs), Tronox LLC Facility, Henderson, Nevada [Draft] (ENSR 2008f).*

Additional documents that have been prepared to define field procedures and protocols, quality assurance and quality control (QA/QC), and health and safety are as follows:

- *Basic Remediation Company (BRC) Field Sampling and Standard Operating Procedures for the BMI Common Areas (BRC 2007b);*
- *Health and Safety Plan (HASP) Revision 3 (ENSR 2008a); and*
- *Quality Assurance Project Plan (QAPP), Tronox LLC Facility, Henderson, Nevada (ENSR 2008d).*

1.3 Project Organization

The Tronox project manager is Susan Crowley. Ms. Crowley is a Nevada-Certified Environmental Manager (CEM # 1428, expiring March 8, 2009) and is the person who serves as the point of contact for regulatory and environmental issues pertinent to the Site. She is located at the Tronox Henderson Facility. Her telephone number is (702) 651-2234. Ms. Crowley manages the consultants and subcontractors that will be performing the tasks described in this Work Plan. Ms. Crowley will be supported by Tronox hydrogeologist Mr. Tom Reed.

ENSR Corporation is Tronox's environmental consultant. Mr. Michael Flack (Senior Program Manager and Hydrogeologist), Dr. Keith Bailey of Environmental Answers LLC (Engineer), Dr. Lisa Bradley (Senior Toxicologist), Brian Ho, CEM (Phase B Investigation Team Leader and Field Manager), Elizabeth Perry (Geostatistician), and Robert Kennedy (Senior Chemist and Data QA/QC Officer) comprise ENSR's senior team, who along with ENSR Staff Geologists and Engineers will be assisting with this project as needed. Ms. Elizabeth Martinez will be responsible for QA/QC of documents.

Boart-Longyear and Water Development Corporation (WDC) have been solicited for competitive bids to advance the soil borings, using either sonic or hollow-stem auger equipment, and to install additional groundwater monitor wells. Both firms are licensed by the State of Nevada to install water wells.

The primary analytical laboratories that will be used for the analytical program (excluding radionuclides) will be the Columbia Analytical Services (CAS) Laboratories in Rochester, NY; Kelso, WA; and Houston, TX (Nevada certification numbers NY000322008A, WA35, and TX014112007A, respectively). The radionuclides analysis will be performed by GEL Laboratories, LLC of Charlestown, South Carolina (Nevada certification number SC12). Analysis of soil samples for asbestos will be performed by EMSL Analytical, Inc. of Westmont, New Jersey – the same laboratory that performed the asbestos analysis for the Phase A Source Area Investigation. Laboratory data for the analytical suites will be provided to Tronox in hard copy format as well as Tronox-specific EQUIS™ electronic data deliverable (EDD) format. The laboratory will provide sample receipt notification upon receipt of samples at the laboratory.

2.0 Source Area Investigation for Area III

This section provides a brief summary of the site conditions within Area III and the approach used to develop the soil and groundwater sampling and analytical plans (SAPs) for Area III. The potential source areas that will be evaluated, including associated soil borings and wells for the Area III investigation are shown on **Plate A**.

The list of SRCs for which samples will be investigated in the Phase B Source Area Investigation is presented in **Table 1**. The soil SAP is presented in **Table 2**, which lists the soil borings proposed for Area III, the rationale for each soil boring location, the sample depths, and the analytical program for each soil sample. The groundwater SAP is presented in **Table 3**, which lists the monitoring wells proposed for sampling in Area III along with the analytical plan for each groundwater sample.

2.1 Site Conditions

Background information including the Site description, Site location, physical setting, regional and local geology, hydrogeology, etc., are described in detail in the *Conceptual Site Model (CSM) Report* (ENSR 2005) and the *Phase A Source Area Investigation Results Report* (ENSR 2007b). **Figure 4** shows local groundwater conditions within Area III that were developed from groundwater levels measured in May and December 2007 as well as historic wind direction for the Site. Two geological cross sections showing local stratigraphy in Area III are presented in **Figures 6 and 7**. The general hydrogeologic conditions within Area III are summarized as follows:

- Groundwater is generally encountered in the Quaternary Alluvium (Qal) below most of Area III. In the southernmost portion of Area III however, groundwater could be initially encountered in the uppermost fine-grained facies of the Muddy Creek Formation (MCfg1).
- The depth to groundwater measured in May and December 2007 ranges from about 38 to 41 feet below ground surface (bgs) and is generally deepest in the southernmost portion of the Area.
- The groundwater flow direction is generally to the north in Area III ranging from about 0.026 feet per foot (ft/ft) in the northern part of Area III to a gradient of about 0.02 ft/ft in the southern part of Area III (**Figure 4**).
- The prevailing wind direction for the period between March 2003 and 2008 is to the northwest and south-southeast at wind speeds up to about 8 to 13 miles per hour (Community Environmental Monitoring Program 2008).

2.2 Development of Area III Sampling and Analytical Plans

The scope of work for each potential source area was designed to address the Phase B Source Area Investigation objectives as described in Section 1.1. **Appendix A** contains the data packages for each LOU in Area III. Included in the LOU data packages are associated historic data and recent information from the Phase A Source Area Investigation, and figures showing the LOU and locations of proposed Phase B soil and groundwater samples. Each data package contains a set of soil and groundwater SAPs that are LOU-specific. The LOU-specific SAPs have been consolidated into Area III SAPs for soil and groundwater and are shown as **Table 2** (Soils Sampling and Analysis Plan) and **Table 3** (Groundwater Sampling and Analysis Plan). LOU-

specific sample locations as shown in the data packages have been consolidated and are shown on **Plate A**. For LOUs that include conveyances (e.g., pipelines) that cross Area III boundaries into Areas I, II or IV for example, the Area III SAPs list only those sample locations that are in Area III. (Sample locations to evaluate conveyances that cross into Areas I, II, or IV will be listed in the respective SAPs for each Area.)

The data packages incorporate NDEP comments from their review of several draft LOU data package submittals. Historic information in the data packages is derived from a number of sources including:

- *Environmental Conditions Assessment Report* (Kleinfelder 1993);
- *Response to Letter of Understanding, Henderson, Nevada Facility* (Kerr-McGee 1996);
- *Personal communications with Susan Crowley, Tronox;*
- *Personal communications with Keith Bailey, Environmental Answers;*
- *Phase II Environmental Conditions Assessment, Kerr-McGee Chemical LLC, Henderson, Nevada* (ENSR 1997);
- *Conceptual Site Model (CSM), Kerr-McGee Facility, Henderson, Nevada* (ENSR 2005);
- *Aerial Reconnaissance of Hazardous Waste Sources BMI Industrial Complex, Henderson, 1943-1979* (USEPA 1980);
- *Phase A Source Area Investigation Results Report, Tronox LLC Facility, Henderson, Nevada* (ENSR 2007b); and
- *NDEP Response to: Phase B Source Area Investigation Work Plan, Area I (Northern LOUs), Tronox LLC Facility, Henderson, Nevada* (NDEP 2008b).
- *NDEP Response to: Phase B Source Area Investigation Work Plan, Area IV (Western and Southern LOUs), Tronox LLC Facility, Henderson, Nevada* (NDEP 2008c).

The LOU data packages in Appendix A along with the LOU data packages that will be provided in the Work Plans for Areas I, II, and IV contain more detailed information than the CSM report (ENSR 2005). As such, the LOU data packages and Phase B Source Area Investigation results will be used to revise the CSM, including associated CSM figures, three-dimensional cartoons, and measles chart. The CSM will be updated after completion of the Phase B soil, soil gas, and groundwater investigation.

2.2.1 Evaluation of LOUs

An LOU summary was prepared for each of the 70 recognized potential source areas identified in the NDEP LOU. This facilitated incorporating data on potential impacts of adjacent LOUs into the 20 LOUs and Area 70 in Area III. As noted above, several individual overlapping or adjacent LOUs have been consolidated into a single LOU data package. For each of the 20 LOUs and Area 70 the following were described:

- Closure goals;
- Site investigation area details, including size, location, and current status and features;
- LOU information such as construction details, historical and/or current operations, years of operation, materials used, and process waste streams generated and received;
- adjacent or overlapping LOUs;
- LOUs with the potential to affect the specific LOU;
- known or potential chemical classes associated with the LOU;

- known or potential release mechanisms;
- results of historical sampling; and
- historical data, including Phase A data.

Each LOU summary includes a discussion of the proposed investigation/rationale and constituents for soil, groundwater, and soil gas. A more detailed discussion of the data reviewed as part of the LOU evaluations is provided below.

As part of the evaluation of an LOU, the goal of closure was developed with the input from Tronox and is based on the current and proposed future use of the area. A summary of the closure goals for LOUs in Area III is presented in **Table 4**. Some LOUs in Area III are active manufacturing areas and will remain operational for the foreseeable future. As such, closure is not requested for these LOUs. Closure is not being requested for the following LOUs: LOU 21 (Pond M-1 and Associated Piping); LOU 22 and 23 (Ponds WC-West and WC-East and Associated Piping), LOUs 34E, 47, 48, 49, 50, 51 and Area 70 (multiple LOUs located in Operational Manganese Leach Plant Area); LOU 59 (Storm Sewer System); LOUs 44 and 37 (Unit Building 6); and LOU 61 (Unit Basement 5). For currently operating LOUs, the Phase B Investigation and subsequent HHRA will provide a “baseline” condition for the LOU and the surrounding area. If current operations do not exacerbate contamination, future closure may not require sampling for the full SRC list (i.e., if a chemical is not detected in the Phase B Source Area Investigation and is not a part of the process associated with the LOU, it may not be analyzed for at the time of closure).

The Site investigation area for each LOU is described, including the dimensions/area, location within the Site, and current status and features of the LOU. These descriptions were developed through review of historical documents, available aerial photographs, recent Site visits, and interviews with Tronox employees. The description provides information about the construction details, historical and/or current operations, years of operation, materials used, and process waste streams generated. To further evaluate potential SRCs at an LOU, process waste streams received from other LOUs or areas of the Site were included in the summary and considered when designing the Phase B scope of work for a particular LOU. SRCs associated with the known process waste streams are provided in a table in the LOU summary.

Associated SRCs for adjacent and/or overlapping LOUs were considered when evaluating an LOU. If an adjacent or overlapping LOU was considered to have the potential to affect the primary LOU, the lists of known or potential chemical classes were compared and analytes were added, if necessary, to the primary LOU's scope of work based on the affecting LOU. A brief description of the affecting LOU and the additional analytes added is included in the LOU summary.

In order to evaluate suitable locations and sampling depths for the Phase B soil borings, known or potential release mechanisms were evaluated. Potential release mechanisms (i.e., infiltration, surface runoff, etc.) associated with an LOU is based on surface features, LOU construction, and historical operations. Known releases noted in historical documents are described and considered. In addition, analytical results and historical soil and groundwater sampling locations from previous investigations were evaluated for their adequacy to address potential or known releases. Furthermore, sources of soil impacts related to soil gas migration from areas outside the LOU and Area III, and the re-wetting of soil by impacted groundwater through capillary rise and/or fluctuation of the water table were considered in selection of soil boring locations and depths.

Data from the *Phase A Source Area Investigation Results Report* (ENSR 2007b) were also evaluated. For an LOU with a Phase A sampling location within its boundaries, Phase A data were used as indicators of possible previously unknown SRCs at that LOU. SRCs detected in Phase A borings, and not already associated with an LOU, were added to the “Known or Potential Chemical Classes” list. For LOUs with no Phase A locations within their boundaries, the closest Phase A location is provided. The Phase A data in these cases is provided in the LOU summary only as an indication of subsurface soil and groundwater conditions in the vicinity of the LOU. Analytical data from the Phase A Source Area Investigation were reviewed and constituent classes detected in soil were compared to the list of “Known or Potential Chemical Classes” identified for the specific LOU. Phase A constituent classes not consistent with the “Known or Potential Chemical Classes” list were added to the Phase B analytical program. Based on the location of the Phase A sample locations, a determination was made as to whether or not they were located in “worst case” areas of the LOU. If not, Phase B investigations were proposed.

A soil boring assessment has been proposed as part of the Phase B Source Area Investigation to evaluate the known and potential source areas onsite. In general, soil borings designed to assess an LOU will be drilled within the LOU boundaries. In cases where drilling within an LOU is not possible (e.g., an LOU is active or the integrity of secondary containment structures could be compromised) soil borings will be located adjacent to the LOU. Soil borings upgradient and downgradient of an LOU will also be sampled to further assess the LOU and the impact, if any, on surrounding areas.

The Phase B soil borings consist of two categories, “judgmental” and “random.” Judgmental boring locations are designed to evaluate known or potential chemical classes associated with a specific LOU based on the known process waste streams. These soil borings are located in or near an LOU at locations considered to be either “worst case”, representative of soil conditions at the LOU, or in areas of reported or known releases. The Phase B analytical program for the judgmental borings is based on known or potential chemical classes specifically associated with an LOU.

To further evaluate the possibility of additional potential source areas beyond the 70 already identified onsite, an additional random soil boring assessment will be implemented area-wide as part of the Phase B Source Area Investigation. With the concurrence of NDEP, the Site has been divided into 4-acre grids as shown on **Plate A**. Each grid has been further subdivided into 25 subsections, one of which was randomly selected to be sampled for the Area III investigation (**Plate A**). Soil samples from the randomly located borings will be collected at an initial interval of 0.0 to 0.5 feet bgs and each 10 feet thereafter, extending to the water table. In areas where surface features were noted, such as minor stains or above ground pipelines, judgmental soil samples will only be collected at 0.0 to 0.5 feet and 10 feet bgs.

Within Area III of the Site, the combined random and judgmental soil boring evaluation program will include the drilling of 33 soil borings. Each random sample location is designated with an identifier such as RSAQ5. The prefix symbol “R” identifies the sample as random; “SA” indicates it is a source area investigation boring, and “Q5” denotes the grid identifier.

To be conservative, a modified Phase A Source Area Investigation soil sampling suite is proposed (see Section 2.3.2).

Groundwater conditions upgradient and downgradient of the LOU, and/or at the LOU will be evaluated by sampling existing or new groundwater monitoring wells. Groundwater beneath the Site is considered to be a

Site-wide issue therefore, the modified Phase A Source Area Investigation groundwater sampling analytical suite will be implemented for each proposed well (see Section 2.3.3).

2.2.2 Evaluation of Other Potential Sources

The Phase B scope of work includes sampling locations for potential source areas not identified as LOUs. A review of Phase A data suggests that offsite sources of constituents may exist. One soil boring in Area III (i.e., RSAS8) is designed to evaluate areas not associated with a specific LOU. Soil boring RSAS8 is a random boring as described in Section 2.2.1 and will be analyzed for the modified Phase A analytical suite (see Section 2.3.2).

2.3 Summary of Area III Investigation

The proposed soil and groundwater sampling locations shown on **Plate A** were selected to determine the nature and extent of SRCs within Area III. Soil samples will be collected at 33 locations within Area III. Groundwater samples will be collected from 19 wells within or adjacent to Area III. Because the movement of groundwater transcends man-made features such as LOU and Area boundaries, groundwater samples will also be collected from additional wells that are located in Areas II, IV, and off-site to the east [generally east (cross-gradient) and north (downgradient) of Area III]. Although there are 19 wells associated with the LOUs within Area III, four of these wells are located in adjacent Areas (II and IV) and three wells are located off-site to the east. Wells located in adjacent Areas will be sampled under their respective Area work plans but are listed in **Table 2** for completeness of the LOU data packages. Off-site wells to the east will be sampled as part of the Area III activities; therefore, groundwater samples will be collected from a total of 15 wells under this work plan of which about 13 percent were sampled during the Phase A Source Area Investigation (**Plate A**).

The following is a summary of the soil and groundwater sampling program for the Phase B Source Area Investigation for Area III. Procedures and protocols for collecting soil and groundwater samples are presented in the QAPP (ENSR 2008d).

2.3.1 Surface Soil Sampling for Asbestos and Dioxins/Furans

Asbestos fibers and dioxins/furans were identified in surface soil samples from the Phase A Source Area Investigation (ENSR 2007b). As a result, surface soil samples will be collected and analyzed for asbestos and dioxins/furans as part of the Phase B Source Area Investigation. The samples for asbestos will be collected from a depth of 0.0 (surface) to 2 inches bgs. The samples for dioxins/furans will be collected from a depth of 0.0 to 0.5 feet bgs.

Soil samples for the asbestos and dioxin/furans analysis will be collected from each of the 33 proposed Phase B boring locations in Area III (**Plate A**). Asbestos samples will be analyzed by the modified elutriator method of Berman and Kolk based on United States Environmental Protection Agency (USEPA) 540/R-97/028. Dioxin/furan analysis will be by USEPA method 8290. **Table 2** lists the locations where surface soil samples for asbestos and dioxin/furans analysis will be collected. Sampling procedures are described in the QAPP (ENSR 2008d).

The number of samples to be collected, when combined with the Phase A Source Area Investigation results for Area III, is designed to provide a sufficient sample and geographic distribution for the Site-wide HHRA.

2.3.2 Subsurface Soil Sampling

Soil samples will be collected at 33 locations within Area III and analyzed for constituent classes that were identified as follows:

- constituents that were identified in an LOU based on historical site investigations;
- constituents that were identified as historically being used or stored at an LOU;
- constituents that were or are potentially associated with process waste streams at an LOU; and
- constituents that were associated with overlapping or adjacent LOUs.

In addition, soil samples from randomly selected sample locations will be analyzed for the modified Phase A list of SRCs (see below).

The analytes listed on **Table 1** are the same analytes used for the Phase A samples with the following modifications:

- Analysis of soil for polychlorinated biphenyl (PCB) compounds will not be performed on Phase B soil samples except at locations where it is documented that PCBs were used or stored (e.g., LOU 40 – PCB Transformer Spill [**Area III**] and LOU 27 – PCB Storage Area [Area IV]) or reported in Phase A samples (e.g., boring SA09 in LOU 35 – Truck Emptying/Dumping Site [Area I]). PCB analysis in these areas will be conducted by two methods: USEPA 8082 (aroclor) and USEPA 1668A (congeners). For LOU 40, in addition to soil samples, wipe samples and concrete chip samples will be collected from the floor of Unit 5 basement and tested for PCBs (both 8082 and 1668A). The basis for not sampling PCBs Site-wide is that PCBs were only detected in one out of 130 soil samples (i.e., Phase A boring SA09 at 0.47J mg/kg at 20 feet bgs) in the Phase A Source Area Investigation (ENSR 2007b).
- Analysis of soil for organophosphorus pesticides (OPPs) will not be performed on Phase B soil samples. The basis for this decision is that there is no documentation to indicate OPPs were used, manufactured, or stored on the Site. Moreover, OPPs (Demeton-O) were detected in only one out of 36 Phase A soil samples (i.e., Phase A boring SA17 at 0.092J mg/kg). SA17 is located in Beta Ditch, which also received waste effluent from offsite sources west of the Tronox Site.
- Analysis of soil for organochlorine pesticides (OCPs) will be performed on Phase B soil samples to assess the potential for OCP use on the Site, to have contributed to a groundwater plume of organic contaminants identified under the Site. Soil sample will be collected at all proposed sampling depths (surface, every 10 feet to the capillary fringe, and at the capillary fringe), for each sampling location. However, only the surface and capillary fringe samples will initially be analyzed. All other samples will be placed on hold, pending the results of the initial samples. If OCPs are detected in either sample, the remaining samples for that location will be analyzed.
- Analysis of soil for organochlorine herbicides (OCHs) will not be performed on Phase B soil samples. The basis for this decision is that there is no documentation to indicate OCHs were used, manufactured, or stored on the Site. Moreover, OCHs were not detected in any of the Phase A soil or groundwater samples analyzed.

- Analyses of soil for radionuclides will consist of alpha spectroscopy for Radium-226, Thorium - 230/232, Uranium 234/235 and Uranium 238; beta counting will be used for Radium-228. Unlike the Phase A Source Area Investigation, Phase B soil samples will not be analyzed using gamma spectroscopy as the default analytical technique.
- Formaldehyde was added to the Phase B analyte list since formaldehyde may have been associated with LOU 38 – Former Satellite Accumulation Point, Ammonium Perchlorate (AP) Change House/Laboratory, and LOU 54 – AP Plant Area Change House/Laboratory Septic Tank.
- Total cyanide will be analyzed for in all borings located in Area I. In Areas II, III, and IV total cyanide will only be analyzed in borings associated with LOU 62 (State Industries Inc.) and segments of LOU 60 (former Acid Drain System) that could have potentially carried effluent from LOU 62 to LOU 5 (Beta Ditch). Free cyanide analysis will be conducted in samples were total cyanide is detected.

In general, subsurface soil samples for the Phase B Source Area Investigation will be collected initially at a depth of 0.0 to 0.5 foot bgs and thereafter at 10-foot depth intervals to the level of the water table. If the boring location is covered with pavement (asphalt, concrete, etc.) then the initial subsurface sample will be collected at 0.5 feet below the pavement's gravel base. The soil sampling program proposed for Area III, including a complete list of soil borings, the proposed sample depths, and the analytical program for each sample is shown in **Table 2**. Sample containers, analytical methods, and holding times for soil samples area listed in **Table 5**.

2.3.3 Groundwater Sampling

The *Phase A Source Area Investigation Results Report* (ENSR 2007b) identified SRCs in groundwater that were present at concentrations above comparison levels. The *Phase A Source Area Investigation Results Report*, the ECA report (Kleinfelder 1993), and the CSM report (ENSR 2005) form the basis for further evaluation of SRCs in shallow groundwater as part of the Phase B Source Area Investigation.

As shown on **Figure 5**, groundwater samples will be collected from 19 wells within or adjacent to Area III as part of the Site-wide evaluation of SRCs in groundwater. The sample locations were selected to evaluate specific LOU areas as identified in the CSM report (ENSR 2005) as potential source areas, and to further evaluate the horizontal extent of SRCs that was identified in the *Phase A Source Area Investigation Results Report* (ENSR 2007b).

Table 3 lists the laboratory analyses for the 19 wells that will be sampled for as part of the Area III investigation of groundwater. Twelve of the 19 wells are located within the Area III boundary, four of the wells (associated with LOUs in Area III) are located in other Areas (II and IV), and three of the wells are located off-site to the east. Sample containers, analytical methods, and holding times for groundwater samples area listed in **Table 6**. **Table 8** is a subset of the All Wells Database (June 2008) that focuses on well completion data for the Tronox wells, as well as the three Timet wells proposed for sampling under the Phase B investigation program.

Similar to soils, groundwater samples will be analyzed for the list of SRCs shown on **Table 1**. Unlike the Phase A analytical program for groundwater samples, the Phase B groundwater samples will not be analyzed for PCBs because PCBs were not detected in as part of the Phase A investigation. Similarly, groundwater

samples will not be analyzed for OPPs because OPPs were not detected in the Phase A samples that were collected from 27 wells spread across the Site.

2.3.4 Additional Data Collection

Additional tests will be performed on soil samples collected in Area III to gather data in support of further Site characterization activities or risk assessment modeling. This includes performing tests on soil samples to: 1) evaluate the soil-to-groundwater migration potential of SRCs, and 2) gather data on the physical properties of onsite soils to provide Site-specific parameters.

2.3.4.1 Soil-to-Groundwater Migration Potential of SRCs

The *Phase A Source Area Investigation Results Report* (ENSR 2007b) identified SRCs in soil that have the potential to migrate to groundwater at concentrations of potential concern. Soil samples collected from the alluvium and Muddy Creek formation above the capillary fringe will be analyzed for leachability from the following Area III soil borings: RSAN8, SA52, RSAQ8 and SA34. **Table 2** provides the following information for the sampling locations: grid location, associated LOU, boring number, sample depth(s), SRCs to be analyzed for, expected soil type, and rationale for sampling location/depth. **Table 7** lists the Soil Screening Levels (SSLs) based on the soil to groundwater pathway for the SRCs.

The potential for an SRC to partition from soil to groundwater will be determined using the Synthetic Precipitation Leaching Procedure (SPLP), USEPA Method 1312. The partitioning factor approach uses a leaching agent to evaluate the concentration of the chemical of interest (i.e., target SRC) that might leach from the solid matrix and partition into the pore water thus having the potential to affect water quality. Evaluating the potential for partitioning involves a stepwise process as follows:

- Soil samples are initially analyzed for the target SRCs to determine their solid matrix concentration (**Table 2**);
- Samples are then subjected to the leaching procedure using extraction fluid #2 (reagent water at a pH of 5.0 ±0.05) to derive the leachate;
- Samples will also be subjected to the leaching procedure using extraction fluid #3 (solely reagent water);
- The leachates are then analyzed for the target SRCs to evaluate a chemical's potential to partition from the solid matrix into the pore water.

The leachate data derived from the reagent water and that from the pH 5.0 water will be compared to reflect variable conditions at the site. The SPLP employs as the leaching agent a liquid with a pH of about 5.0 (reagent fluid #2) to reflect slightly acidic precipitation in areas west of the Mississippi (USEPA 1994). The analytical suite will include the SRC chemical categories shown on **Table 2**. SRCs were selected for analysis along the soil-to-groundwater pathway because they were reported above detection limits in Phase A samples, were detected in soil samples in other previous site investigations, and had CSM-indicated concentrations that were greater than their respective comparison level.

2.3.4.2 Geotechnical Testing Program

Soil samples will be collected and sent to a geotechnical engineering laboratory in order to measure physical parameters of the coarse-grained and fine-grained soils encountered during the course of this investigation.

The soil samples will be collected from the same borings and sample depths as the soil samples for SPLP analyses as shown on **Table 2**. Soil samples collected for geotechnical testing will be co-located with soil samples for leachability tests in order to facilitate possible future fate and transport modeling. Data from the geotechnical tests will provide Site-specific data that will be used to support, modeling of the vadose zone for potential contaminant migration pathways, and to support evaluation of remedial alternatives, if necessary.

Tronox intends to follow the simple soil/water partitioning and groundwater dilution model provided in the USEPA's Soil Screening Guidance (1996) to assess the potential impacts to groundwater from residual chemicals in the unsaturated zone. The geotechnical testing program parameters, sample locations and depths were designed to provide sufficient data to use in an unsaturated zone modeling program. Additional details regarding the soil-to-groundwater evaluation will be provided in the HHRA work plan.

Fine-grained and coarse-grained soil samples will be collected and analyzed for the following parameters:

- Moisture content (dry weight basis) using American Society for Testing and Materials (ASTM) Method D-2216;
- Particle size analysis using ASTM Method D-422 (for sand and gravel) and C117-04 (for silt and clay);
- Soil Dry Bulk Density using ASTM Method D2937;
- Grain Density using ASTM Method D854;
- Soil Water-Filled Porosity using ASTM Method D2216; and
- Vertical Hydraulic Conductivity using ASTM D5084/USEPA 9100.

Soil samples will also be tested for total organic carbon as part of the suite of tests listed under the category: "Wet Chemistry Analyses" on **Table 1**.

3.0 Investigation Report and Schedule

Upon completing field activities and receipt of the analytical results, the Area III investigation data will be compiled. The Area III data will be discussed with NDEP. If data gaps are identified, additional field sampling may be proposed as an addendum to the Area III Work Plan. Elements of the Area III investigation and results will be integrated with the soil and groundwater data from the Area I, II, and IV investigations, the soil gas investigation, and the background water quality investigation to create a report on the results of the Phase B Source Area Investigation for the Site. One document will be provided to NDEP, which will summarize all the Area investigation results.

The Phase B report will summarize the Site description, LOUs, previous environmental assessments conducted at the Site, including the Phase A results, Site physical conditions and the findings of the soil, soil gas, and groundwater sampling program. The report will be organized similar to the *Phase A Source Area Investigation Results Report* (ENSR 2007b) and will include the following:

- Copies of applicable permits;
- Field logs, groundwater sampling and boring logs;
- Description of field procedures and any deviations from the proposed program;
- Presentation of field observations and analytical results;
- Certified analytical laboratory reports and chain-of-custody documentation;
- Data validation summary report and data validation memorandum;
- Summary tables of results organized by chemical species (i.e., VOCs, SVOCs, metals, etc.) and environmental media (i.e., soil, soil gas, and groundwater);
- Figures showing the results of the soil, soil gas and groundwater sampling program organized in a similar fashion as the tables by chemical species and environmental media;
- Discussion of the data and comparison to screening level criteria; and
- Recommendations for additional assessment, as applicable.

The Area III investigation activities will commence within 30 days following NDEP approval of this Work Plan. Actual start dates may vary depending on the availability of drilling contractors at the time of approval. General milestones and durations are provided below:

- Field Activities – three to four weeks, inclusive of utility clearance activities at the Site;
- Laboratory Analyses – four to six weeks; and
- Data Validation and Analysis – four to six weeks.

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TABLES

Analyte	CAS No.	Method soil / water	Lab RL	RL Goal	Lab RL	RL Goal
			soil		water	
			mg/kg		ug/L	
Metals						
Aluminum	7429-90-5	EPA 6010	1.00E+01	7.50E+01	5.00E+01	5.00E+01
Antimony	7440-36-0	EPA 6020	5.00E-02	3.00E-01	5.00E-02	6.00E+00
Arsenic	7440-38-2	EPA 6020	5.00E-01	1.59E-01	5.00E-01	1.00E+01
Barium	7440-39-3	EPA 6010	2.00E+00	8.20E+01	5.00E+00	2.00E+03
Beryllium	7440-41-7	EPA 6020	2.00E-02	3.00E+00	2.00E-02	4.00E+00
Boron	7440-42-8	EPA 6020	5.00E-01	2.27E+00	5.00E-01	7.30E+02
Cadmium	7440-43-9	EPA 6020	2.00E-02	4.00E-01	2.00E-02	5.00E+00
Calcium	7440-70-2	EPA 6010	1.00E+01	na	5.00E+01	na
Chromium (total)	7440-47-3	EPA 6020	2.00E-01	4.48E+01	2.00E-01	1.09E+01
Chromium (hexavalent)	18540-29-9	EPA 7199+3060A / 218.6	5.00E-01	2.00E+00	1.00E+01	1.00E+02
Cobalt	7440-48-4	EPA 6010	2.00E+00	3.29E+00	1.00E+01	7.30E+01
Copper	7440-50-8	EPA 6010	2.00E+00	4.68E+02	1.00E+01	1.30E+03
Iron	7439-89-6	EPA 6010	4.00E+00	7.53E+00	2.00E+01	3.00E+02
Lead	7439-92-1	EPA 6020	5.00E-02	1.34E+01	2.00E-02	1.50E+01
Magnesium	7439-95-4	EPA 6010	4.00E+00	na	2.00E+01	1.50E+05
Manganese	7439-95-4	EPA 6010	2.00E+00	3.26E+00	5.00E+00	5.00E+01
Mercury	7439-97-6	EPA 7471/7470	2.00E-02	1.64E-01	2.00E-01	2.00E+00
Molybdenum	7439-98-7	EPA 6020	5.00E-02	3.66E-01	5.00E-02	1.82E+01
Nickel	7440-02-0	EPA 6020	2.00E-01	7.00E+00	2.00E-01	7.30E+01
Platinum	7440-06-4	EPA 6020	1.00E-01	na	1.00E-01	na
Potassium	7440-09-7	EPA 6010	2.00E+02	na	2.00E+03	na
Selenium	7782-49-2	EPA 6020	1.00E+00	5.11E+02	1.00E+00	5.00E+01
Silver	7440-22-4	EPA 6020	2.00E-02	2.00E+00	2.00E-02	1.00E+02
Sodium	7440-23-5	EPA 6010	2.00E+01	na	1.00E+02	na
Strontium	7440-24-6	EPA 6010	2.00E+00	7.69E+01	1.00E+01	2.19E+03
Tin	7440-31-5	EPA 6010	1.00E+01	5.48E+02	5.00E+01	2.19E+03

Analyte	CAS No.	Method soil / water	Lab RL		RL Goal	
			soil	water	soil	water
Titanium	7440-32-6	EPA 6010	2.00E+00	1.46E+04	1.00E+01	1.46E+04
Thallium	7440-28-0	EPA 6020	2.00E-02	1.42E-01	2.00E-02	2.00E+00
Tungsten	7440-33-7	EPA 6020	1.00E-01	na	1.00E-01	na
Uranium	7440-61-1	EPA 6020	2.00E-02	1.53E-02	2.00E-02	3.00E+01
Vanadium	7440-62-2	EPA 6020	2.00E-01	1.02E+02	2.00E-01	3.65E+00
Zinc	7440-66-6	EPA 6010	2.00E+00	6.20E+02	1.00E+01	5.00E+03
Wet Chem Analytes			mg/kg		ug/L	
Alkalinity (total, CO ₃ ⁻ , HCO ₃ ⁻)	na	SM 2320B	2.00E+01	na	2.00E+03	na
Ammonia	7664-41-7	EPA 350.1	5.00E+00	na	5.00E+01	na
Bromide	24959-67-9	EPA 9056	1.00E+00	na	1.00E+02	na
Chlorate	7790-93-4	EPA 300.1	2.00E-01	na	2.00E+01	na
Chloride	16887-00-6	EPA 9056	2.00E+00	na	2.00E+02	2.50E+05
Conductivity	na	EPA 9050A	na	na	na	na
Cyanide (total)	57-12-5	EPA 9012A	1.00E+00	1.20E+03	1.00E+01	2.00E+02
Nitrate	7697-37-2	EPA 9056	5.00E-01	na	5.00E+01	1.00E+04
Nitrite	14797-65-0	EPA 9056	5.00E-01	na	5.00E+01	1.00E+03
Perchlorate	14797-73-0	EPA 314.0	1.00E-01	1.00E+01	1.00E+00	1.80E+01
pH	na	EPA 9045C/9040B	na	na	na	na
Phosphate (total)	14265-44-2	EPA 365.1	5.00E-01	na	5.00E+01	na
Sulfate	14808-79-8	EPA 9056	2.00E+00	na	2.00E+02	2.50E+05
Surfactants (MBAS)	na	SM 5540C	1.00E+00	na	2.00E+01	na
TDS	na	SM 2540C	na	na	1.00E+04	1.90E+06
Total Organic Carbon	7440-44-0	EPA Lloyd Kahn/ 9060	3.00E+02	na	1.00E+03	na
TSS	na	SM 2540D	na	na	1.00E+04	na
TPH			ug/kg		ug/L	
GRO(C6-C10)	na	EPA 8015B	5.00E+01	1.00E+03	na	na

Analyte	CAS No.	Method soil / water	Lab RL RL Goal		Lab RL RL Goal	
			soil		water	
DRO(C10-C28)	na	EPA 8015B	4.00E+04	1.00E+03	na	na
ORO (C28-C40)	na	EPA 8015B	4.00E+04	1.00E+03	na	na
Organochlorine Pesticides			mg/kg		ug/L	
4,4'-DDD	72-54-8	EPA 8081A	3.30E-03	8.00E-01	5.00E-02	2.80E-02
4,4'-DDE	72-55-9	EPA 8081A	3.30E-03	7.02E-01	5.00E-02	1.98E-02
4,4'-DDT	50-29-3	EPA 8081A	3.30E-03	7.02E-01	5.00E-02	1.98E-02
Aldrin	309-00-2	EPA 8081A	1.70E-03	1.00E-02	5.00E-02	4.00E-02
alpha-BHC	319-84-6	EPA 8081A	1.70E-03	3.59E-02	5.00E-02	1.10E-03
alpha-Chlordane	5103-71-9	EPA 8081A	1.70E-03	6.47E-01	5.00E-02	2.00E+00
beta-BHC	319-85-7	EPA 8081A	1.70E-03	1.00E-04	5.00E-02	3.74E-03
Chlordane, technical	57-74-9	EPA 8081A	8.30E-03	6.47E-01	2.50E-01	2.00E+00
delta-BHC	319-86-8	EPA 8081A	1.70E-03	3.59E-02	5.00E-02	1.10E-03
Dieldrin	60-57-1	EPA 8081A	3.30E-03	1.10E-02	5.00E-02	4.20E-02
Endosulfan I	959-98-8	EPA 8081A	1.70E-03	3.70E+02	5.00E-02	2.19E+01
Endosulfan II	33213-65-9	EPA 8081A	3.30E-03	3.70E+02	5.00E-02	2.19E+01
Endosulfan sulfate	1031-07-8	EPA 8081A	3.30E-03	3.70E+02	5.00E-02	2.19E+01
Endrin	72-20-8	EPA 8081A	3.30E-03	1.85E+01	5.00E-02	2.00E+00
Endrin aldehyde	7421-93-4	EPA 8081A	3.30E-03	4.98E-02	5.00E-02	1.09E+00
Endrin Ketone	53494-70-5	EPA 8081A	3.30E-03	1.85E+01	5.00E-02	1.09E+00
gamma-BHC (Lindane)	58-89-9	EPA 8081A	1.70E-03	1.74E-01	5.00E-02	2.00E-01
gamma-Chlordane	5103-74-2	EPA 8081A	1.70E-03	6.47E-01	5.00E-02	1.20E+00
Heptachlor	76-44-8	EPA 8081A	1.70E-03	3.83E-02	5.00E-02	4.00E-01
Heptachlor epoxide	1024-57-3	EPA 8081A	1.70E-03	1.89E-02	5.00E-02	2.00E-01
Hexachlorobenzene	118-74-1	EPA 8081A	1.70E-03	1.00E-01	5.00E-02	1.00E+00
Methoxychlor	72-43-5	EPA 8081A	1.70E-02	8.00E+00	5.00E-01	4.00E+01
Toxaphene	8001-35-2	EPA 8081A	3.30E-02	1.57E-01	1.00E+00	3.00E+00
PCBs as Aroclors			mg/kg		ug/L	

Table 1
List of Site-Related Chemicals and Reprinting Limits
 Phase B Source Area Investigation Work Plan - Area III
 Tronox Facility - Henderson, Nevada
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Analyte	CAS No.	Method soil / water	Lab RL		RL Goal	
			soil	water	soil	water
Aroclor 1016	12674-11-2	EPA 8082	3.30E-02	2.03E-01	2.00E-01	5.00E-01
Aroclor 1221	11104-28-2	EPA 8082	6.70E-02	2.03E-01	4.00E-01	5.00E-01
Aroclor 1232	11141-16-5	EPA 8082	3.30E-02	2.03E-01	2.00E-01	5.00E-01
Aroclor 1242	53469-21-9	EPA 8082	3.30E-02	2.03E-01	2.00E-01	5.00E-01
Aroclor 1248	12672-29-6	EPA 8082	3.30E-02	2.03E-01	2.00E-01	5.00E-01
Aroclor 1254	11097-69-1	EPA 8082	3.30E-02	2.03E-01	2.00E-01	5.00E-01
Aroclor 1260	11096-82-5	EPA 8082	3.30E-02	2.03E-01	2.00E-01	5.00E-01
PCBs as congeners **			mg/kg		ug/L	
Total PCBs	na	EPA 1668A	1.00E-04	2.03E-01	1.00E-03	5.00E-01
3,3',4,4'-tetraCB (PCB 77)	32598-13-3	EPA 1668A	6.00E-07	3.00E-02	4.17E-06	4.50E-03
3,4,4',5-tetraCB (PCB 81)	70362-50-4	EPA 1668A	7.00E-07	9.80E-03	4.34E-06	1.50E-03
3,3',4,4',5-pentaCB (PCB 126)	57465-28-8	EPA 1668A	7.40E-07	3.00E-05	3.32E-06	4.50E-06
3,3',4,4',5,5'-hexaCB (PCB 169)	32774-16-6	EPA 1668A	4.80E-07	9.80E-05	2.07E-06	1.50E-05
2,3,3',4,4'-pentaCB (PCB 105)	32598-14-4	EPA 1668A	6.40E-07	9.80E-02	3.48E-06	1.50E-02
2,3,4,4',5-pentaCB (PCB 114)	74472-37-0	EPA 1668A	6.80E-07	9.80E-02	3.83E-06	1.50E-02
2,3',4,4',5-pentaCB (PCB 118)	31208-00-6	EPA 1668A	5.50E-07	9.80E-02	3.47E-06	1.50E-02
2',3,4,4',5-pentaCB (PCB 123)	65510-44-3	EPA 1668A	6.30E-07	9.80E-02	3.85E-06	1.50E-02
2,3,3',4,4',5-hexaCB (PCB 156)	38380-08-4	EPA 1668A	6.20E-07	9.80E-02	2.88E-06	1.50E-02
2,3,3',4,4',5'-hexaCB (PCB 157)	69782-90-7	EPA 1668A	6.20E-07	9.80E-02	2.88E-06	1.50E-02
2,3',4,4',5,5'-hexaCB (PCB 167)	52663-72-6	EPA 1668A	4.20E-07	9.80E-02	1.80E-06	1.50E-02
2,3,3',4,4',5,5'-heptaCB (PCB 189)	39635-31-9	EPA 1668A	4.60E-07	9.80E-02	4.14E-06	1.50E-02
Dioxins & Furans**			ng/kg			
1,2,3,4,6,7,8,9-Ocatchlorodibenzofuran	39001-02-0	EPA 1613B/ 8290	5.90E-01	*	na	na
1,2,3,4,6,7,8,9-Ocatchlorodibenzo-p-dioxin	3268-87-9	EPA 1613B/ 8290	5.70E-01	*	na	na
1,2,3,4,6,7,8-Heptatchlorodibenzofuran	67562-39-4	EPA 1613B/ 8290	2.20E-01	*	na	na
1,2,3,4,6,7,8-Heptatchlorodibenzo-p-dioxin	35822-46-9	EPA 1613B/ 8290	2.60E-01	*	na	na
1,2,3,4,7,8,9-Heptatchlorodibenzofuran	55673-89-7	EPA 1613B/ 8290	3.50E-01	*	na	na

Analyte	CAS No.	Method soil / water	Lab RL	RL Goal	Lab RL	RL Goal
			soil		water	
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	EPA 1613B/ 8290	9.00E-02	*	na	na
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	EPA 1613B/ 8290	1.90E-01	*	na	na
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	EPA 1613B/ 8290	1.00E-01	*	na	na
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	EPA 1613B/ 8290	1.90E-01	*	na	na
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	EPA 1613B/ 8290	1.50E-01	*	na	na
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	EPA 1613B/ 8290	1.90E-01	*	na	na
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	EPA 1613B/ 8290	1.40E-01	*	na	na
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	EPA 1613B/ 8290	1.50E-01	*	na	na
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	EPA 1613B/ 8290	1.10E-01	*	na	na
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	EPA 1613B/ 8290	1.60E-01	*	na	na
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	EPA 1613B/ 8290	1.20E-01	*	na	na
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	EPA 1613B/ 8290	1.70E-01	1.00E+03	na	na
Radionuclides			pCi/g		pCi/L	
Radium 226	13982-63-3	EPA 903.1 modified/ 903.1	5.00E-01	2.60E-03	1.00E+00	5.00E+00
Radium 228	15262-20-1	EPA 904.0 modified/ 904.0	5.00E-01	8.10E-09	3.00E+00	5.00E+00
Thorium 228	14274-82-9	EML HASL 300 Alpha Spec	5.00E-02	3.62E-10	3.00E-02	1.59E-02
Thorium 230	14269-63-7	EML HASL 300 Alpha Spec	5.00E-02	1.49E-05	3.00E-02	5.23E-02
Thorium 232	7440-29-1	EML HASL 300 Alpha Spec	1.00E-01	1.90E+00	3.00E-02	4.71E-02
Uranium 234	13966-29-5	EML HASL 300 Alpha Spec	4.00E-02	1.53E-02	3.00E-02	6.74E-02
Uranium 235	15117-96-1	EML HASL 300 Alpha Spec	4.00E-02	1.53E-02	3.00E-02	6.63E-02
Uranium 238	7440-61-1	EML HASL 300 Alpha Spec	4.00E-02	1.53E-02	3.00E-02	5.47E-02
VOCs (continued)			mg/kg		ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	EPA 8260	5.00E-03	7.28E-01	1.00E+00	4.32E-02
1,1,1-Trichloroethane	71-55-6	EPA 8260	5.00E-03	1.00E-01	1.00E+00	2.00E+02
1,1,1,2,2-Tetrachloroethane	79-34-5	EPA 8260	5.00E-03	9.29E-02	1.00E+00	5.53E-03
1,1,2-Trichloroethane	79-00-5	EPA 8260	5.00E-03	1.61E-01	1.00E+00	5.00E+00
1,1-Dichloroethane	75-34-3	EPA 8260	5.00E-03	1.00E+00	1.00E+00	8.11E+01

Analyte	CAS No.	Method soil / water	soil		water	
			Lab RL	RL Goal	Lab RL	RL Goal
1,1-Dichloroethene	75-35-4	EPA 8260	5.00E-03	4.13E+01	1.00E+00	7.00E+00
1,1-Dichloropropene	563-58-6	EPA 8260	5.00E-03	1.76E-01	2.00E+00	3.95E-02
1,2,3-Trichlorobenzene	120-82-1	EPA 8260	5.00E-03	2.34E-01	2.00E+00	7.00E+01
1,2,3-Trichloropropane	96-18-4	EPA 8260	5.00E-03	7.60E-03	2.00E+00	5.60E-04
1,2,4-Trichlorobenzene	120-82-1	EPA 8260	5.00E-03	3.00E-01	2.00E+00	7.00E+01
1,2,4-Trimethylbenzene	95-63-6	EPA 8260	5.00E-03	1.70E+01	2.00E+00	1.23E+00
1,2-Dibromo-3-chloropropane	96-12-8	EPA 8260	5.00E-03	2.02E-01	5.00E+00	2.00E-01
1,2-Dibromoethane	106-93-4	EPA 8260	5.00E-03	7.30E-03	1.00E+00	5.00E-02
1,2-Dichlorobenzene	95-50-1	EPA 8260	5.00E-03	9.00E-01	2.00E+00	2.60E+02
1,2-Dichloroethane	107-06-2	EPA 8260	5.00E-03	1.00E-03	1.00E+00	5.00E+00
1,2-Dichloropropane	78-87-5	EPA 8260	5.00E-03	7.42E-02	1.00E+00	5.00E+00
1,3,5-Trimethylbenzene	108-67-8	EPA 8260	5.00E-03	1.60E-03	2.00E+00	1.23E+00
1,3-Dichlorobenzene	541-73-1	EPA 8260	5.00E-03	1.80E-02	2.00E+00	1.83E+01
1,3-Dichloropropane	142-28-9	EPA 8260	5.00E-03	3.61E+01	2.00E+00	1.22E+01
1,4-Dichlorobenzene	106-46-7	EPA 8260	5.00E-03	1.00E-01	2.00E+00	7.50E+01
2,2-Dichloropropane	594-20-7	EPA 8260	5.00E-03	7.42E-02	2.00E+00	1.65E-02
2-Butanone	78-93-3	EPA 8260	1.00E-02	7.82E-02	1.00E+01	6.97E+02
2-Chlorotoluene	95-49-8	EPA 8260	5.00E-03	4.30E-03	5.00E+00	1.22E+01
2-Hexanone	591-78-6	EPA 8260	1.00E-02	2.79E-02	1.00E+01	2.00E+02
4-Chlorotoluene	106-43-4	EPA 8260	5.00E-03	5.60E+01	5.00E+00	1.22E+01
4-Methyl-2-pentanone	108-10-1	EPA 8260	1.00E-02	4.70E+03	1.00E+01	1.99E+02
Acetone	67-64-1	EPA 8260	2.00E-02	8.00E-01	2.00E+01	5.48E+02
Benzene	71-43-2	EPA 8260	5.00E-03	2.00E-03	1.00E+00	5.00E+00
Bromobenzene	108-86-1	EPA 8260	5.00E-03	9.22E+00	2.00E+00	2.03E+00
Bromochloromethane	74-97-5	EPA 8260	5.00E-03	1.83E-01	2.00E+00	1.81E-02
VOCs (continued)						
Bromodichloromethane	75-27-4	EPA 8260	5.00E-03	1.83E-01	1.00E+00	2.10E-01

Analyte	CAS No.	Method soil / water	Lab RL		RL Goal	
			soil	water	soil	water
Bromoform	75-25-2	EPA 8260	5.00E-03	4.00E-02	1.00E+00	8.30E-04
Bromomethane	74-83-9	EPA 8260	5.00E-03	1.31E+00	2.00E+00	8.66E-01
Carbon Tetrachloride	56-23-5	EPA 8260	5.00E-03	3.00E-03	1.00E+00	5.00E+00
Chlorobenzene	108-90-7	EPA 8260	5.00E-03	7.00E-02	1.00E+00	3.90E+01
Chloroethane	75-00-3	EPA 8260	5.00E-03	6.49E-01	2.00E+00	4.64E-01
Chloroform	67-66-3	EPA 8260	5.00E-03	3.00E-02	1.00E+00	8.00E+01
Chloromethane	74-87-3	EPA 8260	5.00E-03	1.56E+01	2.00E+00	6.70E-01
cis-1,2-Dichloroethene	156-92-2	EPA 8260	5.00E-03	1.46E+01	1.00E+00	7.00E+01
cis-1,3-Dichloropropene	10061-01-5	EPA 8260	5.00E-03	1.76E-01	1.00E+00	3.95E-02
Dibromochloromethane	124-48-1	EPA 8260	5.00E-03	2.55E-01	1.00E+00	3.20E-01
Dibromomethane	74-95-3	EPA 8260	5.00E-03	2.34E+01	1.00E+00	6.08E+00
Dichlorodifluoromethane	75-71-8	EPA 8260	5.00E-03	3.08E+01	1.00E+00	3.95E+01
Diisopropyl ether (DIPE)	108-20-3	EPA 8260	5.00E-03	na	1.00E+00	na
Ethylbenzene	100-41-4	EPA 8260	5.00E-03	7.40E+02	1.00E+00	7.00E+02
Ethyl-tert-butyl ether (ETBE)	637-92-3	EPA 8260	5.00E-03	3.64E+00	1.00E+00	1.10E+00
Hexachlorobutadiene	87-68-3	EPA 8260	5.00E-03	1.00E-01	5.00E+00	8.62E-02
Isopropyl Benzene	98-28-8	EPA 8260	5.00E-03	2.00E+02	2.00E+00	6.58E+01
Methylene Chloride	75-09-2	EPA 8260	5.00E-03	1.00E-03	2.00E+00	5.00E+00
Methyl-tert-butyl ether (MTBE)	1634-04-4	EPA 8260	5.00E-03	3.64E+00	1.00E+00	2.00E+01
Naphthalene	91-20-3	EPA 8260	5.00E-03	4.00E+00	2.00E+00	6.20E-01
n-Butylbenzene	104-51-8	EPA 8260	5.00E-03	2.19E+02	2.00E+00	2.43E+01
n-Propylbenzene	103-65-1	EPA 8260	5.00E-03	2.19E+02	2.00E+00	2.43E+01
p-Isopropyltoluene	99-87-6	EPA 8260	5.00E-03	9.00E+01	2.00E+00	2.06E+01
sec-Butylbenzene	135-98-8	EPA 8260	5.00E-03	1.63E+02	2.00E+00	2.43E+01
Styrene	100-42-5	EPA 8260	5.00E-03	1.80E+03	1.00E+00	1.00E+02
tert-Amyl-methyl ether (TAME)	994-05-8	EPA 8260	5.00E-03	na	1.00E+00	na
tert-Butyl alcohol (TBA)	75-65-0	EPA 8260	1.00E-01	na	1.00E+02	na

Analyte	CAS No.	Method soil / water	Lab RL		RL Goal	
			soil	water	soil	water
tert-Butylbenzene	98-06-6	EPA 8260	5.00E-03	1.97E+02	2.00E+00	2.43E+01
Tetrachloroethene	127-18-4	EPA 8260	5.00E-03	3.00E-03	1.00E+00	5.00E+00
VOCs (continued)			mg/kg		ug/L	
Toluene	108-88-3	EPA 8260	5.00E-03	6.00E-01	1.00E+00	1.50E+02
trans-1,2-Dichloroethene	156-60-5	EPA 8260	5.00E-03	2.35E+01	1.00E+00	1.00E+02
trans-1,3-Dichloropropene	10061-02-6	EPA 8260	5.00E-03	1.76E-01	1.00E+00	3.95E-02
Trichloroethene	79-01-6	EPA 8260	5.00E-03	3.00E-03	1.00E+00	5.00E+00
Trichlorofluoromethane	75-69-4	EPA 8260	5.00E-03	1.09E-01	1.00E+00	1.80E+01
Vinyl Chloride	75-01-4	EPA 8260	5.00E-03	7.46E-02	1.00E+00	2.00E+00
Xylenes (total)	1330-20-7	EPA 8260	5.00E-03	9.00E+01	1.00E+00	1.00E+04
SVOCs			mg/kg		ug/L	
1,4-Dioxane	123-91-1	EPA 8270	6.60E-02	1.57E+01	2.00E-01	6.11E-01
2-Methylnaphthalene	91-57-6	EPA 8270	6.60E-03	1.88E+01	2.00E-01	6.20E-01
Acenaphthene	83-32-9	EPA 8270	6.60E-03	2.92E+03	2.00E-01	3.65E+01
Acenaphthylene	208-96-8	EPA 8270	6.60E-03	2.92E+03	2.00E-01	3.65E+01
Anthracene	120-12-7	EPA 8270	6.60E-03	2.40E+04	2.00E-01	1.83E+02
Benzo(a)anthracene	56-55-3	EPA 8270	6.60E-03	8.00E-02	2.00E-01	9.21E-03
Benzo(a)pyrene	50-32-8	EPA 8270	6.60E-03	2.11E-02	2.00E-01	2.00E-01
Benzo(b)fluoranthene	205-99-2	EPA 8270	6.60E-03	2.00E-01	2.00E-01	9.21E-03
Benzo(g,h,i)perylene	191-24-2	EPA 8270	6.60E-03	7.17E+01	2.00E-01	1.83E+01
Benzo(k)fluoranthene	207-08-9	EPA 8270	6.60E-03	2.00E+00	2.00E-01	9.21E-02
Bis(2-ethylhexyl)phthalate	117-81-7	EPA 8270	6.60E-03	1.23E+01	2.00E-01	6.00E+00
Butylbenzylphthalate	85-68-7	EPA 8270	6.60E-03	1.23E+04	2.00E-01	7.30E+02
Chrysene	218-01-9	EPA 8270	6.60E-03	8.00E+00	2.00E-01	9.21E-01
Dibenzo(a,h)anthracene	53-70-3	EPA 8270	6.60E-03	2.11E-02	2.00E-01	9.21E-04
Diethylphthalate	84-66-2	EPA 8270	6.60E-03	1.50E+00	2.00E-01	2.92E+03

Analyte	CAS No.	Method soil / water	Lab RL RL Goal		Lab RL RL Goal	
			soil		water	
Dimethylphthalate	131-11-3	EPA 8270	6.60E-03	6.16E+05	2.00E-01	3.65E+04
Di-n-butylphthalate	84-74-2	EPA 8270	6.60E-03	2.70E+02	2.00E-01	3.65E+02
Di-n-octylphthalate	117-84-0	EPA 8270	6.60E-03	2.46E+03	2.00E-01	1.46E+02
Fluoranthene	206-44-0	EPA 8270	6.60E-03	2.10E+02	2.00E-01	1.46E+02
Fluorene	86-73-7	EPA 8270	6.60E-03	2.63E+03	2.00E-01	2.43E+01
Hexachlorobenzene	118-74-1	EPA 8270	6.60E-03	1.00E-01	2.00E-01	1.00E+00
Indeno(1,2,3-cd)pyrene	193-39-5	EPA 8270	6.60E-03	2.11E-01	2.00E-01	9.21E-03
Naphthalene	91-20-3	EPA 8270	6.60E-03	4.00E+00	2.00E-01	6.20E-01
Nitrobenzene	98-95-3	EPA 8270	6.60E-03	1.03E+01	2.00E-01	3.40E-01
Octachlorostyrene	29082-74-4	EPA 8270	6.60E-03	na	2.00E-01	na
Phenanthrene	85-01-8	EPA 8270	6.60E-03	9.60E+00	2.00E-01	1.80E+02
Pyrene	129-00-0	EPA 8270	6.60E-03	2.10E+02	2.00E-01	1.83E+01
Pyridine	110-86-1	EPA 8270	6.60E-03	6.16E+01	2.00E-01	3.65E+00
Asbestos			structures/gPM10			
Amphibole Protocol Structures	na	EPA/540/R-97/028 modified	3.00E+06	na	na	na
Chrysotile Protocol Structures	na	EPA/540/R-97/028 modified	3.00E+06	na	na	na
Formaldehyde			mg/kg		ug/L	
Formaldehyde	50-00-0	EPA 8315A	1.00E+03	1.0E+04	8.00E+00	5.5E+02
<p>* RL Goal for the TEQ sum for all dioxin/furan congeners is 1000 pg/g ** Lab RLs for PCB congeners and dioxin/furan congeners will be based on sample specific EDLs. Averaged blank EDLs are provided here. All 209 PCB congeners will be reported. Only the WHO designated toxic congeners are listed in this table. Tronox SRC list approved by NDEP on June 3, 2008.</p>						

Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths ¹ (ft. bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs ² (EPA 8260B)	Wet Chemistry ³	Total Cyanide (EPA 9012A)	OCPs ⁴ (EPA 8081A)	SVOCs ⁵ (EPA 8270C)	Radio-nuclides ⁶	Dioxins/Furans ⁷	PCBs ⁸ (EPA 1668A)	Asbestos ⁹ (EPA/540/R-97/028)	Geo-technical Tests ¹⁰	Rationale
Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern most grid in Area 3 (N-7) and ending with the southeastern most grid in Area 3 (S-8).																				
N-7	20, 21, 22, 23	SA157	SA157-0.0	0.0																
N-7	20, 21, 22, 23		SA157-0.5	0.5	X	X	X			X	X		X	X	X	X		X		Boring located to evaluate LOU 20 (Pond C-1 Associated Piping), LOU 21 (Pond Mn-1 and Associated Piping), LOU 22 (WC-West Associated Piping), and LOU 23 (WC-East Associated Piping). Located at piping junction from all LOUs at highest release potential location (manhole and junction).
N-7	20, 21, 22, 23		SA157-10	10	X	X	X			X	X		Hold	X	X					
N-7	20, 21, 22, 23		SA157-20	20	X	X	X			X	X		Hold	X	X					
N-7	20, 21, 22, 23		SA157-30	30	X	X	X			X	X		Hold	X	X					
N-7	20, 21, 22, 23		SA157-40	40	X	X	X			X	X		X	X	X					
N-8	21, 24, 46	RSAN8	RSAN8-0.0	0.0																
N-8	21, 24, 46		RSAN8-0.5	0.5	X	X	X	X		X	X		X	X	X	X		X		Boring located to evaluate LOU 24 (Manganese [Mn] Tailings Pile Area), LOU 46 (Former Old Main Cooling Tower and Recirculation Lines), and LOU 21 (Pond Mn-1 and Associated Piping). Located near the perimeter of two LOUs and associated piping at a high release potential location (down slope and low spot).
N-8	21, 24, 46		RSAN8-10	10	X	X	X	X		X	X		Hold	X	X				X	
N-8	21, 24, 46		RSAN8-20	20	X	X	X	X		X	X		Hold	X	X					
N-8	21, 24, 46		RSAN8-30	30	X	X	X	X		X	X		Hold	X	X					
N-8	21, 24, 46		RSAN8-40	40	X	X	X	X		X	X		X	X	X					
N-8	21, 24, 46	SA139	SA139-0.0	0.0																
N-8	21, 24, 46		SA139-0.5	0.5	X	X	X			X	X		X		X	X				Boring located to evaluate LOU 21 (Pond Mn-1 and Associated Piping), LOU 24 (Mn Tailings Pile area), and LOU 46 (Former Old Main Cooling Tower and Recirculation Lines). Located near the perimeter of two LOUs and associated piping at a high release potential location (down slope and low spot).
N-8	21, 24, 46		SA139-10	10	X	X	X			X	X		Hold		X					
N-8	21, 24, 46		SA139-20	20	X	X	X			X	X		Hold		X					
N-8	21, 24, 46		SA139-30	30	X	X	X			X	X		Hold		X					
N-8	21, 24, 46		SA139-40	40	X	X	X			X	X		X		X					
N-8	21, 24, 46	SA160	SA160-0.0	0.0																
N-8	21, 24, 46		SA160-0.5	0.5	X	X	X			X	X		X		X	X				Boring located to evaluate upgradient LOU 24 (Mn Tailings Pile Area), LOU 46 (Former Old Main Cooling Tower and Recirculation Lines) and LOU 21 (Pond Mn-1 and Associated Piping). Located near perimeter of two LOUs and piping at high release potential location (down slope and low spot).
N-8	21, 24, 46		SA160-10	10	X	X	X			X	X		Hold		X					
N-8	21, 24, 46		SA160-20	20	X	X	X			X	X		Hold		X					
N-8	21, 24, 46		SA160-30	30	X	X	X			X	X		Hold		X					
N-8	21, 24, 46		SA160-40	40	X	X	X			X	X		X		X					
O-6	34W	SA39	SA39-0.0	0.0																
O-6	34W		SA39-0.5	0.5	X	X	X	X		X	X		X		X	X		X		Boring located north of Chemstar to evaluate LOU 34W (Historic Mn Tailings Pile Area, West). Located in low spot of LOU 34W at likely worst case location.
O-6	34W		SA39-10	10	X	X	X	X		X	X		Hold		X					
O-6	34W		SA39-20	20	X	X	X	X		X	X		Hold		X					
O-6	34W		SA39-30	30	X	X	X	X		X	X		Hold		X					
O-6	34W		SA39-40	40	X	X	X	X		X	X		X		X					
O-7	24, 46	RSA07	RSA07-0.0	0.0																
O-7	24, 46		RSA07-0.5	0.5	X	X	X	X		X	X		X	X	X	X				Boring located to evaluate LOU 24 (Mn Tailings Pile Area) and LOU 46 (Former Old Main Cooling Tower and Recirculation Lines). Located in low spot of LOU 24 and down hill topographically of LOU 46 at likely worst case location.
O-7	24, 46		RSA07-10	10	X	X	X	X		X	X		Hold		X					
O-7	24, 46		RSA07-20	20	X	X	X	X		X	X		Hold		X					
O-7	24, 46		RSA07-30	30	X	X	X	X		X	X		Hold		X					
O-7	24, 46		RSA07-40	40	X	X	X	X		X	X		X		X					
O-7	34W, 60, 20, 22, 23	SA178	SA178-0.0	0.0																
O-7	34W, 60, 20, 22, 23		SA178-0.5	0.5	X	X	X			X	X		X	X	X	X		X		Boring located to evaluate LOU 20 (Pond C-1 Associated Piping Associated Piping), LOU 22 (WC-West Associated Piping), LOU 23 (WC-East Associated Piping), LOU 34W (Historic Mn Tailings Pile Area, West), and LOU 60 (Acid Drain system). Located within this cluster of LOUs at a likely high release potential location for all five LOUs (low point, edge of road).
O-7	34W, 60, 20, 22, 23		SA178-10	10	X	X	X			X	X		Hold		X					
O-7	34W, 60, 20, 22, 23		SA178-20	20	X	X	X			X	X		Hold		X					
O-7	34W, 60, 20, 22, 23		SA178-30	30	X	X	X			X	X		Hold		X					
O-7	34W, 60, 20, 22, 23		SA178-40	40	X	X	X			X	X		X		X					
O-7	24, 46	SA52	SA52-0.0	0.0																
O-7	24, 46		SA52-0.5	0.5	X	X	X			X	X		X		X	X				Boring located to evaluate LOU 24 (Mn Tailings Pile Area) and LOU 46 (Former Old Main Cooling Tower and Recirculation Lines). Located within the footprint of both LOUs at a topographically low area for worst case coverage.
O-7	24, 46		SA52-10	10	X	X	X			X	X		Hold		X				X	
O-7	24, 46		SA52-20	20	X	X	X			X	X		Hold		X					
O-7	24, 46		SA52-30	30	X	X	X			X	X		Hold		X					
O-7	24, 46		SA52-40	40	X	X	X			X	X		X		X					
O-7	24, 46	SA149	SA149-0.0	0.0																
O-7	24, 46		SA149-0.5	0.5	X	X	X			X	X		X		X	X				Boring located to evaluate LOU 24 (Mn Tailings Pile Area) and LOU 46 (Former Old Main Cooling Tower and Recirculation Lines). Located within LOU 24 and just upgradient of LOU 46 to provide area coverage of both LOUs.
O-7	24, 46		SA149-10	10	X	X	X			X	X		Hold		X					
O-7	24, 46		SA149-20	20	X	X	X			X	X		Hold		X					
O-7	24, 46		SA149-30	30	X	X	X			X	X		Hold		X					
O-7	24, 46		SA149-40	40	X	X	X			X	X		X		X					
O-8	24, 46	RSA08	RSA08-0.0	0.0																
O-8	24, 46		RSA08-0.5	0.5	X	X	X	X		X	X		X		X	X				Boring located to evaluate LOU 24 (Manganese Tailings Pile Area) and LOU 46 (Former Old Main Cooling Tower and Recirculation Lines). Located within LOU 24 and just upgradient of LOU 46 to provide area coverage of both LOUs.
O-8	24, 46		RSA08-10	10	X	X	X	X		X	X		Hold		X					
O-8	24, 46		RSA08-20	20	X	X	X	X		X	X		Hold		X					
O-8	24, 46		RSA08-30	30	X	X	X	X		X	X		Hold		X					
O-8	24, 46		RSA08-40	40	X	X	X	X		X	X		X		X					
O-8	24, 46	SA108	SA108-0.0	0.0																
O-8	24, 46		SA108-0.5	0.5	X	X	X			X	X		X		X	X				Boring located to evaluate LOU 24 (Mn Tailings Pile Area) and LOU 46 (Former Old Main Cooling Tower and Recirculation Lines). Located within the footprint of both LOUs at a slight low spot to provide reasonable coverage of both.
O-8	24, 46		SA108-10	10	X	X	X			X	X		Hold		X					
O-8	24, 46		SA108-20	20	X	X	X			X	X		Hold		X					
O-8	24, 46		SA108-30	30	X	X	X			X	X		Hold		X					
O-8	24, 46		SA108-40	40	X	X	X			X	X		X		X					
O-8	24, 46, 60	SA141	SA141-0.0	0.0																
O-8	24, 46, 60		SA141-0.5	0.5	X	X	X			X	X		X		X	X				Boring located to evaluate LOU 24 (Mn Tailings Pile Area), LOU 46 (Former Old Main Cooling Tower and Recirculation Lines), and LOU 60 (Acid Drain System). Located within LOU 24, just downgradient of LOU 46 and adjacent to LOU 60 drain pipe to evaluate likely release locations from all three LOUs.
O-8	24, 46, 60		SA141-10	10	X	X	X			X	X		Hold		X					

Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths ¹ (ft. bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs ² (EPA 8260B)	Wet Chemistry ³	Total Cyanide (EPA 9012A)	OCPs ⁴ (EPA 8081A)	SVOCs ⁵ (EPA 8270C)	Radio-nuclides ⁶	Dioxins/Furans ⁷	PCBs ⁸ (EPA 1668A)	Asbestos ⁹ EPA/540/R-97/028	Geo-technical Tests ¹⁰	Rationale
Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern most grid in Area 3 (N-7) and ending with the southeastern most grid in Area 3 (S-8).																				
O-8	24, 46, 60		SA141-20	20	X	X	X			X	X		Hold		X					
O-8	24, 46, 60		SA141-30	30	X	X	X			X	X		Hold		X					
O-8	24, 46, 60		SA141-40	40	X	X	X			X	X		X		X					
O-8	24, 46, 60	SA142	SA142-0.0	0.0														X		Boring located to evaluate LOU 24 (Mn Tailings Pile Area), LOU 46 (Former Old Main Cooling Tower and Recirculation Lines), and LOU 60 (Acid Drain System). Located within LOU 24, just downgradient of LOU 46 and adjacent to LOU 60 drain pipe to evaluate likely release locations from all three LOUs.
O-8	24, 46, 60		SA142-0.5	0.5	X	X	X			X	X		X		X	X				
O-8	24, 46, 60		SA142-10	10	X	X	X			X	X		Hold		X					
O-8	24, 46, 60		SA142-20	20	X	X	X			X	X		Hold		X					
O-8	24, 46, 60		SA142-30	30	X	X	X			X	X		Hold		X					
O-8	24, 46, 60		SA142-40	40	X	X	X			X	X		X		X					
O-8	24, 46	SA143	SA143-0.0	0.0														X		Boring located to evaluate LOU 24 (Mn Tailings Pile Area) and LOU 46 (Former Old Main Cooling Tower and Recirculation Lines). Located within LOU 42 and downgradient of LOU 46 to provide area coverage of both LOUs.
O-8	24, 46		SA143-0.5	0.5	X	X	X			X	X		X		X	X				
O-8	24, 46		SA143-10	10	X	X	X			X	X		Hold		X					
O-8	24, 46		SA143-20	20	X	X	X			X	X		Hold		X					
O-8	24, 46		SA143-30	30	X	X	X			X	X		Hold		X					
O-8	24, 46		SA143-40	40	X	X	X			X	X		X		X					
O-8	21, 24, 46, 59, 60	SA171	SA171-0.0	0.0														X		Boring located to evaluate LOU 21 (Pond Mn-1 and Associated Piping), LOU 24 (Mn Tailings Pile Area), LOU 46 (Former Old Main Cooling Tower and Recirculation Lines), LOU 59 (Storm Sewer System), and LOU 60 (Acid Drain System). Located within LOU 24 nearby LOU 46 and adjacent to LOUs 21, 59 and 60 piping at a reasonable release location to evaluate all five LOUs.
O-8	21, 24, 46, 59, 60		SA171-0.5	0.5	X	X	X			X	X		X		X	X				
O-8	21, 24, 46, 59, 60		SA171-10	10	X	X	X			X	X		Hold		X					
O-8	21, 24, 46, 59, 60		SA171-20	20	X	X	X			X	X		Hold		X					
O-8	21, 24, 46, 59, 60		SA171-30	30	X	X	X			X	X		Hold		X					
O-8	21, 24, 46, 59, 60		SA171-40	40	X	X	X			X	X		X		X					
P-6	34W	RSAP6	RSAP6-0.0	0.0														X		Boring located to evaluate LOU 34W (Historic Mn Tailings Pile Area, West). Random boring located within low spot of LOU 34W at worst case potential environmental issue location.
P-6	34W		RSAP6-0.5	0.5	X	X	X	X		X	X		X	X	X	X				
P-6	34W		RSAP6-10	10	X	X	X	X		X	X		Hold		X	X				
P-6	34W		RSAP6-20	20	X	X	X	X		X	X		Hold		X	X				
P-6	34W		RSAP6-30	30	X	X	X	X		X	X		Hold		X	X				
P-6	34W		RSAP6-40	40	X	X	X	X		X	X		X		X	X				
P-7	60, 20, 21, 22, 23	RSAP7	RSAP7-0.0	0.0														X		Boring located to evaluate LOU 20 (Pond C-1 Associated Piping), LOU 21 (Pond Mn-1 and Associated Piping), LOU 22 (WC-West Associated Piping), LOU 23 (WC-East Associated Piping), and LOU 60 (Acid Drain System). Random boring located within a cluster of five LOUs for area coverage of all five.
P-7	60, 20, 21, 22, 23		RSAP7-0.5	0.5	X	X	X	X		X	X	X	X	X	X	X				
P-7	60, 20, 21, 22, 23		RSAP7-10	10	X	X	X	X		X	X	X	Hold		X	X				
P-7	60, 20, 21, 22, 23		RSAP7-20	20	X	X	X	X		X	X	X	Hold		X	X				
P-7	60, 20, 21, 22, 23		RSAP7-30	30	X	X	X	X		X	X	X	Hold		X	X				
P-7	60, 20, 21, 22, 23		RSAP7-40	40	X	X	X	X		X	X	X	X		X	X				
P-7	48, 49, 50	SA140	SA140-0.0	0.0														X		Boring located to evaluate LOU 48 (Leach Plant Anolyte Tank), LOU 49 (Leach Plant Area Sulfuric Acid Storage Tank), and LOU 50 (Leach Plant Area Leach Tanks). Located adjacent to three LOUs at an accessible reasonable release point for all three LOUs (just down slope).
P-7	48, 49, 50		SA140-0.5	0.5	X	X	X			X	X		X		X	X				
P-7	48, 49, 50		SA140-10	10	X	X	X			X	X		Hold		X					
P-7	48, 49, 50		SA140-20	20	X	X	X			X	X		Hold		X					
P-7	48, 49, 50		SA140-30	30	X	X	X			X	X		Hold		X					
P-7	48, 49, 50		SA140-40	40	X	X	X			X	X		X		X					
P-8	47, A70	RSAP8	RSAP8-0.0	0.0														X		Boring located to evaluate LOU 47 (Leach Plant Area Mn Ore Pile Area) and Area 70 (Former U.S. Vanadium Site). Random boring located within LOU 47 and at downgradient edge of Area 70 to evaluate potential area releases from both LOU 47 and Area 70 LOUs (down slope and low spot).
P-8	47, A70		RSAP8-0.5	0.5	X	X	X	X		X	X		X	X	X	X				
P-8	47, A70		RSAP8-10	10	X	X	X	X		X	X		Hold		X	X				
P-8	47, A70		RSAP8-20	20	X	X	X	X		X	X		Hold		X	X				
P-8	47, A70		RSAP8-30	30	X	X	X	X		X	X		Hold		X	X				
P-8	47, A70		RSAP8-40	40	X	X	X	X		X	X		X		X					
P-8	34E, 47, 48, 51, A70	SA38	SA38-0.0	0.0														X		Boring located to evaluate LOU 34E (Historic Mn Tailings Pile Area, East), LOU 47 (Leach Plant Manganese Ore Pile Area), LOU 48 (Leach Plant Anolyte Storage Tanks), LOU 51 (Leach Plant Area Transfer Lines To/From Unit-6), and Area 70 (Former U.S. Vanadium Site). Located within and near a cluster of four LOUs and Area 70 to evaluate worst case releases from LOUs 34E, 47 and 48 and Area 70 and potential releases from LOU 51 (low area).
P-8	34E, 47, 48, 51, A70		SA38-0.5	0.5	X	X	X	X	X	X	X		X	X	X	X				
P-8	34E, 47, 48, 51, A70		SA38-10	10	X	X	X	X	X	X	X		Hold		X	X				
P-8	34E, 47, 48, 51, A70		SA38-20	20	X	X	X	X	X	X	X		Hold		X	X				
P-8	34E, 47, 48, 51, A70		SA38-30	30	X	X	X	X	X	X	X		Hold		X	X				
P-8	34E, 47, 48, 51, A70		SA38-40	40	X	X	X	X	X	X	X		X		X	X				
Q-7	20, 22, 23, 48, 50, 60	RSAQ7	RSAQ7-0.0	0.0														X		Boring located to evaluate LOU 20 (Pond C-1 Associated Piping), LOU 22 (WC-West Associated Piping), LOU 23 (WC-East Associated Piping), LOU 48 (Leach Plant Anolyte Storage Tanks), LOU 50 (Leach Plant Area Leach Tanks), and LOU 60 (Acid Drain System). Random boring located within area piping for all five LOUs for likely release points.
Q-7	20, 22, 23, 48, 50, 60		RSAQ7-0.5	0.5	X	X	X	X		X	X	X	X	X	X	X				
Q-7	20, 22, 23, 48, 50, 60		RSAQ7-10	10	X	X	X	X		X	X	X	Hold		X	X				
Q-7	20, 22, 23, 48, 50, 60		RSAQ7-20	20	X	X	X	X		X	X	X	Hold		X	X				
Q-7	20, 22, 23, 48, 50, 60		RSAQ7-30	30	X	X	X	X		X	X	X	Hold		X	X				
Q-7	20, 22, 23, 48, 50, 60		RSAQ7-40	40	X	X	X	X		X	X	X	X		X	X				
Q-7	20, 22, 23, 61	SA36	SA36-0.0	0.0														X		Boring located to evaluate LOU 20 (Pond C-1 Associated Piping), LOU 22 (WC-West Associated Piping), LOU 23 (WC-East Associated Piping), and LOU 61 (Old Sodium Plant Decommissioning and Unit-5 Basement). Located adjacent to piping for LOUs 20, 22, and 23 for potential release points, and downgradient of LOU 61 for likely releases (accessible low area).
Q-7	20, 22, 23, 61		SA36-0.5	0.5	X	X	X	X		X	X		X		X	X				
Q-7	20, 22, 23, 61		SA36-10	10	X	X	X	X		X	X		Hold		X					
Q-7	20, 22, 23, 61		SA36-20	20	X	X	X	X		X	X		Hold		X					
Q-7	20, 22, 23, 61		SA36-30	30	X	X	X	X		X	X		Hold		X					
Q-7	20, 22, 23, 61		SA36-40	40	X	X	X	X		X	X		X		X					
Q-8	47, 48, 59	RSAQ8	RSAQ8-0.0	0.0														X		Boring located to evaluate LOU 47 (Leach Plant Mn Ore Pile Area), LOU 48 (Leach Plant Anolyte Storage Tanks), and LOU 59 (Storm Sewer System). Random boring in accessible location within LOUs 47 and 48 and nearby LOU 59 for accessible area coverage and a low spot.
Q-8	47, 48, 59		RSAQ8-0.5	0.5	X	X	X	X		X	X		X	X	X	X				
Q-8	47, 48, 59		RSAQ8-10	10	X	X	X	X		X	X		Hold		X	X			X	

Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths ¹ (ft. bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs ² (EPA 8260B)	Wet Chemistry ³	Total Cyanide (EPA 9012A)	OCPs ⁴ (EPA 8081A)	SVOCs ⁵ (EPA 8270C)	Radio-nuclides ⁶	Dioxins/Furans ⁷	PCBs ⁸ (EPA 1668A)	Asbestos ⁹ EPA/540/R-97/028	Geo-technical Tests ¹⁰	Rationale
Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern most grid in Area 3 (N-7) and ending with the southeastern most grid in Area 3 (S-8).																				
Q-8	47, 48, 59		RSAQ8-20	20	X	X	X	X		X	X		Hold	X	X					
Q-8	47, 48, 59		RSAQ8-30	30	X	X	X	X		X	X		Hold	X	X					
Q-8	47, 48, 59		RSAQ8-40	40	X	X	X	X		X	X		X	X	X					
Q-8	47, 48, 51, 59, A70	SA37	SA37-0.0	0.0														X		Boring located to evaluate LOU 51 (Mn Leach Plant Area Transfer Lines), LOU 47 (Leach Plant Area Mn Ore Pile Area), LOU 48 (Leach Plant Sewer System), LOU 59 (Storm Sewer System), and Area 70 (Former U.S. Vanadium Site). Located at an accessible location at low spot of LOUs 47, 48 and 51 and Area 70 for worst case releases and nearby LOU 59 pipeline for possible releases.
Q-8	47, 48, 51, 59, A70		SA37-0.5	0.5	X	X	X	X	X	X	X		X	X	X	X				
Q-8	47, 48, 51, 59, A70		SA37-10	10	X	X	X	X	X	X	X		Hold	X	X					
Q-8	47, 48, 51, 59, A70		SA37-20	20	X	X	X	X	X	X	X		Hold	X	X					
Q-8	47, 48, 51, 59, A70		SA37-30	30	X	X	X	X	X	X	X		Hold	X	X					
Q-8	47, 48, 51, 59, A70		SA37-40	40	X	X	X	X	X	X	X		X	X	X					
Q-8	21, 59, 60	SA174	SA174-0.0	0.0														X		Boring located to evaluate LOU 21 (Pond Mn-1 and Associated Piping), LOU 59 (Storm Sewer System), and LOU 60 (Acid Drain System). Located adjacent to all three LOU pipelines at a reasonable release location from edge of street with differential load potential.
Q-8	21, 59, 60		SA174-0.5	0.5	X	X	X			X	X		X			X				
Q-8	21, 59, 60		SA174-10	10	X	X	X			X	X		Hold		X					
Q-8	21, 59, 60		SA174-20	20	X	X	X			X	X		Hold		X					
Q-8	21, 59, 60		SA174-30	30	X	X	X			X	X		Hold		X					
Q-8	21, 59, 60		SA174-40	40	X	X	X			X	X		X		X					
Q-8	37, 44, 60	SA177	SA177-0.0	0.0														X		Boring located to evaluate LOU 37 (Former Satellite Accumulation Point for Unit-6), LOU 44 (Unit-6 Basement), and LOU 60 (Acid Drain System). Located at a close but accessible location to evaluate releases from LOUs 37 and 44, and adjacent to LOU 60 piping at worst case location for releases at a junction.
Q-8	37, 44, 60		SA177-0.5	0.5	X	X	X			X	X		X	X	X	X				
Q-8	37, 44, 60		SA177-10	10	X	X	X			X	X		Hold	X	X					
Q-8	37, 44, 60		SA177-20	20	X	X	X			X	X		Hold	X	X					
Q-8	37, 44, 60		SA177-30	30	X	X	X			X	X		Hold	X	X					
Q-8	37, 44, 60		SA177-40	40	X	X	X			X	X		X	X	X					
R-7	40, 59, 61	RSAR7	RSAR7-0.0	0.0														X		Boring located to evaluate soils for known or potential chemical classes associated with LOU 40 (PCB Transformer Spill), LOU 59 (Storm Sewer System), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Random boring located adjacent to LOU 59 piping near a logical release point a (manhole) and randomly near LOUs 40 and 61 for area coverage.
R-7	40, 59, 61		RSAR7-0.5	0.5	X	X	X	X		X	X		X	X	X	X				
R-7	40, 59, 61		RSAR7-10	10	X	X	X	X		X	X		Hold	X	X					
R-7	40, 59, 61		RSAR7-20	20	X	X	X	X		X	X		Hold	X	X					
R-7	40, 59, 61		RSAR7-30	30	X	X	X	X		X	X		Hold	X	X					
R-7	40, 59, 61		RSAR7-40	40	X	X	X	X		X	X		X	X	X					
R-7	40, 61	SA112	SA112-0.0	0.0														X		Boring is located to evaluate LOU 40 (PCB Transformer Spill), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located in PCB transformer Spill area at visible spill location and adjacent to LOU 61 basement for area coverage.
R-7	40, 61		SA112-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-7	40, 61		SA112-10	10	X	X	X	X		X	X		Hold		X					
R-7	40, 61		SA112-20	20	X	X	X	X		X	X		Hold		X					
R-7	40, 61		SA112-30	30	X	X	X	X		X	X		Hold		X					
R-7	40, 61		SA112-40	40	X	X	X	X		X	X		X		X					
R-7	33, 59, 61	SA132	SA132-0.0	0.0														X		Located to evaluate LOU 33 (Former Sodium Perchlorate Platinum By-Product Filter), LOU 59 (Storm Sewer System), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located at high risk point, adjacent to containment in pavement crack within LOU 33 and nearby LOUs 59 and 61 for area coverage.
R-7	33, 59, 61		SA132-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-7	33, 59, 61		SA132-10	10	X	X	X	X		X	X		Hold		X					
R-7	33, 59, 61		SA132-20	20	X	X	X	X		X	X		Hold		X					
R-7	33, 59, 61		SA132-30	30	X	X	X	X		X	X		Hold		X					
R-7	33, 59, 61		SA132-40	40	X	X	X	X		X	X		X		X					
R-7	40, 61	SA33	SA33-0.0	0.0														X		Boring located to evaluate LOU 40 (PCB Transformer Spill) and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located at an accessible exterior location adjacent to LOUs 40 and 61 (as close as upgradient utilities allow) to potential release points.
R-7	40, 61		SA33-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-7	40, 61		SA33-10	10	X	X	X	X		X	X		Hold		X					
R-7	40, 61		SA33-20	20	X	X	X	X		X	X		Hold		X					
R-7	40, 61		SA33-30	30	X	X	X	X		X	X		Hold		X					
R-7	40, 61		SA33-40	40	X	X	X	X		X	X		X		X					
R-8	44	RSAR8	RSAR8-0.0	0.0														X		Boring located south of Unit-6 to evaluate LOU 44 (Unit-6 Basement) and as part of site-wide coverage for potential historical chemical use. Located as close as possible outside to LOU 44 near potential release point and for area wide coverage.
R-8	44		RSAR8-0.5	0.5	X	X	X	X		X	X		X	X	X	X				
R-8	44		RSAR8-10	10	X	X	X	X		X	X		Hold		X					
R-8	44		RSAR8-20	20	X	X	X	X		X	X		Hold		X					
R-8	44		RSAR8-30	30	X	X	X	X		X	X		Hold		X					
R-8	44		RSAR8-40	40	X	X	X	X		X	X		X		X					
R-8	33, 44, 59, 61	SA34	SA34-0.0	0.0														X		Boring located to evaluate LOU 33 (Former Sodium Perchlorate Platinum By-Product Filter), LOU 44 (Unit-6 Basement), LOU 59 (Storm Sewer System), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located in between LOUs 44, 33 and 61 to evaluate all three LOUs and adjacent to LOU 59 to evaluate pipeline releases.
R-8	33, 44, 59, 61		SA34-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-8	33, 44, 59, 61		SA34-10	10	X	X	X	X		X	X		Hold		X				X	
R-8	33, 44, 59, 61		SA34-20	20	X	X	X	X		X	X		Hold		X					
R-8	33, 44, 59, 61		SA34-30	30	X	X	X	X		X	X		Hold		X					
R-8	33, 44, 59, 61		SA34-40	40	X	X	X	X		X	X		X		X					
S-8	n/a	RSAS8	RSAS8-0.0	0.0														X		This randomly-located boring is located to evaluate Site-wide conditions and is not associated with any specific LOU.
S-8	n/a		RSAS8-0.5	0.5	X	X	X	X		X	X		X	X	X	X				
S-8	n/a		RSAS8-10	10	X	X	X	X		X	X		Hold		X					
S-8	n/a		RSAS8-20	20	X	X	X	X		X	X		Hold		X					
S-8	n/a		RSAS8-30	30	X	X	X	X		X	X		Hold		X					
S-8	n/a		RSAS8-40	40	X	X	X	X		X	X		X		X					
Number of Borings:		33																		
Synthetic Precipitate Leaching Procedure (SPLP) Samples ¹¹ :																				

Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths ¹ (ft. bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs ² (EPA 8260B)	Wet Chemistry ³	Total Cyanide (EPA 9012A)	OCPs ⁴ (EPA 8081A)	SVOCs ⁵ (EPA 8270C)	Radio-nuclides ⁶	Dioxins/Furans ⁷	PCBs ⁸ (EPA 1688A)	Asbestos ⁹ EPA/540/R-97/028	Geo-technical Tests ¹⁰	Rationale
Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern most grid in Area 3 (N-7) and ending with the southeastern most grid in Area 3 (S-8).																				
N-8	21, 24, 46	RSAN8	RSAN8-10	10	X	X	X	X		X	X			X	X				X	Soil sample collected from the southeast corner of LOU 21 (Pond Mn-1 and Associated Piping) to evaluate leaching potential of Site-related analytes from Alluvium (Qal) soils. Expected soil type: Gravelly Sand.
N-8	21, 24, 46	RSAN8	RSAN8-DD	DD* = depth (ft)	X	X	X	X		X	X			X	X				X	Optional sample - only to be collected if soil type is different than at 10 ft bgs; no sample will be collected within the capillary fringe. Contact between Qal & MCfg1 is approximately 32 feet bgs. Groundwater is expected to occur at approximately 33 feet bgs. Expected soil type: Calichified Gravel.
O-7	24, 46	SA52	SA52-10	10	X	X	X	X		X	X			X	X				X	Soil sample collected from the western portion of LOU 46 (Old Main Cooling Towers and Recirculation Lines) and LOU 24 (Mn Tailings Pile Area) to evaluate leaching potential of Site-related analytes from Alluvium (Qal) soils. Expected soil type: Gravelly Sand.
O-7	24, 46	SA52	SA52-DD	DD* = depth (ft)	X	X	X	X		X	X			X	X				X	Optional sample - only to be collected if soil type is different than at 10 ft bgs; no sample will be collected within the capillary fringe. Contact between Qal & MCfg1 is approximately 48 feet bgs. Groundwater is expected to occur at approximately 53 feet bgs. Expected soil type: Calichified Gravel.
Q-8	34E, 47, 48, 59, A70	RSAQ8	RSAQ8-10	10	X	X	X	X		X	X			X	X				X	Soil sample collected within the boundaries of LOU 47 (Leach Plant Mn Ore Pile Area) and Area 70 (Former U.S. Vanadium Site) to evaluate leaching potential of Site-related analytes. Expected soil type: Sand.
Q-8	34E, 47, 48, 59, A70	RSAQ8	RSAQ8-DD	DD* = depth (ft)	X	X	X	X		X	X			X	X				X	Optional sample - only to be collected if soil type is different than at 10 ft bgs; no sample will be collected within the capillary fringe. Contact between Qal & MCfg1 is approximately 37 feet bgs. Groundwater is expected to occur at approximately 44 feet bgs. Expected soil type: Calichified Gravel.
R-8	33, 44, 61, 59	SA34	SA34-10	10	X	X	X	X		X	X			X	X				X	Soil sample collected from between LOU 61 (Old Sodium Plant Decommissioning and Unit-5 Basement), LOU 44 (Unit-6 Basement), LOU 33 (Former Sodium Parachlorete Platinum By-Product Filter), LOU 59 (Storm Sewer System), and LOU 60 (Acid Drain System) to evaluate leaching potential of Site-related analytes. Expected soil type: Sand.
R-8	33, 44, 61, 59	SA34	SA34-DD	DD* = depth (ft)	X	X	X	X		X	X			X	X				X	Optional sample - only to be collected if soil type is different than at 10 ft bgs; no sample will be collected within the capillary fringe. Contact between Qal & MCfg1 is approximately 37 feet bgs. Groundwater is expected to occur at approximately 40 feet bgs. Expected soil type: Sand.
Number of Samples:					173	173	173	103	10	173	173	16	66	83	173	33	6	33	8	
QA/QC Samples:																				
Field Duplicates (10%)					18	18	18	11	1	18	18	2	7	9	18	4	1	4	0	
Field Blanks					1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	
Equipment Rinsate Blanks					6	6	6	6	6	6	6	3	6	6	6	6	1	0	0	
Trip Blank Samples					0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	
Matrix Spike (5%)					9	9	9	6	1	9	9	1	4	5	9	2	1	0	0	
Matrix Spike Duplicate (5%)					9	9	9	6	1	9	9	1	4	5	9	2	1	0	0	
Total Sample Count:					216	216	216	133	26	222	216	88	109	216	48	10	38	8		

Notes:

- n/a Not applicable - boring is not associated with a specific LOU but is located to evaluate soil for general area-wide coverage.
- X Sample will be collected and analyzed.
- No sample collected under Phase B sampling program.
- DD* Sample depth to be determined in the field where DD = sample depth (ft).
- TPH-DRO/ORO Total petroleum hydrocarbons - Diesel-Range Organics/Oil-Range Organics.
- 1. The 0.5 ft bgs sample will be collected from the 0.0 to 0.5 ft bgs interval, unless the area is paved. If area is paved, samples will be collected at 0.5 feet below or from a representative depth beneath the pavement. Alternately, if an unpaved area is within a reasonable distance, the sample will be moved to the unpaved area.
- 2. Samples for VOC analysis will be preserved in the field using sodium bisulfate (or DI water) and methanol preservatives per EPA Method 5035.
- 3. Consists of wet chemistry parameters (including pH) listed on Table 1 of the Phase B Source Area Work Plan.
- 4. Organochlorine Pesticides (includes analysis for hexachlorobenzene).
- 5. Semi-volatile Organic Compounds
- 6. Radionuclides consists of alpha spec reporting for isotopic thorium and isotopic uranium, and Radium-226, plus Radium-228 by beta counting (per NDEP).
- 7. Dioxins/furans will be analyzed by EPA Method 8290 for all samples. Screening reports will be provided for 90% of the samples and full data packages for 10% of the samples.
- 8. Polychlorinated biphenyls-All of these sample locations will include chip and/or wipe samples of surface features.
- 9. Soil samples for asbestos analyses will be collected from a depth of 0 to 2-inches bgs.
- 10. Geotechnical Tests consist of: moisture content (ASTM D-2216), grain size analysis (ASTM D-422 and C117-04), Soil Dry Bulk Density (ASTM D-2937), Grain Density (ASTM D-854, Soil-Water Filled Porosity (ASTM D-2216); Vertical Hydraulic Conductivity (ASTM D-5084/USEPA 9100).
- 11. SPLP samples will be analyzed by EPA method 1312 using two preparation methods: 1) with extraction fluid #2 (reagent water at pH 5.00±0.05), and 2) with extraction method #3 (reagent water); per NDEP.

Grid Location	Location Area	Monitoring Well No.	Screen Interval (ft bgs)	Soil Type Expected Across Screen Interval ¹	Well Sampled for Phase A? (y/n)	Perchlorate (EPA 314.0)	Hex Cr (EPA 7199)	Metals	VOCs ² (EPA 8260)	Wet Chemistry (a)	OCPs ³ (EPA 8081A)	SVOCs ⁴ (EPA 8270C)	Radio-nuclides ⁵	Rationale
Wells are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area III (N-7) and ending with the southeastern-most grid covering Area III (Q-9).														
N-7	IIIW	M-34	25 - 40	Qal/MCf _g 1	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient step out for LOU 46; as a cross-gradient step out for LOUs 20, 22, 23, and 60; and for general Site coverage.
N-7	III	M-35	25 - 40	Qal/MCf _g 1	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient step out for LOUs 24 and 46; as an crossgradient step out for LOU 21; and for general Site coverage.
M-8	IIIN	M-19	14.5 - 34.5	Qal/MCf _g 1	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient step out for LOU 21 and for general Site coverage.
O-6	III	M-50	39.6 - 59.6	MCf _g 1	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 34W; as an upgradient step out for LOU 60; and for general Site coverage.
N-9	IIIE	CLD-4R	nr	nr	no	X	X	X	X	X	X	X	X	Serves as a step out downgradient well for LOUs 24 and 46; as a step out upgradient well for LOU 21; as a cross gradient step out to LOUs 59 and 60; and general Site coverage located on Timet.
O-8	III	M-33	30 - 45	MCf _g 1	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient step out for LOU 59; as upgradient step out for LOUs 24 and 46; and for general Site coverage.
O-10	IIIE	CLU1	nr	nr	no	X	X	X	X	X	X	X	X	Serves as a step out downgradient for LOUs 34E, 47, 48, 51, and Area 70 (former U.S. Vanadium), and general Site coverage located on Timet.
P-7	III	M-31A	35 - 55	MCf _g 1	yes	X	X	X	X	X	X	X	X	Located to serve as a downgradient step out for LOU 59; as an upgradient step out for LOUs 24 and 46; as a crossgradient step out for LOUs 20, 21, 22, and 23; and for general Site coverage.
P-7	III	M-52	34.5 - 44.5	MCf _g 1	no	X	X	X	X	X	X	X	X	Located to evaluate LOUs 34E, 47 through 51, and Area 70 (former U.S. Vanadium); as a crossgradient step out for LOUs 20, 21, 22, 23, and 60; end for general Site coverage.
P-7	III	M-141	TBD	TBD	new well	X	X	X	X	X	X	X	X	New monitoring well co-located with boring SA140 to evaluate LOUs 49 and 50.
P-8	III	M-77	29 - 43.8	Qal/MCf _g 1	no	X	X	X	X	X	X	X	X	Located to evaluate LOUs 34E, 47 through 51 and Area 70 (former U.S. Vanadium); as a downgradient step out for LOUs 33, 40, and 61; as a crossgradient step out for LOU 59; and for general Site coverage.
Q-6	IIIN	M-12A	28-48	MCf _g 1	yes	X	X	X	X	X	X	X	X	Located to serve as a upgradient step out for LOUs 20, 22, and 23 and for general Site coverage.
Q-7	III	M-11	33.3 - 53	Qal/MCf _g 1	yes	X	X	X	X	X	X	X	X	Located as a downgradient step out for LOU 61; as an upgradient step out for LOUs 34E, 47 through 51 and Area 70 (former U.S. Vanadium); as a crossgradient step out for LOUs 20, 22, 23, and 60, and for general Site coverage.
Q-8	III	M-122	TBD	TBD	new well	X	X	X	X	X	X	X	X	New monitoring well located to serve as a downgradient step out for LOUs 37, 44, and 60; as an upgradient step out for LOUs 34E, 47, 48, 51, 59 and Area 70 (former U.S. Vanadium); to evaluate possible offsite sources to the east; and for general Site coverage.
Q-9	IIIE	MW-6R	39.67 - 59.67	nr	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient step out for LOUs 37 and 44; as a crossgradient step out for LOUs 59 and 60; to evaluate possible offsite sources to the east; and for general Site coverage.
R-8	III	M-139	TBD	TBD	new well	X	X	X	X	X	X	X	X	Located as an upgradient step out for LOUs 37 and 44, and general site coverage.
R-8	III	M-145	TBD	TBD	new well	X	X	X	X	X	X	X	X	New monitoring well located to serve as a crossgradient step out for LOU 44, to evaluate possible offsite sources to the east; and for general Site coverage.
R-8	III	M-29	22-42	MCf _g 1	no	X	X	X	X	X	X	X	X	Located to evaluate groundwater conditions beneath the Unit 6 building for LOUs 44 and 37.
S-7	IIIS	M-10	43 - 63	MCc _g 1	no	X	X	X	X	X	X	X	X	Located as a downgradient step out for LOUs 33, 40, and 61; and for general Site coverage.
Number of Field Samples:						19	19	19	19	19	19	19	19	
QA/QC Samples:														
Field Duplicates (10%)						2	2	2	2	2	2	2	2	
Field Blanks						1	1	1	1	1	1	1	1	
Equipment Rinsate Blanks						10	10	10	10	10	10	10	10	
Trip Blank Samples						0	0	0	5	0	0	0	0	
Matrix Spike (5%)						1	1	1	1	1	1	1	1	
Matrix Spike Duplicate (5%)						1	1	1	1	1	1	1	1	
Total Samples:						34	34	34	39	34	34	34	34	

Grid Location	Location Area	Monitoring Well No.	Screen Interval (ft bgs)	Soil Type Expected Across Screen Interval ¹	Well Sampled for Phase A? (y/n)	Perchlorate (EPA 314.0)	Hex Cr (EPA 7199)	Metals	VOCs ² (EPA 8260)	Wet Chemistry (a)	OCPs ³ (EPA 8081A)	SVOCs ⁴ (EPA 8270C)	Radio-nuclides ⁵	Rationale
Wells are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area III (N-7) and ending with the southeastern-most grid covering Area III (Q-9).														
Notes:														
X	Sample will be collected and analyzed.													
1	It is anticipated that the large majority of the flow to the well will be from the coarse-grained sediments. As such, in the cases where there are two lithologies present across the screen interval, the water sampled will represent conditions in the coarse-grained interval.													
2	VOCs = Volatile organic compounds (to include analysis for naphthalene).													
3	OCPs = Organochlorine pesticides (to include analysis for hexachlorobenzene).													
4	SVOCs = Semi volatile organic compounds.													
5	Radionuclides consists of alpha spec reporting for isotopic Thorium and isotopic Uranium, and Radium-226, plus Radium-228 by beta counting (per NDEP).													
(a)	Complete list of wet chemistry parameters are shown on Table 1. All groundwater samples will have pH measured in the field.													
III/E/W/S	Well located outside (north, east, west, or south) of Area III.													
TBD	To be determined when well is constructed.													
nr	Not recorded in the All Wells Database (June 2008).													
MCfg1	Muddy Creek Formation - first fine-grained facies													
MCcg1	Muddy Creek Formation - first coarse-grained facies													

LOU	Closure Goal
LOU 20	Continuation of current use – regulatory closure not presently requested.
LOU 21	Continuation of current use - regulatory closure not presently requested because Area III is active. <ul style="list-style-type: none"> • A limited number of boring locations will be drilled near the LOUs near the active portions of Area III to investigate current soil conditions and to establish baseline soil conditions. Additional investigations will be conducted when this area becomes inactive.
LOU 22 and 23	Continuation of current use – regulatory closure not presently requested.
LOU 24 and 46	Closure for future commercial and industrial uses.
LOU 61, 33 and 40	<u>LOU 61</u> <ul style="list-style-type: none"> • Continuation of current manganese dioxide manufacturing use. Regulatory closure not presently requested. <u>LOUs 33 and LOU 40</u> <ul style="list-style-type: none"> • Closure for future commercial and industrial uses.
LOU 34W	Closure for future commercial/industrial use.
LOU 37 and 44	<u>LOU 37</u> <ul style="list-style-type: none"> • Closure for future commercial and industrial uses. <u>LOU 44</u> <ul style="list-style-type: none"> • Continuation of current use producing manganese dioxide. Regulatory closure is not presently requested.
LOU 34E, 47 ,48, 49, 50 ,51, and Area 70	Closure not requested at this time. Current operations to continue.
LOU 59	Continuation of current use – regulatory closure not presently requested.
LOU 60	Closure for future commercial/industrial use.

Analyte	Method	Container (Minimum Volume)	Holding Time
Asbestos	EPA/540/R-97/028	1 kilogram in plastic bag or glass jar, no preservative	6 months
Cyanide	EPA 9012A	4-oz. glass jar	14 days
Dioxins/Furans	EPA Method 8290	4-oz. glass jar	30 days
Formaldehyde	EPA Method 8315A	4-oz. glass jar	14 days
General Chemistry Anions/Cations	Prep method 1:10 DI leach / various analytical methods****	4-oz. glass jar	None (leachate holdtime per water methods)
Hexavalent Chromium	EPA 7199 by ion chromatography, EPA 3060A for digestion	4-oz. glass jar	28 days to digestion, then 4 days to analysis of digestate
Metals*	EPA 6010 / 6020	4-oz. glass jar	6 months
Organochlorinated Pesticides	EPA Method 8081A	4-oz. glass jar	14 days
PCBs as Aroclors	EPA Method 8082	4-oz. glass jar	14 days
PCBs as congeners	EPA Method 1668A	4-oz. glass jar	1 year
SVOCs	EPA Method 8270	4-oz. glass jar	14 days
Total Organic Carbon	Lloyd Kahn method	4-oz. glass jar	28 days
TPH***	EPA 8015B (EPA 5035 for GRO fraction)	(3) Methanol preserved VOA vials for GRO; glass jar for DRO/ORO.	14 days
VOCs	EPA 8260B/5035	4 40-mL VOA vials**	14 days
Radionuclides:			
Radium-226	EPA 903.1 modified	4-oz. poly jar, no preservative	6 months
Radium-228	EPA 904.0 modified	4-oz. poly jar, no preservative	6 months
Thorium (Isotopic)	EML HASL 300 Alpha Spec	4-oz. poly jar, no preservative	6 months
Uranium (Isotopic)	EML HASL 300 Alpha Spec	4-oz. poly jar, no preservative	6 months
<p>Note:</p> <p>* Includes the metals listed on Table 1.</p> <p>For samples listing 4-oz. glass jar, one metal sleeve can be substituted.</p> <p>** Three VOA vials preserved with DI water and one VOA vial preserved with methanol.</p> <p>*** TPH includes GRO, DRO, and ORO.</p> <p>**** See analytes in GW list (except TSS, TOC, cyanide, and conductance)</p>			

Analyte	Method	Container (Minimum Volume)	Holding Time
Perchlorate	EPA 314.0	(1) 125-ml plastic bottle	28 days
Formaldehyde	EPA 8315A	(1) 1-liter amber glass/ no preservative	3 days
Hexavalent Chromium	EPA 218.6	(1) 250-ml plastic bottle w/buffer, field filtered	24 hours
Metals*	EPA 6010B / 6020	(1) 500-ml plastic bottle w/ HNO3	6 months
Organochlorine Pesticides	EPA 8081A	(1) 1-liter amber glass/ no preservative	7 days
PCBs as Aroclors	EPA 8082	(1) 1-liter amber glass/ no preservative	7 days
PCBs as congeners	EPA 1668A	(1) 1-liter amber glass/ no preservative	1 year
SVOCs	EPA 8270	(1) 1-liter amber glass/ no preservative	7 days
VOCs	EPA 8260B	(3) 40-ml VOA vials w/HCl	14 days
General Water Chemistry			
Alkalinity	SM 2320B	500-ml plastic no preservative	14 days
Ammonia	EPA 350.1	500-ml plastic w/H2SO4	28 days
Bromide	EPA 9056	125-ml plastic bottle/ no preservative	28 days
Chlorate	EPA 300.1	125-ml plastic bottle/ no preservative	28 days
Chloride	EPA 9056	** (2) liter plastic bottles	28 days
Cyanide	EPA 9012A	(1) 500-ml plastic bottle w/ NaOH	14 days
Electrical Conductivity	EPA 9050	125-ml plastic no preservative	28 days
Nitrate	EPA 9056	** Use same bottles	48 hours
Nitrite	EPA 9056	125-ml plastic no preservative	48 hours
pH	EPA 9040B	125-ml plastic no preservative	15 minutes
Phosphate	EPA 365.1	125-ml plastic bottle, no preservative	48 hours
Sulfate	EPA 9056	** Use same bottles	28 days
Surfactants (MBAS)	SM 5540C	125-ml plastic no preservative	48 hours
TDS	SM 2540C	125-ml plastic no preservative	28 days
Total Organic Carbon	EPA 9060	(2) 40-ml VOA vials w/H2SO4	28 days
TSS	SM 2540D	125-ml plastic no preservative	7 days
Radionuclides:			
Radium-226	EPA 903.1	(1) 1-liter poly bottle (must be full), Preservative pH <2 HNO3	6 months
Radium-228	EPA 904.0	(1) 1-liter poly bottle (must be full), Preservative pH <2 HNO3	6 months
Thorium (Isotopic)	EML HASL 300 Alpha Spec	(1) 1-liter poly bottle (must be full), Preservative pH <2 HNO3	6 months
Uranium (Isotopic)	EML HASL 300 Alpha Spec	(1) 1-liter poly bottle (must be full), Preservative pH <2 HNO3	6 months
Note:			
* Includes the metals listed on Table.			
** Chloride, Nitrate, Nitrite, Bromide, and Sulfate use same bottle for all these samples. Sample containers are (2) liter plastic bottles.			

Table 7
List of Soil Screening Levels (SSLs) Based on the Soil to Groundwater Pathway for Site-Related Chemicals.
Phase B Source Area Investigation Work Plan - Area III
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Analyte	CAS No.	SSLs (a)	
		DAF = 1	DAF = 20
		mg/kg	mg/kg
Metals			
Aluminum	7429-90-5	na	na
Antimony	7440-36-0	3.00E-01	6.00E+00
Arsenic	7440-38-2	na	na
Barium	7440-39-3	8.20E+01	1.64E+03
Beryllium	7440-41-7	3.00E+00	6.00E+01
Boron	7440-42-8	na	na
Cadmium	7440-43-9	4.00E-01	8.00E+00
Calcium	7440-70-2	na	na
Chromium (total)	7440-47-3	2.00E+00	4.00E+01
Chromium (hexavalent)	18540-29-9	2.00E+00	4.00E+01
Cobalt	7440-48-4	na	na
Copper	7440-50-8	na	na
Iron	7439-89-6	na	na
Lead	7439-92-1	na	na
Magnesium	7439-95-4	na	na
Manganese	7439-95-4	na	na
Mercury	7439-97-6	1.00E-01	2.00E+00
Molybdenum	7439-98-7	na	na
Nickel	7440-02-0	7.00E+00	1.40E+02
Platinum	7440-06-4	na	na
Potassium	7440-09-7	na	na
Selenium	7782-49-2	3.00E-01	6.00E+00
Silver	7440-22-4	2.00E+00	4.00E+01
Sodium	7440-23-5	na	na
Strontium	7440-24-6	na	na
Tin	7440-31-5	na	na
Titanium	7440-32-6	na	na
Thallium	7440-28-0	na	na
Tungsten	7440-33-7	na	na
Uranium	7440-61-1	na	na
Vanadium	7440-62-2	3.00E+02	6.00E+03
Zinc	7440-66-6	6.20E+02	1.24E+04
Wet Chem Analytes			
Alkalinity (total, CO ₃ ²⁻ , HCO ₃ ⁻)	na	na	na
Ammonia	7664-41-7	na	na
Bromide	24959-67-9	na	na
Chlorate	7790-93-4	na	na
Chloride	16887-00-6	na	na
Conductivity	na	na	na
Cyanide (total)	57-12-5	2.00E+00	4.00E+01
Nitrate	7697-37-2	na	na
Nitrite	14797-85-0	na	na
Perchlorate	14797-73-0	na	na
pH	na	na	na
Phosphate (total)	14265-44-2	na	na
Sulfate	14808-79-8	na	na
Surfactants (MBAS)	na	na	na
TDS	na	na	na
Total Organic Carbon	7440-44-0	na	na
TSS	na	na	na

Table 7
List of Soil Screening Levels (SSLs) Based on the Soil to Groundwater Pathway for Site-Related Chemicals
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		DAF = 1	DAF = 20
		mg/kg	mg/kg
TPH			
GRO(C6-C10)	na	na	na
DRO(C10-C28)	na	na	na
ORO (C28-C40)	na	na	na
Organochlorine Pesticides			
4,4'-DDD	72-54-8	8.00E-01	1.60E+01
4,4'-DDE	72-55-9	3.00E+00	6.00E+01
4,4'-DDT	50-29-3	2.00E+00	4.00E+01
Aldrin	309-00-2	2.00E-02	4.00E-01
alpha-BHC	319-84-6	3.00E-05	6.00E-04
alpha-Chlordane	5103-71-9	na	na
beta-BHC	319-85-7	1.00E-04	2.00E-03
Chlordane, technical	57-74-9	5.00E-01	1.00E+01
delta-BHC	319-86-8	na	na
Dieldrin	60-57-1	2.00E-04	4.00E-03
Endosulfan I	959-98-8	na	na
Endosulfan II	33213-85-9	na	na
Endosulfan sulfate	1031-07-8	na	na
Endrin	72-20-8	5.00E-02	1.00E+00
Endrin aldehyde	7421-93-4	na	na
Endrin Ketone	53494-70-5	na	na
gamma-BHC (Lindane)	58-89-9	5.00E-04	1.00E-02
gamma-Chlordane	5103-74-2	na	na
Heptachlor	76-44-8	1.00E+00	2.00E+01
Heptachlor epoxide	1024-57-3	3.00E-02	6.00E-01
Hexachlorobenzene	118-74-1	1.00E-01	2.00E+00
Methoxychlor	72-43-5	8.00E+00	1.60E+02
Toxaphene	6001-35-2	2.00E+00	4.00E+01
PCBs as Aroclors			
Aroclor 1016	12674-11-2	na	na
Aroclor 1221	11104-28-2	na	na
Aroclor 1232	11141-16-5	na	na
Aroclor 1242	53469-21-9	na	na
Aroclor 1248	12672-29-6	na	na
Aroclor 1254	11097-89-1	na	na
Aroclor 1260	11096-82-5	na	na
Dioxins & Furans			
1,2,3,4,6,7,8,9-Ocatchlorodibenzofuran	39001-02-0	na	na
1,2,3,4,6,7,8,9-Ocatchlorodibenzo-p-dioxin	3268-87-9	na	na
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	na	na
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	na	na
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	na	na
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	na	na
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	na	na
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	na	na
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	na	na
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	na	na
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	na	na
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	na	na
1,2,3,7,8-Pentachlorodibenzof-p-dioxin	40321-76-4	na	na
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	na	na
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	na	na
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	na	na

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		DAF = 1	DAF = 20
		mg/kg	mg/kg
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	na	na
Radionuclides			
Radium 226	13982-63-3	na	na
Radium 228	15262-20-1	na	na
Thorium 228	14274-82-9	na	na
Thorium 230	14269-63-7	na	na
Thorium 232	7440-29-1	na	na
Uranium 234	13966-29-5	na	na
Uranium 235	15117-96-1	na	na
Uranium 238	7440-61-1	na	na
VOCs			
1,1,1,2-Tetrachloroethane	630-20-6	na	na
1,1,1-Trichloroethane	71-55-6	1.00E-01	2.00E+00
1,1,2,2-Tetrachloroethane	79-34-5	2.00E-04	4.00E-03
1,1,2-Trichloroethane	79-00-5	9.00E-04	1.80E-02
1,1-Dichloroethane	75-34-3	1.00E+00	2.00E+01
1,1-Dichloroethene	75-35-4	3.00E-03	6.00E-02
1,1-Dichloropropene	563-58-6	na	na
1,2,3-Trichlorobenzene	120-82-1	3.00E-01	6.00E+00
1,2,3-Trichloropropane	96-18-4	na	na
1,2,4-Trichlorobenzene	120-82-1	3.00E-01	6.00E+00
1,2,4-Trimethylbenzene	95-63-6	na	na
1,2-Dibromo-3-chloropropane	96-12-8	na	na
1,2-Dibromoethane	106-93-4	na	na
1,2-Dichlorobenzene	95-50-1	9.00E-01	1.80E+01
1,2-Dichloroethane	107-06-2	1.00E-03	2.00E-02
1,2-Dichloropropane	78-87-5	1.00E-03	2.00E-02
1,3,5-Trimethylbenzene	108-67-8	na	na
1,3-Dichlorobenzene	541-73-1	na	na
1,3-Dichloropropane	142-28-9	1.00E-03	2.00E-02
1,4-Dichlorobenzene	106-46-7	1.00E-01	2.00E+00
2,2-Dichloropropane	594-20-7	na	na
2-Butanone	78-93-3	na	na
2-Chlorotoluene	95-49-8	na	na
2-Hexanone	591-78-6	na	na
4-Chlorotoluene	106-43-4	na	na
4-Methyl-2-pentanone	108-10-1	na	na
Acetone	67-64-1	8.00E-01	1.60E+01
Benzene	71-43-2	2.00E-03	4.00E-02
Bromobenzene	108-86-1	na	na
Bromochloromethane	74-97-5	na	na
Bromodichloromethane	75-27-4	3.00E-02	6.00E-01
Bromoform	75-25-2	4.00E-02	8.00E-01
Bromomethane	74-83-9	1.00E-02	2.00E-01
Carbon Tetrachloride	56-23-5	3.00E-03	6.00E-02
Chlorobenzene	108-90-7	7.00E-02	1.40E+00
Chloroethane	75-00-3	na	na
Chloroform	67-66-3	3.00E-02	6.00E-01
Chloromethane	74-87-3	na	na
cis-1,2-Dichloroethene	156-92-2	na	na
cis-1,3-Dichloropropene	10061-01-5	na	na
Dibromochloromethane	124-48-1	2.00E-02	4.00E-01
Dibromomethane	74-95-3	na	na

Table 7
List of Soil Screening Levels (SSLs) Based on the Soil to Groundwater Pathway for Site-Related Chemicals
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		DAF = 1	DAF = 20
		mg/kg	mg/kg
Dichlorodifluoromethane	75-71-8	na	na
Diisopropyl ether (DIPE)	108-20-3	na	na
VOCs (continued)			
Ethylbenzene	100-41-4	7.00E-01	1.40E+01
Ethyl-tert-butyl ether (ETBE)	637-92-3	na	na
Hexachlorobutadiene	87-68-3	1.00E-01	2.00E+00
Isopropyl Benzene	98-28-8	na	na
Methylene Chloride	75-09-2	1.00E-03	2.00E-02
Methyl-tert-butyl ether (MTBE)	1634-04-4	na	na
Naphthalene	91-20-3	4.00E+00	8.00E+01
n-Butylbenzene	104-51-8	na	na
n-Propylbenzene	103-65-1	na	na
p-Isopropyltoluene	99-87-6	na	na
sec-Butylbenzene	135-98-8	na	na
Styrene	100-42-5	2.00E-01	4.00E+00
tert-Amyl-methyl ether (TAME)	994-05-8	na	na
tert-Butyl alcohol (TBA)	75-65-0	na	na
tert-Butylbenzene	98-06-6	na	na
Tetrachloroethene	127-18-4	3.00E-03	6.00E-02
Toluene	108-88-3	6.00E-01	1.20E+01
trans-1,2-Dichloroethene	156-60-5	3.00E-02	6.00E-01
trans-1,3-Dichloropropene	10061-02-6	na	na
Trichloroethene	79-01-6	3.00E-03	6.00E-02
Trichlorofluoromethane	75-69-4	na	na
Vinyl Chloride	75-01-4	7.00E-04	1.40E-02
Xylenes (total)	1330-20-7	1.00E+01	2.00E+02
SVOCs			
1,4-Dioxane	123-91-1	na	na
2-Methylnaphthalene	91-57-6	na	na
Acenaphthene	83-32-9	2.90E+01	5.80E+02
Acenaphthylene	208-96-8	na	na
Anthracene	120-12-7	5.90E+02	1.18E+04
Benzo(a)anthracene	56-55-3	8.00E-02	1.60E+00
Benzo(a)pyrene	50-32-8	4.00E-01	8.00E+00
Benzo(b)fluoranthene	205-99-2	2.00E-01	4.00E+00
Benzo(g,h,i)perylene	191-24-2	na	na
Benzo(k)fluoranthene	207-08-9	2.00E+00	4.00E+01
Bis(2-ethylhexyl)phthalate	117-81-7	1.80E+02	3.60E+03
Butylbenzylphthalate	85-68-7	8.10E+02	1.62E+04
Chrysene	218-01-9	8.00E+00	1.60E+02
Dibenzo(a,h)anthracene	53-70-3	8.00E-02	1.60E+00
Diethylphthalate	84-66-2	na	na
Dimethylphthalate	131-11-3	na	na
Di-n-butylphthalate	84-74-2	2.70E+02	5.40E+03
Di-n-octylphthalate	117-84-0	na	na
Fluoranthene	206-44-0	2.10E+02	4.20E+03
Fluorene	86-73-7	2.80E+01	5.60E+02
Hexachlorobenzene	118-74-1	1.00E-01	2.00E+00
Indeno(1,2,3-cd)pyrene	193-39-5	7.00E-01	1.40E+01
Naphthalene	91-20-3	4.00E+00	8.00E+01

Table 7
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		DAF = 1	DAF = 20
		mg/kg	mg/kg
Nitrobenzene	98-95-3	7.00E-03	1.40E-01
Octachlorostyrene	29082-74-4	na	na
Phenanthrene	85-01-8	na	na
Pyrene	129-00-0	2.10E+02	4.20E+03
Pyridine	110-86-1	na	na
Asbestos			
Amphibole Protocol Structures	na	na	na
Chrysotile Protocol Structures	na	na	na
Formaldehyde			
Formaldehyde	50-00-0	na	na
PCBs as congeners			
Total PCBs	na	na	na
3,3',4,4'-tetraCB (PCB 77)	32598-13-3	na	na
3,4,4',5-tetraCB (PCB 81)	70362-50-4	na	na
3,3',4,4',5-pentaCB (PCB 126)	57465-28-8	na	na
3,3',4,4',5,5'-hexaCB (PCB 169)	32774-16-6	na	na
2,3,3',4,4'-pentaCB (PCB 105)	32598-14-4	na	na
2,3,4,4',5-pentaCB (PCB 114)	74472-37-0	na	na
2,3',4,4',5-pentaCB (PCB 118)	31208-00-6	na	na
2',3,4,4',5-pentaCB (PCB 123)	65510-44-3	na	na
2,3,3',4,4',5-hexaCB (PCB 156)	38380-08-4	na	na
2,3,3',4,4',5'-hexaCB (PCB 157)	69782-90-7	na	na
2,3',4,4',5,5'-hexaCB (PCB 167)	52663-72-6	na	na
2,3,3',4,4',5,5'-heptaCB (PCB 189)	39635-31-9	na	na
CAS = Chemical Abstracts Service. DAF = Dilution and Attenuation Factor na = not applicable Tronox SRC list approved by NDEP on June 3, 2008. SSL - Soil screening level based on the soil to groundwater migration pathway. (a) USEPA Region 8 Medium-Specific Soil Screening Level Table, March 2008. Values for DAF = 20 were calculated by multiplying the DAF = 1 values by 20.			

Table 8
Summary of Well Completion Data
Phase B Source Area Investigation Work Plan Area III
 Tronox Facility - Henderson, Nevada
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Well ⁽¹⁾	Owner	X	Y	TOC Elevation	Ground Elevation	Casing Stickup ²	Muddy Creek Elevation ³	QAL Thickness ⁴	Hole Total Depth	Well Total Depth	Depth to Screen Top	Depth to Screen Bottom	Screen Interval	Status	Type	Aquifer
Note: Proposed Phase B wells for Area III are listed on Table 3.																
ARP-1	Kerr-McGee	828593.16400	26728365.51400	1613.32	1613.33	-0.01	1573.3	40.0	45.0	44.2	14.0	44.0	30.0	Active	Monitoring	Qal
ARP-2	Kerr-McGee	828726.35300	26728363.61200	1612.79	1613.03	-0.24	1562.0	51.0	52.0	51.2	16.0	51.0	35.0	Active	Monitoring	Qal
ARP-3	Kerr-McGee	828860.76500	26728364.88700	1612.17	1612.38	-0.21	1570.4	42.0	45.0	44.2	14.0	44.0	30.0	Active	Monitoring	Qal
ARP-4	Kerr-McGee	829171.78600	26728363.72300	1613.01	1613.13	-0.12	1576.1	37.0	45.0	45.2	15.0	45.0	30.0	P&A	Monitoring	Qal
ARP-4A	Tronox	829167.88600	26728411.80800	1615.47	1615.72	-0.25	1583.2	32.5	35.0	33.0	17.7	32.7	15.0	Active	Monitoring	Qal
ARP-5	Kerr-McGee	829395.33800	26728452.84200	1615.01	1615.41	-0.40	<1576.4	>29.0	29.0	29.2	14.0	29.0	15.0	P&A	Monitoring	Qal
ARP-5A	Tronox	829375.00500	26728458.42700	1616.10	1616.50	-0.40	1579.0	37.5	40.0	38.0	12.7	37.7	25.0	Active	Monitoring	Qal
ARP-6	Kerr-McGee	829531.51000	26728496.98500	1615.28	1615.48	-0.19	<1575.5	>40.0	40.0	39.2	14.0	39.0	25.0	P&A	Monitoring	Qal
ARP-6A	Kerr-McGee	829514.77800	26728480.20000	1614.11	1614.27	-0.17	<1576.27	>38.0	38.2	38.2	18.0	38.0	20.0	P&A	Monitoring	Qal
ARP-6B	Tronox	829520.51600	26728499.91700	1615.56	1615.70	-0.15	1573.7	42.0	43.0	43.0	27.7	42.7	15.0	Active	Monitoring	Qal
ARP-7	Kerr-McGee	829668.21600	26728501.08000	1613.20	1613.39	-0.19	1571.4	42.0	45.0	39.2	14.0	39.0	25.0	Active	Monitoring	Qal
ART-1	Kerr-McGee	828543.96100	26728122.70700	1614.47	1615.57	-1.10	1562.6	53.0	58.0	56.0	14.0	54.0	40.0	Active	Recovery	Qal
ART-1A	Kerr-McGee	828536.78090	26728122.21220	1614.40	1615.80	-1.40	1561.8	54.0	58.0	56.0	19.0	54.0	35.0	Active	Recovery	Qal
ART-2	Kerr-McGee	828625.02500	26728084.71200	1617.10	1617.42	-0.32	1562.4	55.0	57.0	56.0	19.0	54.0	35.0	Active	Recovery	Qal
ART-2A	Kerr-McGee	828618.82410	26728085.55750	1616.81	1618.33	-1.52	1561.3	57.0	58.0	58.0	21.0	56.0	35.0	Active	Recovery	Qal
ART-3	Kerr-McGee	828775.42200	26728085.17000	1617.94	1617.61	0.33	1572.6	45.0	48.5	47.0	15.0	45.0	30.0	Active	Recovery	Qal
ART-3A	Kerr-McGee	828768.70360	26728084.69710	1617.60	1619.14	-1.54	1566.1	53.0	58.0	55.0	18.0	53.0	35.0	Active	Recovery	Qal
ART-4	Kerr-McGee	828850.69300	26728085.25800	1617.46	1617.91	-0.45	1573.9	44.0	48.0	46.0	19.0	44.0	25.0	Active	Recovery	Qal
ART-4A	Kerr-McGee	828844.48660	26728084.58090	1617.46	1618.91	-1.45	1574.9	44.0	48.0	46.0	19.0	44.0	25.0	Active	Recovery	Qal
ART-5	Kerr-McGee	829369.97600	26728128.79100	1614.06	1614.18	-0.12	1589.2	25.0	28.0	27.0	15.0	25.0	10.0	Active	Recovery	Qal
ART-6	Kerr-McGee	829472.90500	26728140.59900	1615.31	1616.25	-0.94	1582.3	34.0	38.0	36.0	14.0	34.0	20.0	Active	Recovery	Qal
ART-6A	Kerr-McGee	829478.82640	26728140.78980	1614.71	1616.26	-1.55	1582.3	34.0	38.0	36.0	19.0	34.0	15.0	Active	Recovery	Qal
ART-7	Kerr-McGee	829576.52100	26728145.70600	1615.38	1616.32	-0.94	1577.3	>39.0	38.9	38.9	16.9	36.9	20.0	Active	Recovery	Qal
ART-7A	Kerr-McGee	829582.79470	26728143.19440	1614.78	1616.35	-1.57	1575.0	>41.0	40.0	41.0	18.0	38.0	20.0	Active	Recovery	Qal
ART-8	Kerr-McGee	828697.72000	26728084.09600	1617.69	1618.54	-0.85	1567.5	51.0	54.0	50.5	18.0	48.0	30.0	Active	Recovery	Qal
ART-8A	Kerr-McGee	828691.88650	26728083.30800	1617.10	1618.53	-1.43	1566.5	52.0	58.0	54.0	22.0	52.0	30.0	Active	Recovery	Qal
ART-9	Tronox	829525.56800	26728143.32400	1615.06	1616.16	-1.10	1576.2	40.0	45.0	43.0	20.5	40.5	20.0	Active	Recovery	Qal
B-1	Kerr-McGee	828417.50000	26728049.50000	-	1616.02	-	1577.5	38.5	50.5	-	-	-	-	P&A	Boring	-
B-2	Kerr-McGee	828808.50000	26728095.50000	-	1616.10	-	1572.1	44.0	54.5	-	-	-	-	P&A	Boring	-
B-3	Kerr-McGee	829209.90000	26728102.80000	-	1613.92	-	1592.4	21.5	33.5	-	-	-	-	P&A	Boring	-
B-4	Kerr-McGee	829599.10000	26728133.50000	-	1615.94	-	1573.9	42.0	54.5	-	-	-	-	P&A	Boring	-
B-5	Kerr-McGee	829209.95000	26728070.85500	-	1617.01	-	1595.0	22.0	29.3	-	-	-	-	P&A	Boring	-
B-6	Kerr-McGee	829219.21700	26728071.17300	-	1617.09	-	1595.1	22.0	46.0	-	-	-	-	P&A	Boring	-
B-7	Kerr-McGee	829448.04200	26728078.31600	-	1617.06	-	1584.1	33.0	41.0	-	-	-	-	P&A	Boring	-
B-8	Kerr-McGee	829456.62800	26728079.61200	-	1617.03	-	1583.5	33.5	56.0	-	-	-	-	P&A	Boring	-
I-A	Kerr-McGee	827186.26900	26719753.34900	1753.20	1750.10	3.10	1732.1	18.0	42.5	41.0	21.2	40.5	19.3	P&A	Recovery	MCfg1
I-AA	Tronox	827174.40000	26719770.85000	1753.93	1751.08	2.86	1721.1	30.0	47.0	46.0	23.7	43.7	20.0	Active	Recovery	MCfg1
I-A-R	Kerr-McGee	827414.35000	26719429.52000	1758.35	1758.02	0.33	1731.0	27.0	45.0	45.0	25.0	45.0	20.0	Active	Recovery	MCfg1
I-B	Kerr-McGee	827282.89000	26719808.09000	1752.70	1750.00	2.70	1723.0	27.0	46.0	43.0	17.8	42.5	24.7	Active	Recovery	Qal/MCf1g
I-C	Kerr-McGee	827486.47200	26719791.89800	1752.80	1752.00	0.80	1724.5	27.5	44.5	43.0	13.2	42.5	29.3	Active	Recovery	MCf1g
I-D	Kerr-McGee	827582.20700	26719805.21000	1752.70	1750.00	2.70	1721.0	29.0	47.0	45.0	16.0	44.5	28.5	Active	Recovery	Qal/MCf1g
I-E	Kerr-McGee	827733.36900	26719825.39300	1752.40	1750.00	2.40	1723.0	27.0	49.0	44.0	21.5	43.5	22.0	Active	Recovery	MCf1g
I-F	Kerr-McGee	827879.69900	26719845.57900	1749.70	1747.70	2.00	1717.7	30.0	50.0	43.8	11.8	43.3	31.5	Active	Recovery	Qal/MCf1g
I-G	Kerr-McGee	828030.70200	26719866.33400	1752.50	1749.20	3.30	1721.2	28.0	43.5	39.3	9.5	38.8	29.3	Active	Recovery	Qal/MCf1g
I-H	Kerr-McGee	828177.54600	26719887.12500	1753.20	1750.30	2.90	1721.8	28.5	47.0	43.6	13.6	43.1	29.5	Active	Recovery	MCf1g
I-I	Kerr-McGee	828375.03600	26719914.40400	1745.50	1742.30	3.20	1715.8	26.5	45.0	41.0	11.3	40.5	29.2	Active	Recovery	Qal/MCf1g
I-J	Kerr-McGee	828573.93500	26719940.33200	1750.10	1746.50	3.60	1718.5	28.0	45.0	41.0	11.2	40.5	29.3	Active	Recovery	Qal/MCf1g
I-K	Kerr-McGee	828738.08900	26719962.86700	1746.00	1750.08	-4.08	1725.6	24.5	43.0	35.8	7.0	35.2	28.2	Active	Recovery	MCf1g
I-L	Kerr-McGee	827352.85500	26719803.22900	1751.70	1748.30	3.40	1720.3	28.0	45.0	40.0	9.0	39.0	30.0	Active	Recovery	Qal/MCf1g
I-M	Kerr-McGee	827669.83400	26719817.41600	1752.90	1749.20	3.70	1719.2	30.0	45.0	40.0	9.0	39.0	30.0	Active	Recovery	Qal/MCf1g
I-N	Kerr-McGee	827802.25100	26719837.84600	1751.40	1747.80	3.60	1713.8	34.0	45.0	38.0	7.0	37.0	30.0	Active	Recovery	Qal/MCf1g
I-O	Kerr-McGee	828263.13000	26719897.99700	1752.80	1749.00	3.80	1719.0	30.0	40.0	40.0	9.0	39.0	30.0	Active	Recovery	Qal/MCf1g
I-P	Kerr-McGee	828221.65800	26719892.08400	1751.70	1749.20	2.50	1716.2	33.0	45.0	44.5	14.0	44.0	30.0	Active	Recovery	Qal/MCf1g
I-Q	Kerr-McGee	827952.14900	26719855.17400	1753.10	1749.40	3.70	1721.4	28.0	40.0	40.0	9.6	39.6	30.0	Active	Recovery	Qal/MCf1g
I-R	Kerr-McGee	827316.05500	26719801.84800	1751.35	1749.06	2.29	1721.6	27.5	45.0	43.0	9.8	39.8	30.0	Active	Recovery	Qal/MCf1g
I-S	Kerr-McGee	827404.20400	26719799.87400	1750.03	1747.57	2.46	1721.1	26.5	45.2	45.2	12.0	42.0	30.0	Active	Recovery	Qal/MCf1g
I-T	Kerr-McGee	828073.49500	26719873.65600	1751.66	1749.03	2.63	1718.0	31.0	60.0	45.2	12.0	42.0	30.0	Active	Recovery	Qal/MCf1g
I-U	Kerr-McGee	828118.59900	26719879.67000	1752.17	1749.54	2.63	1721.0	28.5	45.0	45.0	12.0	42.0	30.0	Active	Recovery	Qal/MCf1g
I-V	Kerr-McGee	828326.27500	26719894.96600	1752.13	1749.46	2.67	1717.0	32.5	55.0	45.0	12.0	42.0	30.0	Active	Recovery	Qal/MCf1g

Well ⁽¹⁾	Owner	X	Y	TOC Elevation	Ground Elevation	Casing Stickup ²	Muddy Creek Elevation ³	QAL Thickness ⁴	Hole Total Depth	Well Total Depth	Depth to Screen Top	Depth to Screen Bottom	Screen Interval	Status	Type	Aquifer
Note: Proposed Phase B wells for Area III are listed on Table 3.																
I-W	Kerr-McGee	828245.87050	26719895.87300	1751.50	1749.12	2.38	1727.1	33.0	51.0	50.5	20.0	50.0	30.0	Active	Monitoring	Qal/MCf1
I-X	Kerr-McGee	827840.22800	26719843.07900	1748.60	1746.22	2.38	1713.2	33.0	51.0	50.5	20.0	50.0	30.0	Active	Monitoring	Qal/MCf1
I-Y	Kerr-McGee	827334.68650	26719800.77900	1751.40	1748.89	2.51	1720.9	28.0	50.5	50.5	20.0	50.0	30.0	Active	Monitoring	Qal/MCf1
I-Z	Kerr-McGee	828467.92100	26719923.37400	1743.78	1742.19	1.59	1718.8	25.0	40.0	35.0	15.0	35.0	20.0	Active	Recovery	Qal/MCf1
L615	Tronox	830280.21280	26727856.50052	1619.20	1619.40	-0.20	1597.4	22.0	32.0	--	--	--	--	P&A	Monitoring	--
L617	Tronox	830105.32150	26727662.29666	1618.00	1618.10	-0.10	1584.1	34.0	43.0	--	--	--	--	P&A	Monitoring	--
L619	Tronox	829913.42552	26727855.47570	1618.30	1618.50	-0.20	1588.0	31.0	51.0	--	--	--	--	P&A	Monitoring	--
L621	Tronox	829704.78975	26727855.48554	1617.10	1617.30	-0.20	1585.3	32.0	52.0	--	--	--	--	P&A	Monitoring	--
L623	Tronox	829534.68875	26727856.30282	1617.00	1617.10	-0.10	1583.1	34.0	48.0	--	--	--	--	P&A	Monitoring	--
L625	Tronox	829351.63002	26727855.35871	1616.00	1616.10	-0.10	1589.1	27.0	43.0	--	--	--	38957.0	P&A	Monitoring	--
L627	Tronox	829147.14303	26727855.42052	1615.50	1615.70	-0.20	1591.7	24.0	310.0	--	--	--	39020.0	P&A	Monitoring	--
L629	Tronox	828965.23638	26727851.33802	1615.50	1615.70	-0.20	1591.0	25.0	35.0	--	--	--	--	P&A	Monitoring	--
L631	Tronox	828743.74648	26727840.82158	1615.80	1616.00	-0.20	1575.0	41.0	50.0	--	--	--	18264.0	P&A	Monitoring	--
L631T	Tronox	828696.88123	26727746.52445	1617.60	1617.80	-0.20	1567.8	50.0	59.0	--	--	--	--	P&A	Monitoring	--
L633	Tronox	828491.72328	26727840.25215	1616.20	1616.40	-0.20	1553.4	63.0	78.0	--	--	--	--	P&A	Monitoring	--
L635	Tronox	828302.27900	26727839.45800	1620.94	1621.27	-0.33	1584.9	33.0	148.0	--	--	--	--	Active	Monitoring	--
L637	Tronox	828110.00300	26727839.46500	1621.60	1621.85	-0.25	1589.6	29.0	39.5	--	--	--	--	Active	Monitoring	--
L639	Tronox	827905.57507	26727838.22455	1619.50	1619.50	0.00	1594.5	25.0	38.0	--	--	--	39020.0	Active	Monitoring	--
L641	Tronox	827709.46654	26727836.07889	1622.67	1623.01	-0.34	1601.6	18.0	25.0	--	--	--	38947.0	Active	Monitoring	--
L643	Tronox	827511.16200	26727836.04500	1619.10	1619.30	-0.20	1608.3	11.0	21.0	--	--	--	--	P&A	Monitoring	--
L643T	Tronox	827473.38300	26727731.08300	1620.40	1620.60	-0.20	1605.6	15.0	20.0	--	--	--	--	P&A	Monitoring	--
L645	Tronox	827310.02508	26727833.00475	1625.21	1625.55	-0.34	1608.2	14.0	31.0	0.0	5.0	15.0	38852.0	P&A	Monitoring	--
L647	Tronox	827105.86200	26727830.12600	1623.60	1623.80	-0.20	1604.8	19.0	25.0	--	--	--	38920.0	P&A	Monitoring	--
L649	Tronox	826903.00300	26727824.74600	1624.00	1624.20	-0.20	1604.2	20.0	25.0	--	--	--	--	P&A	Monitoring	--
L651	Tronox	826708.65161	26727828.13599	1629.02	1629.63	-0.61	1609.2	17.0	25.0	--	--	--	--	P&A	Monitoring	--
L653	Tronox	826510.58500	26727825.33500	1630.71	1631.15	-0.44	1608.6	19.0	25.0	--	--	--	--	P&A	Monitoring	--
L676	Tronox	824194.88000	26727814.72500	1640.90	1641.10	-0.20	1602.0	39.0	45.0	--	--	--	--	P&A	Monitoring	--
M-1	Kerr-McGee	828079.15800	26718315.28100	1794.43	1793.04	1.39	1753.0	40.0	50.0	45.3	34.8	44.8	10.0	P&A	Monitoring	Qal/MCf1
M-2	Kerr-McGee	827986.30000	26718824.50000	--	--	--	--	40.5	46.0	39.5	29.0	39.0	10.0	P&A	Monitoring	Qal
M-2A	Kerr-McGee	827984.74600	26718769.56400	1781.16	1780.23	0.92	1740.2	40.0	46.0	45.0	30.0	40.0	10.0	Active	Monitoring	Qal
M-3	Kerr-McGee	827712.86250	26718750.71528	--	--	--	--	42.0	45.0	40.0	30.0	40.0	10.0	P&A	Monitoring	Qal
M-4	Kerr-McGee	827547.93194	26718711.65278	--	--	--	--	39.5	45.0	40.0	30.0	40.0	10.0	P&A	Monitoring	Qal
M-5	Kerr-McGee	826179.53090	26720017.02902	--	--	--	--	31.0	43.5	38.5	28.0	38.0	10.0	P&A	Monitoring	Qal/MCf1
M-5A	Kerr-McGee	826179.28500	26719961.11800	1751.80	1749.69	2.11	1718.7	31.0	50.0	50.0	40.0	50.0	10.0	Active	Monitoring	MCf1
M-6	Kerr-McGee	825984.60676	26721055.45592	0.00	0.00	0.00	0.0	0.0	36.0	35.0	26.0	36.0	10.0	P&A	Monitoring	MCf1
M-6A	Kerr-McGee	825984.53600	26721013.68700	1733.19	1730.84	2.35	1696.8	34.0	46.0	43.6	26.8	41.5	14.7	Active	Monitoring	Qal/MCf1
M-7	Kerr-McGee	826117.07948	26721040.85384	0.00	0.00	0.00	0.0	0.0	36.0	36.0	26.0	36.0	10.0	P&A	Monitoring	Qal/MCf1
M-7A	Kerr-McGee	826117.87500	26720989.78400	1733.00	1731.00	2.00	1705.5	25.5	39.0	37.1	21.0	35.1	14.1	P&A	Monitoring	Qal/MCf1
M-7B	Kerr-McGee	826106.49700	26720979.66100	1732.83	1730.35	2.48	1700.9	29.5	52.5	52.5	25.5	50.5	25.0	Active	Monitoring	Qal/MCf1
M-8	Kerr-McGee	828162.08125	26718870.07292	--	--	--	--	43.0	45.5	41.0	30.5	40.5	10.0	P&A	Monitoring	Qal/MCf1
M-9	Kerr-McGee	827843.07083	26718802.79861	--	--	--	--	42.0	46.5	41.0	30.5	40.5	10.0	P&A	Monitoring	Qal
M-10	Kerr-McGee	828536.17500	26716636.63300	1836.21	1834.11	2.10	1807.1	27.0	75.0	67.0	43.0	63.0	20.0	Active	Monitoring	Qal/MCf1
M-11	Kerr-McGee	828617.02700	26717608.55900	1815.53	1813.45	2.08	1768.5	45.0	60.0	58.0	33.3	53.0	19.7	Active	Monitoring	Qal/MCf1
M-12	Kerr-McGee	828179.44236	26717574.49999	--	--	--	--	38.0	65.0	52.0	37.0	47.0	10.0	P&A	Monitoring	MCf1
M-12A	Kerr-McGee	828178.52100	26717575.29100	1812.76	1812.72	0.04	1767.7	45.0	50.0	50.0	40.0	50.0	10.0	Active	Monitoring	MCf1
M-13	Kerr-McGee	827806.03000	26717477.65500	1814.89	1813.49	1.40	1776.0	37.5	55.0	52.5	28.0	48.0	20.0	Active	Monitoring	MCf1
M-14	Kerr-McGee	827039.03300	26719392.04100	1759.83	1758.48	1.35	1730.5	28.0	37.0	37.0	22.0	37.0	15.0	P&A	Monitoring	MCf1
M-14A	Kerr-McGee	827045.36120	26719382.66590	1760.93	1758.38	2.55	1730.4	28.0	40.2	40.2	20.0	40.0	20.0	Active	Monitoring	MCf1
M-15	Kerr-McGee	827778.41800	26719831.96900	1750.97	1749.55	1.42	1715.6	34.0	41.0	41.0	26.0	41.0	15.0	P&A	Monitoring	MCf1
M-16	Kerr-McGee	827691.16111	26719314.95139	--	--	--	--	23.0	37.0	37.0	22.0	37.0	15.0	P&A	Monitoring	MCf1
M-17	Kerr-McGee	828017.30300	26719095.97000	1770.92	1767.68	3.24	1732.7	35.0	42.0	42.0	27.0	42.0	15.0	P&A	Monitoring	MCf1
M-17A	Kerr-McGee	828061.72100	26719053.73600	1768.99	1768.95	0.04	1725.0	44.0	45.0	45.0	35.0	45.0	10.0	Active	Monitoring	Qal/MCf1
M-18	Kerr-McGee	828665.45200	26720182.87100	1740.48	1738.95	1.53	1738.9	23.5	28.0	28.0	14.0	24.0	10.0	Active	Monitoring	Qal
M-19	Kerr-McGee	828846.18700	26719350.02600	1766.77	1764.41	2.36	1733.9	30.5	40.0	40.0	14.5	34.5	20.0	Active	Monitoring	MCf1
M-20	Kerr-McGee	828941.16112	26718097.50347	--	--	--	--	39.5	45.0	44.0	20.4	40.4	20.0	P&A	Monitoring	Qal
M-21	Kerr-McGee	827792.85900	26718359.30400	1792.07	1790.37	1.70	1753.4	37.0	43.0	43.0	18.0	38.0	20.0	Active	Monitoring	MCf1
M-22	Kerr-McGee	828269.36443	26719567.46518	--	--	--	--	28.5	35.0	35.0	11.0	31.0	20.0	P&A	Monitoring	Qal/MCf1
M-22A	Kerr-McGee	826270.10900	26719531.62700	1759.46	1758.90	0.56	1730.4	28.5	37.0	36.4	16.0	36.0	20.0	Active	Monitoring	Qal/MCf1
M-23	Kerr-McGee	827373.96196	26721391.24598	1720.35	1717.54	2.81	1680.0	37.5	43.0	43.0	9.4	37.4	28.0	Active	Monitoring	Qal

Table 8
 Summary of Well Completion Data
 Phase B Source Area Investigation Work Plan Area III
 Tronox Facility - Henderson, Nevada
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Well ⁽¹⁾	Owner	X	Y	TOC Elevatoin	Ground Elevation	Casing Stickup ²	Muddy Creek Elevation ³	QAL Thickness ⁴	Hole Total Depth	Well Total Depth	Depth to Screen Top	Depth to Screen Bottom	Screen Interval	Status	Type	Aquifer
Note: Proposed Phase B wells for Area III are listed on Table 3.																
M-24	Kerr-McGee	827896.23924	26718405.66319	0.00	0.00	0.00	—	36.0	40.0	39.0	24.0	39.0	15.0	P&A	Monitoring	Qal/MCf1
M-25	Kerr-McGee	827677.80400	26719503.56900	1759.93	1756.89	3.04	1731.9	25.0	40.0	39.0	24.0	39.0	15.0	Active	Monitoring	Qal/MCf1
M-26	Kerr-McGee	827345.02395	26719751.14931	0.00	0.00	0.00	—	35.0	40.0	39.0	24.0	39.0	15.0	P&A	Monitoring	Qal/MCf1
M-27	Kerr-McGee	827811.51500	26720201.50000	1742.25	1739.09	3.16	<1699.10	>40.00	40.0	39.0	24.0	39.0	15.0	P&A	Monitoring	Qal
M-28	Kerr-McGee	829027.00000	26717765.00000	0.00	—	—	—	31.0	50.5	49.0	39.0	49.0	10.0	P&A	Monitoring	MCf1
M-29	Kerr-McGee	828999.00000	26717598.00000	1806.60	1816.60	-10.00	1781.6	25.0	42.0	42.0	22.0	42.0	20.0	Active	Monitoring	MCf1
M-30	Kerr-McGee	829195.06737	26717251.14929	—	—	—	—	35.0	46.5	44.7	34.7	44.7	10.0	P&A	Monitoring	MCf1
M-31	Kerr-McGee	828353.44200	26718328.79200	1789.63	1787.95	1.68	1753.0	35.0	45.0	45.0	30.0	45.0	15.0	P&A	Monitoring	Qal/MCf1
M-31A	Kerr-McGee	828366.37100	26718289.57800	1796.87	1796.94	-0.07	1753.9	43.0	55.0	55.0	35.0	55.0	20.0	Active	Monitoring	MCf1
M-32	Kerr-McGee	828592.63300	26718354.06900	1799.86	1795.89	3.97	1761.9	34.0	45.0	45.0	30.0	45.0	15.0	Active	Monitoring	MCf1
M-33	Kerr-McGee	828784.12200	26718382.72600	1800.29	1797.03	3.26	1762.0	35.0	45.0	45.0	30.0	45.0	15.0	Active	Monitoring	MCf1
M-34	Kerr-McGee	828318.24600	26718833.45100	1777.10	1774.04	3.06	1739.0	35.0	40.0	40.0	25.0	40.0	15.0	Active	Monitoring	Qal/MCf1
M-35	Kerr-McGee	828509.37100	26718840.12500	1775.95	1773.05	2.90	1739.6	33.5	40.0	40.0	25.0	40.0	15.0	Active	Monitoring	MCf1
M-36	Kerr-McGee	828069.09200	26719556.62800	1759.82	1756.89	2.93	1729.4	27.5	35.0	35.0	20.0	35.0	15.0	Active	Monitoring	MCf1
M-37	Kerr-McGee	827414.22300	26719422.01200	1761.06	1758.13	2.93	1731.1	27.0	35.0	35.0	20.0	35.0	15.0	Active	Monitoring	MCf1
M-38	Kerr-McGee	827877.65500	26719523.27300	1759.73	1757.82	1.91	1732.3	25.5	35.0	35.0	20.0	35.0	15.0	Active	Monitoring	MCf1
M-39	Kerr-McGee	828548.82100	26719525.34100	1761.13	1758.61	2.52	1724.6	34.0	40.0	40.0	24.9	39.9	15.0	Active	Monitoring	Qal/MCf1
M-40	Kerr-McGee	828397.53490	26718038.58417	—	—	—	—	32.0	45.0	45.0	30.0	45.0	15.0	P&A	Monitoring	MCf1
M-44	Kerr-McGee	827005.60968	26722699.15346	1698.31	1695.74	2.57	1675.7	20.0	35.0	35.0	5.0	35.0	30.0	Active	Monitoring	Qal/MCf1
M-46	Kerr-McGee	827600.23776	26721491.04564	1717.97	1715.04	2.93	1674.0	41.0	45.0	44.2	4.2	44.2	40.0	P&A	Monitoring	Qal/MCf1
M-47	Kerr-McGee	827279.12948	26721601.59989	1716.90	1714.21	2.69	1673.2	41.0	45.0	40.1	5.1	40.1	35.0	P&A	Monitoring	Qal
M-48	Kerr-McGee	828303.84855	26721337.51577	1720.78	1718.43	2.35	1686.4	32.0	36.1	36.1	6.1	36.1	30.0	Active	Monitoring	Qal/MCf1
M-49	Kerr-McGee	827945.93588	26721315.70479	1720.78	1718.30	2.48	1678.3	40.0	46.5	46.5	4.0	44.0	40.0	P&A	Monitoring	Qal/MCf1
M-50	Kerr-McGee	828083.46900	26718315.58400	1795.64	1793.08	2.56	1753.1	40.0	60.0	60.0	39.6	59.6	20.0	Active	Monitoring	MCf1
M-52	Kerr-McGee	828394.47700	26717985.38500	1801.92	1799.34	2.58	1767.3	32.0	45.0	45.0	34.5	44.5	10.0	Active	Monitoring	MCf1
M-53	Kerr-McGee	827090.47700	26719738.56400	1753.00	1751.31	1.69	1723.3	28.0	41.0	40.9	20.9	40.9	20.0	P&A	Monitoring	Qal/MCf1
M-54	Kerr-McGee	827370.11900	26719780.70700	1750.47	1748.59	1.88	1718.4	30.2	46.0	44.8	14.8	44.8	30.0	P&A	Monitoring	Qal/MCf1
M-55	Kerr-McGee	827683.03700	26719819.35800	1750.88	1749.43	1.45	1718.4	31.0	46.0	44.6	14.6	44.6	30.0	Active	Monitoring	Qal/MCf1
M-56	Kerr-McGee	827980.36200	26719859.51500	1750.83	1749.65	1.18	1725.2	24.5	40.0	40.0	15.0	40.0	25.0	Active	Monitoring	Qal/MCf1
M-57	Kerr-McGee	826991.77600	26719724.91500	1753.82	1752.27	1.55	1729.3	23.0	41.0	40.1	20.8	40.1	19.3	P&A	Monitoring	MCf1
M-57A	Kerr-McGee	826993.30680	26719716.73860	1753.44	1751.23	2.21	1726.2	25.0	40.2	40.2	20.0	40.0	20.0	Active	Monitoring	MCf1
M-58	Kerr-McGee	828276.61900	26719900.55100	1751.25	1748.72	2.53	1719.2	29.5	45.0	45.0	15.0	45.0	30.0	Active	Monitoring	Qal/MCf1
M-59	Kerr-McGee	828475.10700	26719923.90900	1744.60	1742.39	2.21	1717.9	24.5	40.0	40.0	5.0	40.0	35.0	P&A	Monitoring	Qal/MCf1
M-60	Kerr-McGee	828079.11000	26719872.47500	1750.94	1749.31	1.63	1721.8	27.5	43.0	43.0	7.8	42.8	25.0	Active	Monitoring	MCf1
M-61	Kerr-McGee	828671.93700	26719953.96500	1746.83	1744.26	2.57	1717.8	26.5	41.0	39.0	9.3	38.8	29.5	Active	Monitoring	Qal/MCf1
M-62	Kerr-McGee	827101.19600	26719638.59400	1753.76	1752.21	1.55	1730.7	21.5	33.0	33.0	18.0	32.8	14.8	P&A	Monitoring	Qal/MCf1
M-63	Kerr-McGee	827267.68000	26719662.20600	1752.44	1752.58	-0.14	1725.1	27.5	40.0	39.5	19.6	39.3	19.7	P&A	Monitoring	Qal/MCf1
M-64	Kerr-McGee	827601.30000	26719748.40000	1749.76	1748.80	0.96	1725.8	23.0	38.0	37.5	12.7	37.3	24.6	Active	Monitoring	Qal/MCf1
M-65	Kerr-McGee	827899.71600	26719746.36100	1753.91	1751.84	2.07	1722.8	29.0	40.0	39.2	14.4	39.0	24.6	Active	Monitoring	Qal/MCf1
M-66	Kerr-McGee	828183.64200	26719787.46600	1754.24	1751.70	2.54	1719.2	32.5	43.0	42.5	17.5	42.3	24.8	Active	Monitoring	Qal/MCf1
M-67	Kerr-McGee	828508.51800	26719829.71700	1745.91	1743.64	2.27	1721.1	22.5	38.0	38.0	7.8	37.8	30.0	Active	Monitoring	Qal/MCf1
M-68	Kerr-McGee	828751.00100	26719864.47200	1750.23	1747.16	3.07	1722.7	24.5	41.0	41.0	11.2	39.8	28.6	Active	Monitoring	Qal/MCf1
M-69	Kerr-McGee	827265.73300	26719885.27600	1749.75	1747.80	1.95	1718.3	29.5	40.0	40.0	19.9	39.3	19.4	Active	Monitoring	Qal/MCf1
M-70	Kerr-McGee	827567.35200	26719904.69100	1748.25	1746.00	2.25	1715.5	30.5	41.0	40.2	15.3	40.0	24.7	Active	Monitoring	Qal/MCf1
M-71	Kerr-McGee	827859.70900	26719943.62600	1747.04	1744.87	2.17	1712.4	43.0	43.0	42.2	17.5	42.0	24.5	Active	Monitoring	Qal/MCf1
M-72	Kerr-McGee	828172.12600	26719977.13500	1746.49	1744.62	1.87	1720.1	24.5	36.0	35.0	10.1	34.8	24.7	Active	Monitoring	Qal/MCf1
M-73	Kerr-McGee	828427.82300	26720018.46600	1741.14	1738.87	2.27	1714.9	24.0	36.0	36.0	11.0	35.8	24.8	Active	Monitoring	Qal/MCf1
M-74	Kerr-McGee	828713.65100	26720062.17900	1744.39	1742.51	1.87	1718.5	24.0	39.0	39.0	9.2	38.8	29.6	Active	Monitoring	MCf1
M-75	Kerr-McGee	827718.81700	26718702.64100	1784.21	1781.92	2.29	1733.9	48.0	51.5	51.5	34.6	49.3	14.7	Active	Monitoring	Qal/MCf1
M-76	Kerr-McGee	827550.73400	26718659.92300	1785.22	1781.68	3.54	1744.7	37.0	51.4	51.4	34.6	49.3	14.7	Active	Monitoring	MCf1
M-77	Kerr-McGee	828932.32000	26718045.99500	1800.17	1798.09	2.08	1759.1	39.0	45.9	45.9	29.0	43.8	14.8	Active	Monitoring	Qal/MCf1
M-78	Kerr-McGee	827777.45300	26719838.17000	1751.50	1749.54	1.96	1718.0	31.5	43.6	43.6	21.5	41.5	20.0	Active	Monitoring	Qal/MCf1
M-79	Kerr-McGee	827382.09900	26720048.91700	1742.53	1742.57	-0.04	1715.6	27.0	37.6	37.6	10.8	35.4	24.6	Active	Monitoring	Qal/MCf1
M-80	Kerr-McGee	827759.78600	26720112.87400	1746.04	1743.66	2.38	1711.7	32.0	43.7	43.7	11.5	41.5	30.0	Active	Monitoring	Qal/MCf1
M-81	Kerr-McGee	828142.40000	26720231.20000	—	—	—	—	31.5	42.9	42.9	11.2	40.7	29.5	P&A	Monitoring	Qal/MCf1
M-81A	Kerr-McGee	828139.67100	26720176.85200	1744.16	1742.58	1.58	1711.1	31.5	40.0	40.0	30.0	40.0	10.0	Active	Monitoring	Qal/MCf1
M-82	Kerr-McGee	827383.31988	26720183.55061	—	—	—	—	22.5	33.3	33.3	11.1	31.1	20.0	P&A	Monitoring	Qal/MCf1
M-82A	Kerr-McGee	827379.76600	26720125.64600	1740.21	1739.27	0.94	1716.8	22.5	35.0	35.0	25.0	35.0	10.0	P&A	Monitoring	Qal/MCf1
M-83	Kerr-McGee	827584.70300	26720159.91800	1742.36	1739.89	2.47	1707.4	32.5	42.5	42.5	10.8	40.3	29.5	Active	Monitoring	Qal/MCf1

Table 8
 Summary of Well Completion Data
 Phase B Source Area Investigation Work Plan Area III
 Tronox Facility - Henderson, Nevada
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Well ⁽¹⁾	Owner	X	Y	TOC Elevatoin	Ground Elevation	Casing Stickup ²	Muddy Creek Elevation ³	QAL Thickness ⁴	Hole Total Depth	Well Total Depth	Depth to Screen Top	Depth to Screen Bottom	Screen Interval	Status	Type	Aquifer
Note: Proposed Phase B wells for Area III are listed on Table 3.																
M-84	Kerr-McGee	827766.69700	26720189.12600	1741.03	1738.48	2.55	1714.0	24.5	36.6	36.6	11.8	34.1	22.3	Active	Monitoring	Qal/MCf1
M-85	Kerr-McGee	827962.62900	26720219.87900	1742.52	1740.07	2.45	1714.1	26.0	37.1	37.1	10.4	35.0	24.6	Active	Monitoring	Qal/MCf1
M-86	Kerr-McGee	628141.81700	26720238.99400	1744.23	1741.60	2.63	1709.6	32.0	43.0	43.0	11.3	40.9	29.6	Active	Monitoring	MCf1
M-87	Kerr-McGee	828358.13000	26720276.12500	1744.13	1741.51	2.62	1711.5	30.0	41.0	41.0	9.3	38.8	29.5	Active	Monitoring	MCf1
M-88	Kerr-McGee	828588.74500	26720313.96400	1739.35	1736.93	2.42	1708.9	28.0	39.0	39.0	7.3	36.8	29.5	Active	Monitoring	Qal/MCf1
M-89	Kerr-McGee	827890.08100	26719294.83900	1766.19	1763.69	2.50	1727.7	36.0	40.0	38.2	18.0	38.2	20.2	Active	Monitoring	Qal/MCf1
M-90	Kerr-McGee	827244.40000	26720146.60000	-	1738.00	-	1714.0	24.0	31.0	31.0	15.4	30.4	15.0	P&A	Monitoring	Qal/MCf1
M-91	Kerr-McGee	827165.00000	26720131.10000	-	1738.60	-	1715.6	23.0	30.0	30.0	14.4	29.4	15.0	P&A	Monitoring	Qal/MCf1
M-92	Kerr-McGee	827138.09200	26717531.94100	1800.76	1797.99	2.77	1778.0	20.0	45.5	45.5	34.9	44.9	10.0	Active	Monitoring	MCf1
M-93	Kerr-McGee	827143.44100	26717685.91800	1797.54	1797.81	-0.27	1774.3	23.5	46.0	46.0	35.4	45.4	10.0	Active	Monitoring	MCf1
M-94	Kerr-McGee	827222.84600	26722695.81400	1695.07	1695.27	-0.20	1674.3	21.0	25.5	22.0	12.0	22.0	10.0	Active	Monitoring	Qal
M-95	Kerr-McGee	827426.73800	26722701.69200	1694.09	1694.52	-0.43	1671.5	23.0	23.0	22.0	12.0	22.0	10.0	Active	Monitoring	Qal
M-96	Kerr-McGee	827626.07800	26722700.29800	1693.52	1693.80	-0.28	1673.3	20.5	22.0	20.5	10.5	20.5	10.0	Active	Monitoring	Qal
M-97	Kerr-McGee	827492.46700	26717795.18200	1800.85	1798.35	2.50	1776.4	22.0	50.0	45.5	35.0	45.0	10.0	Active	Monitoring	MCf1
M-98	Kerr-McGee	826873.45000	26720914.14000	1731.90	1729.49	2.41	1700.5	29.0	31.0	31.0	19.0	29.0	10.0	Active	Monitoring	Qal
M-99	Kerr-McGee	827309.68800	26720851.71800	1730.74	1728.29	2.45	1698.3	30.0	34.0	33.0	16.0	31.0	15.0	Active	Monitoring	Qal
M-100	Kerr-McGee	827559.98600	26720820.26400	1730.93	1728.63	2.30	1699.6	29.0	31.0	30.5	19.0	29.0	10.0	Active	Monitoring	Qal
M-101	Kerr-McGee	828060.82600	26720786.74200	1730.81	1728.57	2.24	1701.6	27.0	30.0	29.0	17.0	27.0	10.0	Active	Monitoring	Qal
M-102	Kerr-McGee	828437.97900	26720705.95900	1740.24	1738.18	2.06	1699.7	38.5	42.0	41.4	19.4	39.4	20.0	Active	Monitoring	Qal
M-103	Kerr-McGee	828728.34000	26715622.48000	1866.91	1864.53	2.38	1821.5	43.0	90.0	90.0	69.5	89.5	20.0	Active	Monitoring	MCcg1
M-104	Kerr-McGee	827868.44850	26719945.61150	1747.69	1745.13	2.56	1710.1	35.0	88.0	88.0	75.0	85.0	10.0	P&A	Monitoring	Qal/MCf1
M-105	Kerr-McGee	827878.06850	26719949.00550	1748.42	1745.94	2.48	1710.9	35.0	67.0	67.0	54.0	64.0	10.0	P&A	Monitoring	Qal/MCf1
M-106	Kerr-McGee	827005.94400	26722689.27400	1698.61	1696.07	2.54	1676.1	20.0	78.0	78.0	65.0	75.0	10.0	P&A	Monitoring	Qal/MCf1
M-107	Kerr-McGee	827008.25400	26722678.94600	1698.53	1696.09	2.44	1676.1	20.0	57.0	57.0	44.0	54.0	10.0	P&A	Monitoring	Qal/MCf1
M-108	Kerr-McGee	828262.47700	26719992.70900	1748.64	1746.36	2.28	1714.4	32.0	87.0	87.0	74.3	84.3	10.0	P&A	Monitoring	Qal/MCf1
M-109	Kerr-McGee	827339.00300	26719915.12900	1748.62	1748.62	0.00	1718.6	30.0	87.0	87.0	74.7	84.7	10.0	P&A	Monitoring	Qal/MCf1
M-110	Kerr-McGee	827431.41900	26719319.32400	1762.48	1760.78	1.70	1725.8	35.0	40.0	40.0	30.0	40.0	10.0	Active	Monitoring	Qal/MCf1
M-111	Kerr-McGee	827457.88000	26719091.06500	1764.94	1765.05	-0.11	1732.6	32.5	40.0	40.0	30.0	40.0	10.0	Active	Monitoring	Qal/MCf1
M-111A	Tronox	627447.18500	26719134.85700	1768.77	1766.25	2.53	1736.2	30.0	40.0	40.0	29.7	39.7	10.0	Active	Monitoring	MCf1
M-115	Kerr-McGee	827243.64760	26718612.90180	1783.44	1787.64	-4.20	1749.6	38.0	45.2	45.2	35.0	45.0	10.0	Active	Monitoring	Qal/MCf1
M-116	Tronox	828584.24810	26716286.07990	-	1844.44	-	1815.4	29.0	50.0	-	-	-	-	P&A	Boring	-
M-117	Tronox	828917.05710	26715198.28890	1880.31	1877.98	2.34	1831.0	47.0	157.0	155.0	130.0	150.0	20.0	Active	Monitoring	MCf2
M-118	Tronox	828036.39740	26715068.01190	1876.91	1874.53	2.38	1822.5	52.0	167.0	163.0	138.0	158.0	20.0	Active	Monitoring	MCf2
M-119	Tronox	826740.83760	26716076.79160	-	1838.75	-	1806.8	32.0	50.0	-	-	-	-	P&A	Boring	-
M-120	Tronox	828387.79210	26715152.90030	1878.58	1875.81	2.77	1826.8	49.0	107.0	105.0	80.0	100.0	20.0	Active	Monitoring	MCcg1
M-121	Tronox	827694.57120	26715011.23690	1875.63	1872.90	2.73	1827.9	45.0	107.0	102.0	77.0	97.0	20.0	Active	Monitoring	MCcg1
M-126	Tronox	826569.37000	26719505.56900	1759.01	1756.40	2.61	1736.4	20.0	50.0	40.0	19.7	39.7	20.0	Active	Monitoring	MCf1
M-131	Tronox	827158.07700	26719770.56600	1754.13	1751.05	3.07	1721.1	30.0	40.0	39.0	28.7	38.7	10.0	Active	Monitoring	MCf1
M-132	Tronox	828714.60900	26720048.49100	1744.27	1741.41	2.86	1719.4	22.0	90.0	90.0	79.7	89.7	10.0	Active	Monitoring	MCf1
M-133	Tronox	828698.60800	26720067.29200	1743.62	1740.93	2.69	1718.9	22.0	70.0	70.0	59.7	69.7	10.0	Active	Monitoring	MCf1
M-134	Tronox	827144.35300	26719889.13800	1752.14	1749.39	2.76	1719.4	30.0	70.0	70.0	59.7	69.7	10.0	Active	Monitoring	MCf1
M-135	Tronox	827154.48200	26719890.17300	1751.85	1749.17	2.69	1719.2	30.0	39.0	39.0	28.7	38.7	10.0	Active	Monitoring	MCf1
M-136	Tronox	827165.34200	26719889.77400	1751.87	1749.09	2.78	1718.6	30.5	90.0	90.0	79.7	89.7	10.0	Active	Monitoring	MCf1
MW-16	Tronox	826447.63900	26719904.41400	1754.81	1751.99	2.83	1726.0	26.0	40.0	40.0	24.7	39.7	15.0	Active	Monitoring	MCf1
PC-1	Kerr-McGee	830925.11300	26730308.64612	1599.13	1596.68	2.45	1565.7	31.0	32.0	30.0	14.7	29.7	15.0	Active	Monitoring	Qal
PC-2	Kerr-McGee	830443.45385	26730209.58464	1597.07	1593.79	3.28	1562.8	31.0	35.0	30.0	14.0	29.0	15.0	Active	Monitoring	Qal
PC-3	Kerr-McGee	830727.23281	26730271.95656	-	1596.53	-	1566.5	30.0	31.0	-	-	-	-	P&A	Boring	-
PC-4	Kerr-McGee	831171.80214	26730353.41637	1600.42	1597.13	3.29	1553.6	43.5	45.0	43.0	17.7	42.7	25.0	Active	Monitoring	Qal
PC-5	Kerr-McGee	830583.32234	26730236.33327	-	1594.49	-	1568.5	26.0	27.0	-	-	-	-	P&A	Boring	-
PC-6	Kerr-McGee	831073.25903	26730334.84685	-	1597.84	-	1556.8	41.0	43.0	-	-	-	-	P&A	Boring	-
PC-7	Kerr-McGee	831271.35902	26730372.48457	-	1598.92	-	1556.9	42.0	45.0	-	-	-	-	P&A	Boring	-
PC-8	Kerr-McGee	831129.42033	26730316.39545	-	1592.68	-	1556.7	36.0	37.0	-	-	-	-	P&A	Boring	-
PC-9	Kerr-McGee	830329.04135	26727966.33125	-	1622.02	-	1598.0	24.0	25.0	-	-	-	-	P&A	Boring	-
PC-10	Kerr-McGee	829891.09100	26727968.37500	1618.95	1619.59	-0.64	1585.3	34.0	34.5	34.0	13.8	33.8	20.0	P&A	Monitoring	Qal
PC-11	Kerr-McGee	829541.60526	26727965.78007	-	1619.48	-	1582.0	37.5	38.0	0.0	0.0	0.0	0.0	P&A	Boring	-
PC-12	Kerr-McGee	829430.43000	26728102.91900	1616.37	1616.94	-0.57	1587.2	29.5	31.0	30.0	14.8	29.8	15.0	Active	Monitoring	Qal
PC-13	Kerr-McGee	829144.76879	26728097.92876	-	1616.39	-	1588.9	27.5	29.0	-	-	-	-	P&A	Boring	-
PC-14	Kerr-McGee	829037.20339	26728095.96682	-	1617.27	-	1590.3	27.0	28.0	-	-	-	-	P&A	Boring	-
PC-15	Kerr-McGee	828936.83613	26728094.17548	-	1617.29	-	1580.3	37.0	38.0	-	-	-	-	P&A	Boring	-

Table 8
 Summary of Well Completion Data
 Phase B Source Area Investigation Work Plan Area III
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Well ⁽¹⁾	Owner	X	Y	TOC Elevatoin	Ground Elevation	Casing Stickup ²	Muddy Creek Elevation ³	QAL Thickness ⁴	Hole Total Depth	Well Total Depth	Depth to Screen Top	Depth to Screen Bottom	Screen Interval	Status	Type	Aquifer
Note: Proposed Phase B wells for Area III are listed on Table 3.																
PC-16	Kerr-McGee	828837.45969	26728091.02916	—	1618.48	—	1571.5	47.0	48.0	—	—	—	—	P&A	Boring	—
PC-17	Kerr-McGee	828732.62900	26728089.22900	1617.00	1617.89	-0.89	1569.3	48.0	55.0	51.0	10.5	50.5	40.0	Active	Monitoring	Qal/MCf1
PC-18	Kerr-McGee	828636.24600	26728079.97300	1618.47	1618.55	-0.08	1566.7	52.0	53.0	52.0	11.5	51.5	40.0	Active	Monitoring	Qal
PC-19	Kerr-McGee	828510.28000	26728053.18900	1617.62	1618.07	-0.45	1560.5	58.0	62.0	60.3	15.0	60.0	45.0	P&A	Monitoring	Qal/MCf1
PC-20	Kerr-McGee	828413.11999	26728053.07320	—	1618.36	—	1577.4	41.0	43.0	—	—	—	—	P&A	Boring	—
PC-21	Kerr-McGee	829269.52904	26721332.71919	1724.52	1722.20	2.32	1688.7	33.5	35.0	34.4	14.2	34.2	20.0	P&A	Monitoring	Qal/MCf1
PC-21A	Kerr-McGee	829269.52904	26721332.71919	1724.52	1722.20	2.32	1688.7	33.5	35.0	34.4	14.0	34.0	20.0	Active	Monitoring	Qal/MCf1
PC-22	Kerr-McGee	830320.92457	26726737.30812	—	1637.15	—	1610.2	27.0	28.5	—	—	—	—	P&A	Boring	—
PC-23	Kerr-McGee	829921.73246	26726732.92164	—	1635.62	—	1606.6	29.0	30.0	—	—	—	—	P&A	Boring	—
PC-24	Kerr-McGee	829524.18404	26726729.82126	1633.48	1633.95	-0.47	1606.0	28.0	30.2	30.2	15.0	30.0	15.0	Active	Monitoring	Qal
PC-25	Kerr-McGee	829124.49652	26726727.18347	—	1632.84	—	1611.8	21.0	25.0	—	—	—	—	P&A	Boring	—
PC-26	Kerr-McGee	828768.98214	26721339.27101	—	1720.22	—	1690.2	30.0	35.0	—	—	—	—	P&A	Boring	—
PC-27	Kerr-McGee	829016.49149	26725386.51686	—	1652.46	—	1624.5	28.0	30.0	—	—	—	—	P&A	Boring	—
PC-28	Kerr-McGee	828530.64928	26725375.66714	1650.85	1651.17	-0.32	1633.2	18.0	22.0	20.0	10.0	19.5	9.5	Active	Monitoring	Qal
PC-29	Kerr-McGee	828014.47905	26725372.95389	—	1652.66	—	1618.7	34.0	35.0	—	—	—	—	P&A	Boring	—
PC-30	Kerr-McGee	827268.73251	26725197.56710	—	1655.79	—	1618.3	37.5	42.0	—	—	—	—	P&A	Boring	—
PC-31	Kerr-McGee	826781.65344	26725195.83154	1657.86	1658.13	-0.27	1608.1	50.0	52.0	50.0	14.5	49.5	35.0	Active	Monitoring	Qal
PC-32	Kerr-McGee	826259.63020	26725193.83680	—	1661.46	—	1621.0	40.5	43.0	—	—	—	—	P&A	Boring	—
PC-33	Kerr-McGee	827200.69459	26723264.46729	—	1685.34	—	1664.3	21.0	23.0	—	—	—	—	P&A	Boring	—
PC-34	Kerr-McGee	826888.57251	26723615.34258	—	1680.33	—	1660.8	19.5	21.0	—	—	—	—	P&A	Boring	—
PC-35	Kerr-McGee	826148.26888	26724416.15790	—	1672.36	—	1614.4	58.0	60.0	—	—	—	—	P&A	Boring	—
PC-36	Kerr-McGee	827110.62916	26722171.38221	—	1703.89	—	1662.9	41.0	45.0	—	—	—	—	P&A	Boring	—
PC-37	Kerr-McGee	825612.09689	26722172.23851	1707.72	1706.64	1.08	1665.6	41.0	44.0	42.0	16.8	41.8	25.0	Active	Monitoring	Qal
PC-38	Kerr-McGee	826119.65345	26722160.75559	—	1708.47	—	1662.5	46.0	55.0	—	—	—	—	P&A	Boring	—
PC-39	Kerr-McGee	826484.84957	26723470.95966	—	1684.37	—	1640.4	44.0	46.0	—	—	—	—	P&A	Boring	—
PC-40	Kerr-McGee	826476.77872	26723971.04397	1679.23	1677.05	2.18	1621.1	56.0	60.0	55.2	15.0	55.0	40.0	Active	Monitoring	Qal
PC-41	Kerr-McGee	827490.29047	26722210.05995	—	1702.19	—	1664.7	37.5	39.0	—	—	—	—	P&A	Boring	—
PC-42	Kerr-McGee	825983.11501	26723950.53876	—	1679.60	—	1622.6	57.0	60.0	—	—	—	—	P&A	Boring	—
PC-43	Kerr-McGee	823403.60901	26727715.41968	—	1650.99	—	1608.0	0.0	43.0	—	—	—	—	P&A	Boring	—
PC-44	Kerr-McGee	823708.14908	26727327.09040	—	1650.78	—	1609.8	41.0	43.0	—	—	—	—	P&A	Boring	—
PC-45	Kerr-McGee	824003.14521	26727056.06076	—	1655.39	—	1612.4	43.0	45.0	—	—	—	—	P&A	Boring	—
PC-46	Kerr-McGee	824279.66382	26726757.65595	—	1656.65	—	1614.7	42.0	43.0	—	—	—	—	P&A	Boring	—
PC-47	Kerr-McGee	824592.93406	26726429.95965	—	1657.66	—	1619.7	38.0	40.0	—	—	—	—	P&A	Boring	—
PC-48	Kerr-McGee	824943.32706	26726042.07329	—	1659.68	—	1622.7	37.0	40.0	—	—	—	—	P&A	Boring	—
PC-49	Kerr-McGee	828726.53800	26726725.60539	—	1634.48	—	1596.5	38.0	40.0	—	—	—	—	P&A	Boring	—
PC-50	Kerr-McGee	828326.94234	26726722.29502	1633.46	1633.49	-0.03	1598.5	35.0	44.0	42.0	11.8	41.8	30.0	Active	Monitoring	Qal/MCf1
PC-51	Kerr-McGee	828027.39241	26726719.02075	—	1634.96	—	1602.0	33.0	35.0	—	—	—	—	P&A	Boring	—
PC-52	Kerr-McGee	830190.60331	26730231.26767	—	1593.10	—	1560.1	33.0	34.0	—	—	—	—	P&A	Boring	—
PC-53	Kerr-McGee	829941.58478	26730225.28999	1595.03	1593.14	1.89	1561.1	32.0	35.0	33.0	13.0	32.5	19.5	Active	Monitoring	Qal
PC-54	Kerr-McGee	828296.33873	26722067.78662	1704.43	1704.40	0.03	1664.9	39.5	38.0	35.0	9.5	34.5	25.0	Active	Monitoring	Qal
PC-55	Kerr-McGee	828530.49300	26728056.65900	1617.19	1617.39	-0.20	1566.0	52.0	55.0	54.9	4.0	54.0	50.0	Active	Monitoring	Qal/MCf1
PC-56	Kerr-McGee	830645.28744	26732289.42966	1568.25	1568.99	-0.74	1517.0	52.0	58.0	55.0	4.8	54.8	50.0	Active	Monitoring	Qal/MCf1
PC-57	Kerr-McGee	830831.26804	26732239.49856	—	1568.21	—	1518.2	50.0	53.0	—	—	—	—	P&A	Boring	—
PC-58	Kerr-McGee	831123.77500	26732118.19900	1568.01	1568.24	-0.22	1536.8	31.5	36.0	33.0	7.8	32.8	25.0	Active	Monitoring	Qal
PC-59	Kerr-McGee	830150.30155	26732452.69367	1567.92	1568.34	-0.42	1536.3	32.0	38.0	35.0	4.8	34.8	30.0	Active	Monitoring	Qal/MCf1
PC-60	Kerr-McGee	830405.14356	26732358.75357	1568.38	1568.80	-0.42	1529.8	39.0	43.0	40.0	4.5	39.5	35.0	Active	Monitoring	Qal
PC-61	Kerr-McGee	830524.66104	26732323.18277	—	1566.70	—	1523.7	45.0	48.0	—	—	—	—	P&A	Boring	—
PC-62	Kerr-McGee	829764.27542	26732733.52316	1567.83	1568.45	-0.62	1533.5	35.0	38.0	38.0	7.6	37.6	30.0	Active	Monitoring	Qal/MCf1
PC-63	Kerr-McGee	829925.70555	26732553.25449	—	1567.95	—	1534.0	34.0	36.0	—	—	—	—	P&A	Boring	—
PC-64	Kerr-McGee	827916.51993	26723702.43886	1675.29	1675.51	-0.22	1656.5	19.0	20.0	19.5	4.0	19.0	15.0	Active	Monitoring	Qal
PC-65	Kerr-McGee	828386.90285	26723682.73746	1675.21	1676.07	-0.86	1657.1	19.0	22.0	19.1	4.1	18.7	14.6	Active	Monitoring	Qal
PC-66	Kerr-McGee	828779.39878	26723966.95277	1673.53	1674.05	-0.52	1649.6	24.5	28.0	27.3	6.9	26.9	20.0	Active	Monitoring	Qal/MCf1
PC-67	Kerr-McGee	829207.80016	26723846.87099	1673.82	1674.38	-0.56	1638.4	36.0	38.0	36.0	11.0	35.6	24.6	Active	Monitoring	Qal
PC-68	Kerr-McGee	829616.95944	26732906.82006	1566.97	1567.66	-0.69	1517.7	50.0	55.3	55.3	9.9	54.9	45.0	Active	Monitoring	Qal/MCf1
PC-69	Kerr-McGee	829478.04896	26733074.08022	—	1568.19	—	1516.2	52.0	54.0	—	—	—	—	P&A	Boring	—
PC-70	Kerr-McGee	828700.19000	26728084.93500	1617.93	1618.27	-0.34	1566.3	52.0	52.0	50.5	18.5	48.5	30.0	P&A	Monitoring	Qal
PC-71	Kerr-McGee	826805.89700	26722687.72200	1698.73	1696.11	2.62	1676.6	19.5	33.0	30.4	13.4	28.4	15.0	Active	Monitoring	Qal/MCf1
PC-72	Kerr-McGee	826604.72100	26722688.81500	1699.43	1696.89	2.54	1662.9	34.0	37.0	37.0	15.0	35.0	20.0	Active	Monitoring	Qal
PC-73	Kerr-McGee	826404.90300	26722694.93200	1699.50	1697.56	1.94	1653.6	44.0	48.0	47.5	20.0	45.0	25.0	Active	Monitoring	Qal

Table 8
 Summary of Well Completion Data
 Phase B Source Area Investigation Work Plan Area III
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Well ⁽¹⁾	Owner	X	Y	TOC Elevatoin	Ground Elevation	Casing Stickup ²	Muddy Creek Elevation ³	QAL Thickness ⁴	Hole Total Depth	Well Total Depth	Depth to Screen Top	Depth to Screen Bottom	Screen Interval	Status	Type	Aquifer
Note: Proposed Phase B wells for Area III are listed on Table 3.																
PC-74	Kerr-McGee	829203.52000	26734003.52000	1565.34	1564.54	0.80	1508.5	56.0	70.0	50.0	39.5	49.5	10.0	Active	Monitoring	Qal
PC-75	Kerr-McGee	829194.53000	26734004.96000	—	1564.48	—	1508.5	56.0	40.0	—	—	—	—	P&A	Boring	—
PC-76	Kerr-McGee	829183.79000	26734006.74000	1565.10	1564.51	0.59	1508.5	56.0	22.0	20.5	15.0	20.0	5.0	Active	Monitoring	Qal
PC-77	Kerr-McGee	829031.63000	26733568.07000	1566.90	1566.63	0.27	<1521.63	>45	45.0	40.0	29.5	39.5	10.0	Active	Monitoring	Qal
PC-78	Kerr-McGee	829033.25000	26733560.32000	1566.72	1566.64	0.08	<1521.64	>45	22.0	22.0	11.5	21.5	10.0	Active	Monitoring	Qal
PC-79	Kerr-McGee	829615.15300	26733246.69700	1564.06	1564.53	-0.47	1519.3	45.0	73.0	45.0	34.5	44.5	10.0	Active	Monitoring	Qal
PC-80	Kerr-McGee	829823.81800	26733250.46200	1564.18	1564.49	-0.31	1519.1	45.0	32.0	30.0	19.5	29.5	10.0	Active	Monitoring	Qal
PC-81	Kerr-McGee	829833.40100	26733254.76900	1563.96	1564.27	-0.31	1519.0	45.0	18.0	15.0	9.5	14.5	5.0	Active	Monitoring	Qal
PC-82	Kerr-McGee	830316.92700	26733194.96300	1559.15	1559.40	-0.24	1503.4	56.0	67.0	57.5	47.0	57.0	10.0	Active	Monitoring	Qal
PC-83	Kerr-McGee	830325.42900	26733201.37400	1559.22	1559.58	-0.36	1503.5	56.0	37.0	31.0	20.5	30.5	10.0	Active	Monitoring	Qal
PC-84	Kerr-McGee	830332.58000	26733208.53000	1559.20	1559.14	0.06	1503.1	56.0	17.0	15.0	4.5	14.5	10.0	P&A	Monitoring	Qal
PC-85	Kerr-McGee	830816.05000	26733185.56000	1553.65	1553.70	-0.05	1506.7	47.0	67.0	43.0	32.5	42.5	10.0	Active	Monitoring	Qal
PC-86	Kerr-McGee	830826.99000	26733185.76000	1553.85	1554.08	-0.23	1507.1	47.0	30.0	28.0	17.5	27.5	10.0	Active	Monitoring	Qal
PC-87	Kerr-McGee	830837.82000	26733185.37000	1554.00	1554.09	-0.09	1507.1	47.0	15.0	13.0	2.5	12.5	10.0	Active	Monitoring	Qal
PC-88	Kerr-McGee	831259.41000	26733178.42000	1551.01	1550.91	0.10	1499.9	51.0	62.0	50.5	40.0	50.0	10.0	Active	Monitoring	Qal
PC-89	Kerr-McGee	831264.70000	26733184.33000	1551.10	1550.90	0.20	1499.9	51.0	39.0	35.0	24.5	34.5	10.0	P&A	Monitoring	Qal
PC-90	Kerr-McGee	831271.92000	26733192.63000	1550.46	1550.53	-0.07	1499.5	51.0	18.0	15.0	4.5	14.5	10.0	Active	Monitoring	Qal
PC-91	Kerr-McGee	831729.99000	26733110.85000	1552.33	1552.42	-0.09	1512.4	40.0	65.0	37.0	26.5	36.5	10.0	Active	Monitoring	Qal
PC-92	Kerr-McGee	831749.30000	26733109.85000	1552.05	1552.12	-0.07	1512.1	40.0	30.0	22.0	11.5	21.5	10.0	Active	Monitoring	Qal
PC-93	Kerr-McGee	832179.60000	26733117.81000	1548.76	1548.86	-0.10	1508.9	40.0	57.0	38.0	27.5	37.5	10.0	Active	Monitoring	Qal
PC-94	Kerr-McGee	832189.05000	26733122.48000	1548.95	1548.84	0.11	1508.8	40.0	25.0	20.0	9.5	19.5	10.0	Active	Monitoring	Qal
PC-95	Kerr-McGee	831227.21000	26733449.91000	1550.62	1550.61	0.01	1507.6	43.0	50.0	35.0	24.5	35.0	10.5	Active	Monitoring	Qal
PC-96	Kerr-McGee	830896.56000	26733450.83000	1552.57	1552.69	-0.12	1505.7	47.0	50.0	39.5	29.0	39.0	10.0	Active	Monitoring	Qal
PC-97	Kerr-McGee	831565.69000	26733441.54000	1548.53	1548.78	-0.25	1505.8	43.0	45.0	33.5	23.0	33.0	10.0	Active	Monitoring	Qal
PC-98	Kerr-McGee	829519.86000	26730256.09000	1593.41	1593.35	0.06	1552.4	41.0	45.0	33.5	13.0	33.0	20.0	P&A	Monitoring	Qal
PC-98R	Kerr-McGee	829522.57900	26730260.53250	1593.35	1593.46	-0.11	1553.0	40.5	41.5	40.5	20.0	35.0	15.0	Active	Monitoring	Qal
PC-99	Kerr-McGee	831242.35000	26733140.18000	1551.97	1551.99	-0.02	1501.0	<1500.99	>51	47.5	1.0	47.0	46.0	P&A	Monitoring	Qal
PC-99R	Kerr-McGee	831244.93200	26733143.32000	1552.11	1552.17	-0.06	1500.2	52.0	54.0	54.0	8.5	48.5	40.0	P&A	Monitoring	Qal
PC-99R2	Kerr-McGee	831258.72600	26733155.41700	1552.55	1552.18	0.37	1500.2	52.0	55.3	53.0	10.0	50.0	40.0	Active	Recovery	Qal
PC-99R3	Kerr-McGee	831255.54600	26733160.44000	1552.48	1551.90	0.58	1499.9	52.0	58.0	55.5	10.0	50.0	40.0	Active	Recovery	Qal
PC-100	Kerr-McGee	829544.65000	26730298.84000	1592.83	1592.93	-0.10	1547.9	0.0	45.0	39.0	8.5	38.5	30.0	P&A	Monitoring	Qal
PC-100R	Kerr-McGee	829542.47550	26730295.30700	1592.94	1593.01	-0.07	1552.5	40.5	41.5	40.5	15.0	40.0	25.0	P&A	Monitoring	Qal
PC-101	Kerr-McGee	828714.91200	26728110.93700	1617.95	1618.17	-0.22	1567.9	50.0	52.0	50.0	14.5	49.5	35.0	P&A	Monitoring	Qal
PC-101R	Kerr-McGee	828711.71800	26728107.74100	1618.12	1618.12	0.00	1567.3	51.0	51.5	50.5	20.0	50.0	30.0	Active	Monitoring	Qal
PC-102	Kerr-McGee	831259.53900	26733174.52800	1550.92	1551.13	-0.21	<1501.13	>50	50.0	48.5	8.0	48.0	40.0	P&A	Monitoring	Qal
PC-103	Kerr-McGee	829110.88900	26730205.73450	1599.49	1597.02	2.47	1568.0	29.0	30.0	29.5	9.0	29.0	20.0	Active	Monitoring	Qal
PC-104	Kerr-McGee	829277.08350	26731049.70450	1596.68	1596.68	0.00	1561.7	35.0	36.0	35.3	10.0	35.0	25.0	Active	Monitoring	Qal
PC-105	Kerr-McGee	828827.49100	26731425.85150	1593.68	1591.27	2.41	1541.3	50.0	64.0	50.3	10.0	50.0	40.0	P&A	Monitoring	Qal
PC-106	Kerr-McGee	827110.05600	26730247.50550	1601.85	1602.10	-0.25	1569.1	33.0	40.0	35.3	5.0	35.0	30.0	Active	Monitoring	Qal/MCf1
PC-107	Kerr-McGee	827136.49950	26729287.57900	1616.94	1617.19	-0.25	1601.2	16.0	20.0	18.0	7.7	17.7	10.0	Active	Monitoring	Qal
PC-108	Kerr-McGee	828526.95850	26731913.04700	1584.81	1584.96	-0.15	1540.0	45.0	55.0	45.0	9.7	44.7	35.0	Active	Monitoring	Qal
PC-109	Kerr-McGee	828117.18100	26732063.87350	1587.08	1587.21	-0.13	1552.2	35.0	50.0	40.0	9.7	39.7	30.0	P&A	Monitoring	Qal
PC-110	Kerr-McGee	826778.30600	26731928.10950	1594.47	1591.80	2.67	<1554.80	>37	37.0	37.0	6.7	36.7	30.0	Active	Monitoring	Qal
PC-111	Kerr-McGee	826540.14700	26732782.12500	1585.36	1585.79	-0.43	1550.8	35.0	60.0	35.3	9.6	34.6	25.0	Active	Monitoring	Qal
PC-112	Kerr-McGee	828898.30950	26732800.68850	1575.15	1575.24	-0.09	1525.2	50.0	54.0	47.3	7.0	47.0	40.0	Active	Monitoring	Qal
PC-113	Kerr-McGee	829176.91500	26732302.71600	1573.59	1573.71	-0.12	1543.7	30.0	54.0	30.3	5.0	30.0	25.0	P&A	Monitoring	Qal
PC-114	Kerr-McGee	829700.64800	26732303.15600	1573.62	1573.83	-0.21	1544.8	29.0	50.0	30.3	5.0	30.0	25.0	P&A	Monitoring	Qal
PC-115	Kerr-McGee	831044.51600	26733155.23700	—	1553.62	—	1505.0	49.0	—	—	10.0	50.0	40.0	P&A	Recovery	Qal
PC-115R	Kerr-McGee	831148.63500	26733131.32500	1554.71	1554.79	-0.08	1504.8	50.0	58.0	55.5	10.0	50.0	40.0	Active	Recovery	Qal
PC-116	Kerr-McGee	831364.80700	26733213.14200	—	1551.64	—	1505.5	47.0	55.0	52.3	12.0	47.0	35.0	P&A	Recovery	Qal
PC-116R	Kerr-McGee	831348.42600	26733203.15300	1552.10	1552.04	0.06	1503.0	49.0	58.0	55.5	10.0	50.0	40.0	Active	Recovery	Qal
PC-117	Kerr-McGee	831422.37090	26733275.94470	1552.26	1551.23	1.03	1500.2	51.0	57.5	53.0	11.0	51.0	40.0	Active	Recovery	Qal
PC-118	Kerr-McGee	831051.98530	26733167.39220	1554.53	1553.65	0.88	1504.2	49.5	52.0	51.0	9.0	49.0	40.0	Active	Recovery	Qal
PC-119	Kerr-McGee	830951.29010	26733188.50080	1554.66	1554.34	0.32	1507.3	47.0	49.0	47.0	15.0	45.0	30.0	Active	Recovery	Qal
PC-120	Kerr-McGee	830851.47270	26733185.76810	1554.64	1554.41	0.23	1509.4	45.0	48.0	47.0	15.0	45.0	30.0	Active	Recovery	Qal
PC-121	Kerr-McGee	830751.31470	26733180.39010	1554.10	1554.70	-0.60	<1514.20	>40.5	40.5	38.5	6.5	36.5	30.0	Active	Recovery	Qal
PC-122	Kerr-McGee	829675.17300	26728145.17100	1617.39	1617.55	-0.16	1580.4	37.0	40.0	38.0	22.5	37.5	15.0	Active	Monitoring	Qal
PC-123	Kerr-McGee	829485.04100	26727358.44000	1626.44	1626.70	-0.26	1593.4	33.0	35.5	35.2	20.0	35.0	15.0	Active	Monitoring	Qal/MCf1
PC-124	Kerr-McGee	830132.95300	26726741.58300	1635.73	1636.30	-0.57	1603.7	32.0	36.0	35.5	20.3	35.3	15.0	Active	Monitoring	Qal/MCf1

Table 8
 Summary of Well Completion Data
 Phase B Source Area Investigation Work Plan Area III
 Tronox Facility - Henderson, Nevada
 Page 7 of 7

Well ⁽¹⁾	Owner	X	Y	TOC Elevation	Ground Elevation	Casing Stickup ²	Muddy Creek Elevation ³	QAL Thickness ⁴	Hole Total Depth	Well Total Depth	Depth to Screen Top	Depth to Screen Bottom	Screen Interval	Status	Type	Aquifer
Note: Proposed Phase B wells for Area III are listed on Table 3.																
PC-125	Kerr-McGee	829925.94500	26726739.81700	1635.06	1632.41	2.65	1603.1	32.0	34.3	33.9	18.7	33.7	15.0	Active	Monitoring	Qal/MCf1
PC-126	Kerr-McGee	829724.72200	26726737.83700	1634.33	1634.66	-0.33	<1599.66	>35	35.0	34.7	19.5	34.5	15.0	Active	Monitoring	Qal
PC-127	Kerr-McGee	829316.64700	26726735.62100	1632.42	1632.92	-0.50	1599.4	33.0	35.0	35.5	15.0	35.0	20.0	Active	Monitoring	Qal/MCf1
PC-128	Kerr-McGee	828953.97400	26726732.39100	1633.36	1633.62	-0.26	1601.4	32.0	35.0	35.0	14.8	34.8	20.0	Active	Monitoring	Qal/MCf1
PC-129	Kerr-McGee	828747.28400	26726730.81200	1633.99	1634.36	-0.37	<1595.36	>39	39.0	39.0	38.0	12.8	37.8	Active	Monitoring	Qal
PC-130	Kerr-McGee	828536.18900	26726729.30900	1633.21	1633.50	-0.29	1585.2	48.0	50.0	50.0	14.8	49.8	35.0	Active	Monitoring	Qal/MCf1
PC-131	Kerr-McGee	828123.27800	26726725.41400	1633.58	1634.28	-0.70	1593.6	40.0	40.0	40.0	9.8	39.8	30.0	Active	Monitoring	Qal/MCf1
PC-132	Kerr-McGee	827913.94400	26726723.10200	1634.84	1635.21	-0.37	1602.8	32.0	40.0	40.0	9.8	39.8	30.0	Active	Monitoring	Qal/MCf1
PC-133	Tronox	831758.00000	26733209.00000	1553.00	1551.84	1.16	1513.8	38.0	40.2	40.2	5.0	40.0	35.0	Active	Recovery	Qal/MCf1
PC-134	Tronox	828776.17100	26728126.41500	1617.01	1617.43	-0.43	1568.4	49.0	70.0	70.0	59.7	69.7	10.0	Active	Monitoring	MCf1
PC-135	Tronox	828765.25000	26728123.17700	1617.25	1617.52	-0.27	1568.0	49.5	50.0	50.0	19.7	49.7	30.0	Active	Monitoring	Qal
PC-136	Tronox	829517.88800	26728191.37400	1615.08	1615.46	-0.38	1578.0	37.5	38.0	38.0	17.7	37.7	20.0	Active	Monitoring	Qal
PC-137	Tronox	829517.56800	26728198.97600	1614.83	1615.19	-0.36	1579.2	36.0	70.0	70.0	59.7	69.7	10.0	Active	Monitoring	MCf1
TR-1	Kerr-McGee	826168.04000	26719957.91000	1752.18	1749.41	2.77	1712.4	37.0	312.0	312.0	281.5	311.5	30.0	Active	Monitoring	MCcg2
TR-10	Kerr-McGee	827562.53000	26715739.77000	1854.06	1851.72	2.34	1806.7	45.0	102.0	100.5	80.0	100.0	20.0	Active	Monitoring	MCf1
TR-11	Kerr-McGee	825422.57000	26721918.29000	1717.12	1714.80	2.32	1664.8	50.0	255.0	230.5	210.0	230.0	20.0	Active	Monitoring	MCcg2
TR-12	Kerr-McGee	825286.37000	26723271.82000	1695.84	1693.44	2.40	1650.4	43.0	293.0	292.5	272.0	292.0	20.0	Active	Monitoring	MCcg2
TR-2	Kerr-McGee	826156.85000	26719954.57000	1751.79	1749.45	2.34	1712.5	37.0	180.0	175.0	144.5	174.5	30.0	Active	Monitoring	MCf1
TR-3	Kerr-McGee	826342.89000	26718941.61000	1772.84	1770.08	2.76	1743.1	27.0	251.5	250.0	219.5	249.5	30.0	Active	Monitoring	MCcg2
TR-4	Kerr-McGee	826342.53000	26718951.58000	1772.55	1770.04	2.51	1743.0	27.0	147.0	145.0	124.5	144.5	20.0	Active	Monitoring	MCf1
TR-5	Kerr-McGee	826595.86000	26717592.13000	1800.27	1797.45	2.82	1800.27	37.0	251.5	251.5	221.0	251.0	30.0	Active	Monitoring	MCcg2
TR-6	Kerr-McGee	826594.34000	26717608.38000	1800.36	1797.53	2.83	1760.5	37.0	80.5	80.0	60.0	80.0	20.0	Active	Monitoring	MCf1
TR-7	Kerr-McGee	826724.99000	26716525.47000	1829.03	1826.56	2.47	1783.6	43.0	292.0	290.5	260.0	290.0	30.0	Active	Monitoring	MCcg2
TR-8	Kerr-McGee	826722.81000	26716512.15000	1829.08	1826.54	2.54	1783.5	43.0	98.0	93.5	63.0	93.0	30.0	Active	Monitoring	MCcg1/fcg2
TR-9	Kerr-McGee	827560.22000	26715752.71000	1854.29	1851.75	2.54	1806.8	45.0	250.5	250.5	230.0	250.0	20.0	Active	Monitoring	MCcg2
TR-10	Kerr-McGee	827562.53000	26715739.77000	1854.06	1851.72	2.34	1806.7	45.0	102.0	100.5	80.0	100.0	20.0	Active	Monitoring	MCf1
TR-11	Kerr-McGee	825422.57000	26721918.29000	1717.12	1714.80	2.32	1664.8	50.0	255.0	230.5	210.0	230.0	20.0	Active	Monitoring	MCcg2
TR-12	Kerr-McGee	825286.37000	26723271.82000	1695.84	1693.44	2.40	1650.4	43.0	293.0	292.5	272.0	292.0	20.0	Active	Monitoring	MCcg2

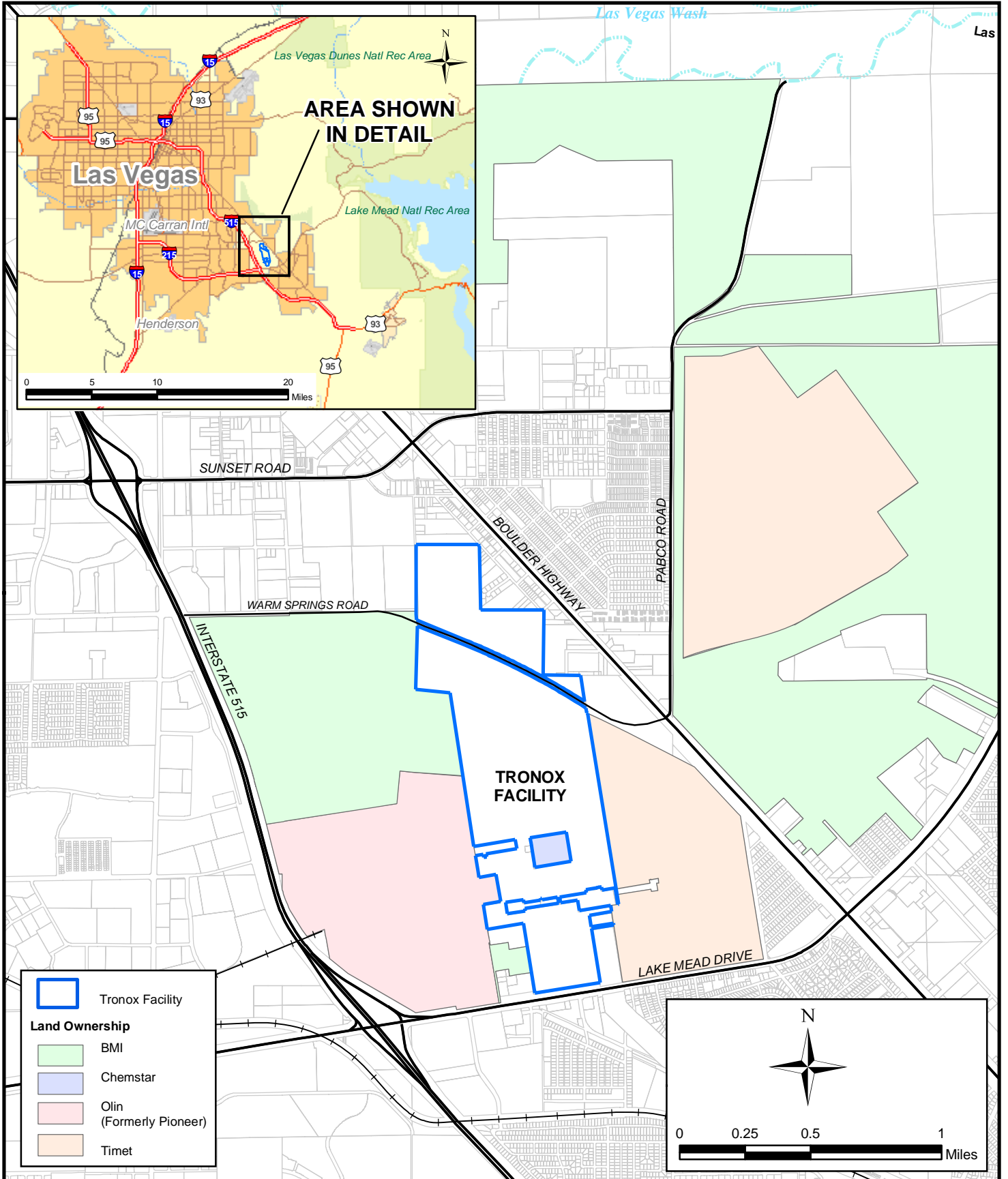
DEFINITIONS

- OWNER** Owner refers to the company who installed the well.
- X and Y** "X" (Northing) and "Y" (Easting) - North American Datum.
- TOC** Top of Casing.
- QAL** Quaternary Alluvium
- STATUS** The well is "Active" if it exists and has been sampled. "P&A" indicates that the well has been plugged and abandoned.
- TYPE** "Monitoring" wells are used exclusively to collect groundwater samples to assess water quality. "Recovery" wells are part of the groundwater containment systems and are used to pump groundwater.
- AQUIFER** Aquifer units designated by Tronox as follows:
 Qal - Alluvium (includes saturated uppermost MCf1)
 MCf1 - Muddy Creek Formation - "first" fine-grained facies
 MCcg1 - Muddy Creek Formation - "first" coarse-grained facies
 MCf2 - Muddy Creek Formation - "second" fine-grained facies
 MCcg2 - Muddy Creek Formation - "second" coarse-grained facies
 MCcg1/MCf2 - indicates that the well is screened across both units

NOTES

- Well and the associated information as listed in the BMI "All Wells" database - June 2008.
- Casing stickup is measured with positive being "up" and negative numbers indicated the distance below the ground surface.
- "<" indicates that the top of the Muddy Creek was not encountered and is deeper than the elevation noted.
- Quaternary alluvium thickness was measured from the ground surface to the top of the Muddy Creek.

FIGURES



Tronox Facility

Land Ownership

- BMI
- Chemstar
- Olin (Formerly Pioneer)
- Timet

N

0 0.25 0.5 1
Miles

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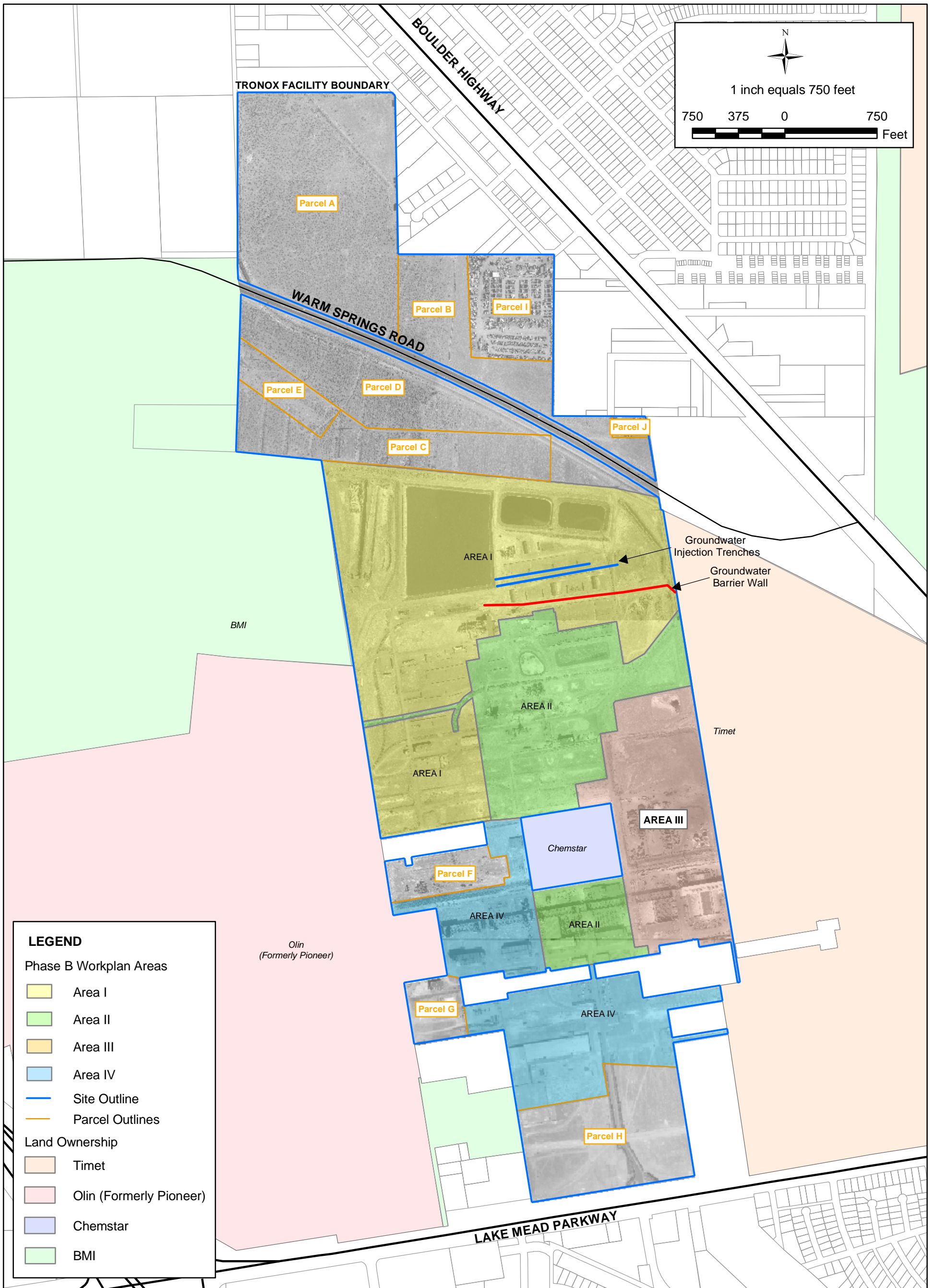
SITE LOCATION MAP

AREA III WORKPLAN
 PHASE B SOURCE AREA INVESTIGATION
 TRONOX FACILITY
 HENDERSON, NEVADA

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FIGURE NUMBER:

1



LEGEND

Phase B Workplan Areas

- Area I
- Area II
- Area III
- Area IV
- Site Outline
- Parcel Outlines

Land Ownership

- Timet
- Olin (Formerly Pioneer)
- Chemstar
- BMI

PHASE B WORK PLAN SUB-AREAS

AREA III WORKPLAN
 PHASE B SOURCE AREA INVESTIGATION
 TRONOX FACILITY
 HENDERSON, NEVADA

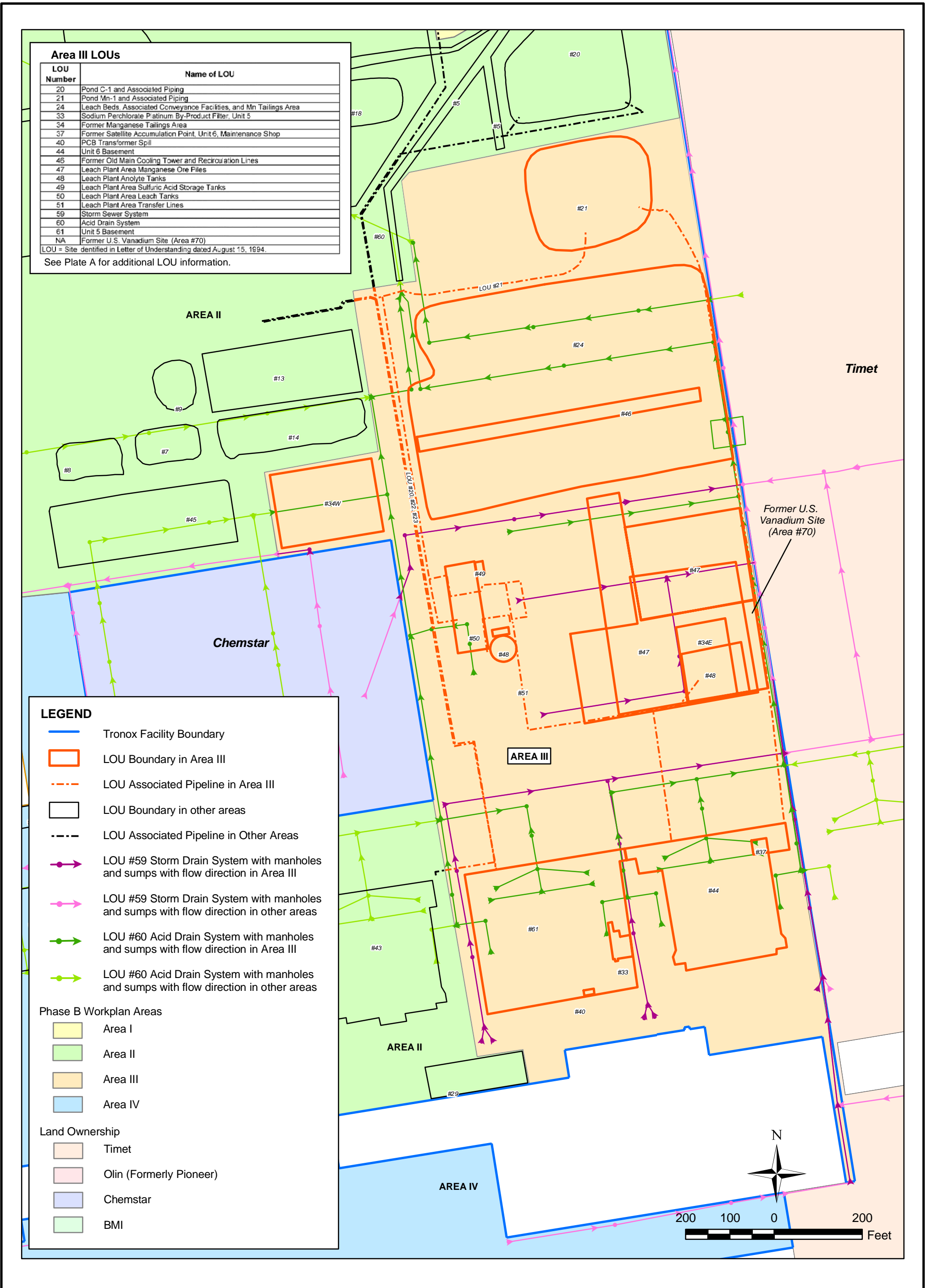
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 CAMARILLO, CALIFORNIA 93012
 PHONE: (805) 388-3775
 FAX: (805) 388-3577
 WEB: [HTTP://WWW.ENSR.AECOM.COM](http://www.ensr.aecom.com)

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	NO:	DESCRIPTION:	DATE:	BY:
M.F.				
DRAWN BY:				
T.M.				
CHECKED BY:				
B.H.				
APPROVED BY:				
M.F.				

SHEET NUMBER:	2	FIGURE NUMBER:



SHEET NUMBER: X
FIGURE NUMBER: 3

PHASE B AREA IV LOUs
AREA III WORKPLAN
PHASE B SOURCE AREA INVESTIGATION
TRONOX FACILITY
HENDERSON, NEVADA

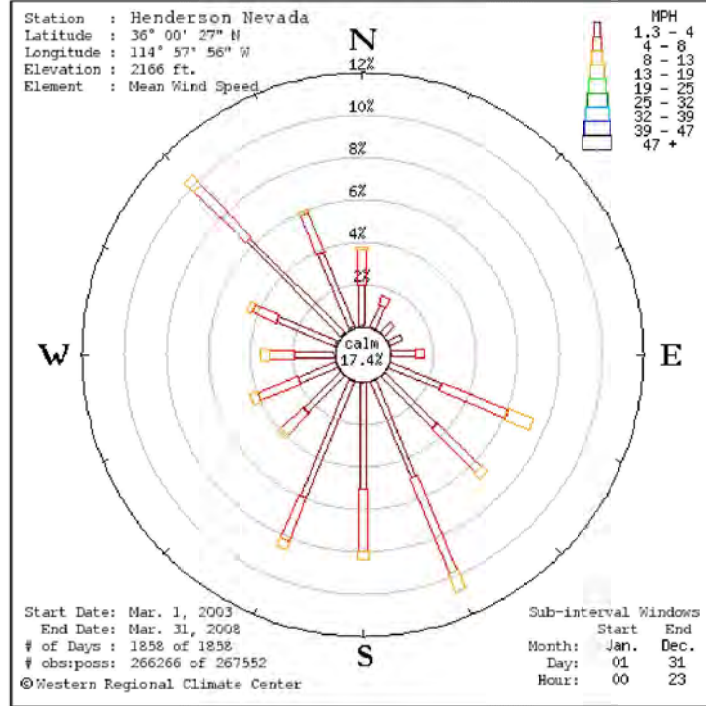
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 CAMARILLO, CALIFORNIA 93012
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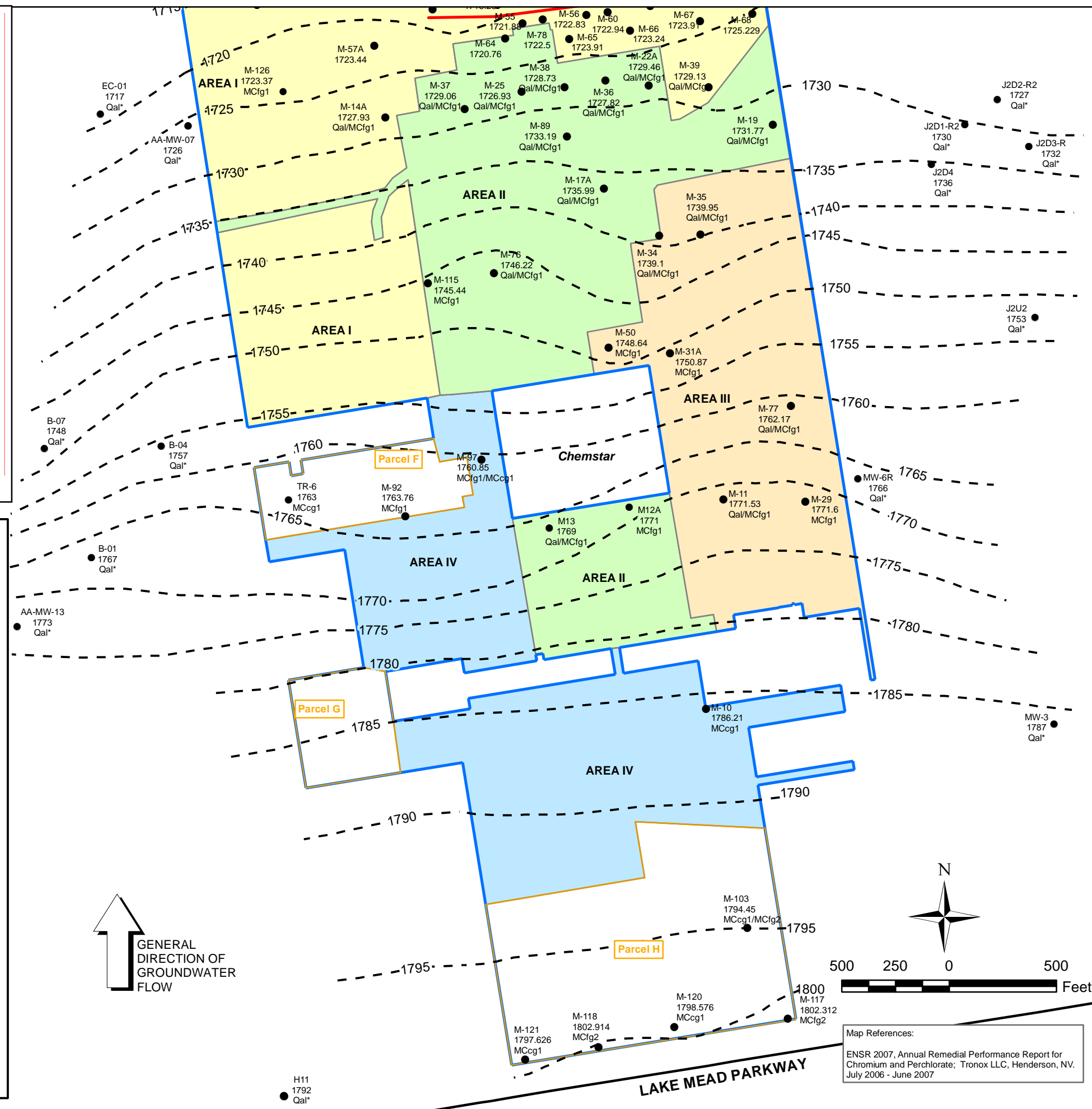
Henderson Nevada



Source: Community Environmental Monitoring Program - <http://www.cemp.dri.edu/>

Legend

- Tronox Facility Boundary
 - Parcel Boundary
 - Qal Groundwater Well Screened in Quaternary Alluvium (Asterisk "*" indicates interpretation by others and what is shown in the June 2008 "All Wells" database. This aquifer designation does not necessarily reflect Tronox interpretation.)
 - MCfg1 Groundwater Well Screened in Muddy Creek Formation - First Fine-Grained Facies
 - MCcg1 Groundwater Well Screened in Muddy Creek Formation - First Coarse-Grained Facies
 - MCfg2 Groundwater Well Screened in Muddy Creek Formation - Second Fine-Grained Facies
 - 1745.44 Water Level Elevation (feet above MSL) (April-May 2007)
 - - - Groundwater Potentiometric Surface Measured in April-May 2007. (ENSR 2007) (Note - Well H-11 not considered in the contouring, water level appears to be anomalous)
- Phase B Workplan Areas
- Area I
 - Area II
 - Area III
 - Area IV



Map References:
ENSR 2007, Annual Remedial Performance Report for Chromium and Perchlorate; Tronox LLC, Henderson, NV, July 2006 - June 2007

DESIGNED BY:	M. Flack
	DRAWN BY:
REVISIONS:	NO.
	DESCRIPTION:
DATE:	
BY:	

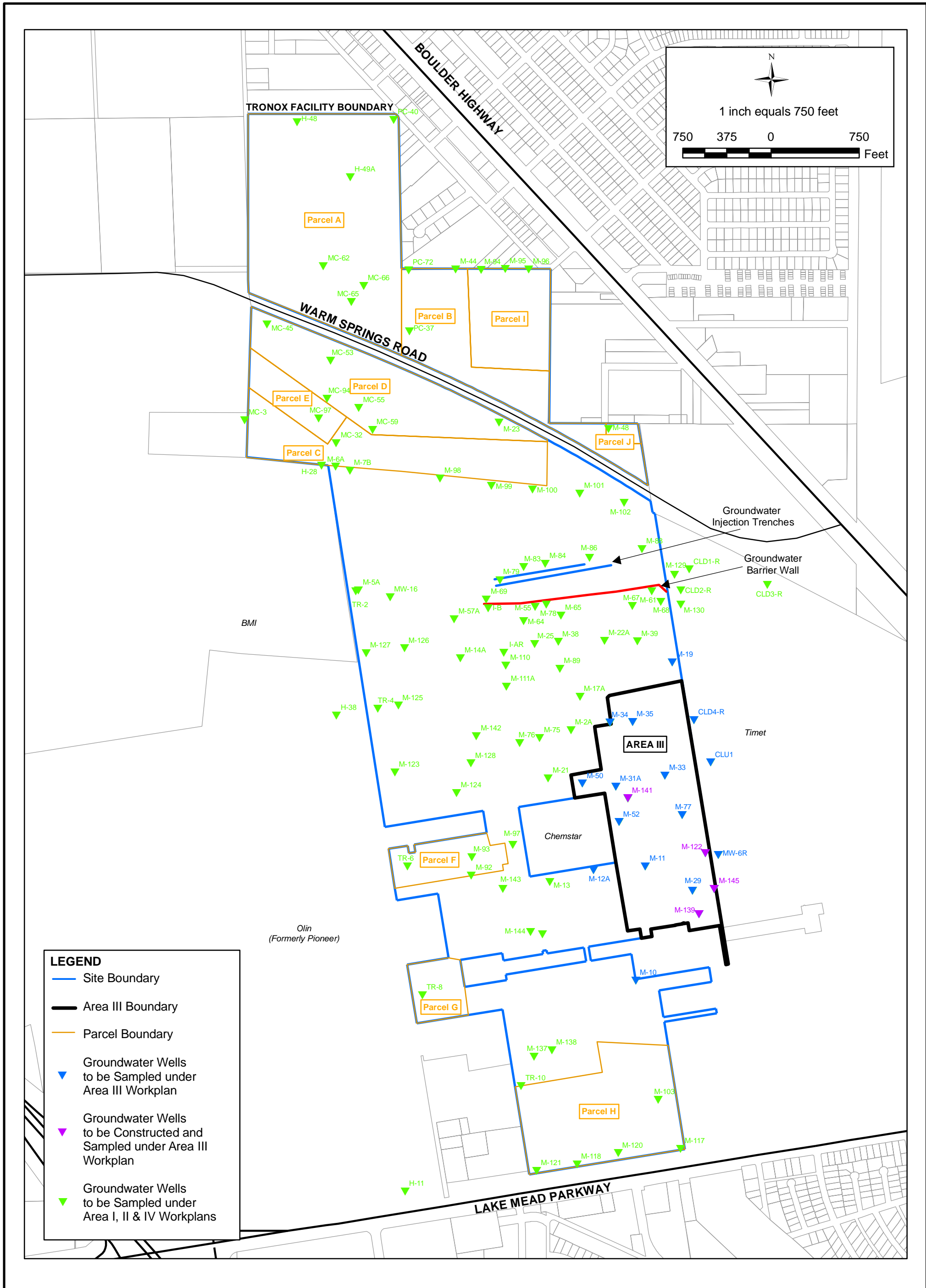
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CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577
WEB: [HTTP://WWW.ENSR-AECOM.COM](http://www.ensr-aecom.com)

GROUNDWATER ELEVATION
AREA III WORKPLAN
PHASE B SOURCE AREA INVESTIGATION
TRONOX FACILITY
HENDERSON, NEVADA

SCALE: AS SHOWN DATE: 6/26/2008 PROJECT NUMBER: 04020-023-430

FIGURE NUMBER:
4

SHEET NUMBER:
X



LEGEND

- Site Boundary
- Area III Boundary
- Parcel Boundary
- ▼ Groundwater Wells to be Sampled under Area III Workplan
- ▼ Groundwater Wells to be Constructed and Sampled under Area III Workplan
- ▼ Groundwater Wells to be Sampled under Area I, II & IV Workplans

SHEET NUMBER:	5	FIGURE NUMBER:
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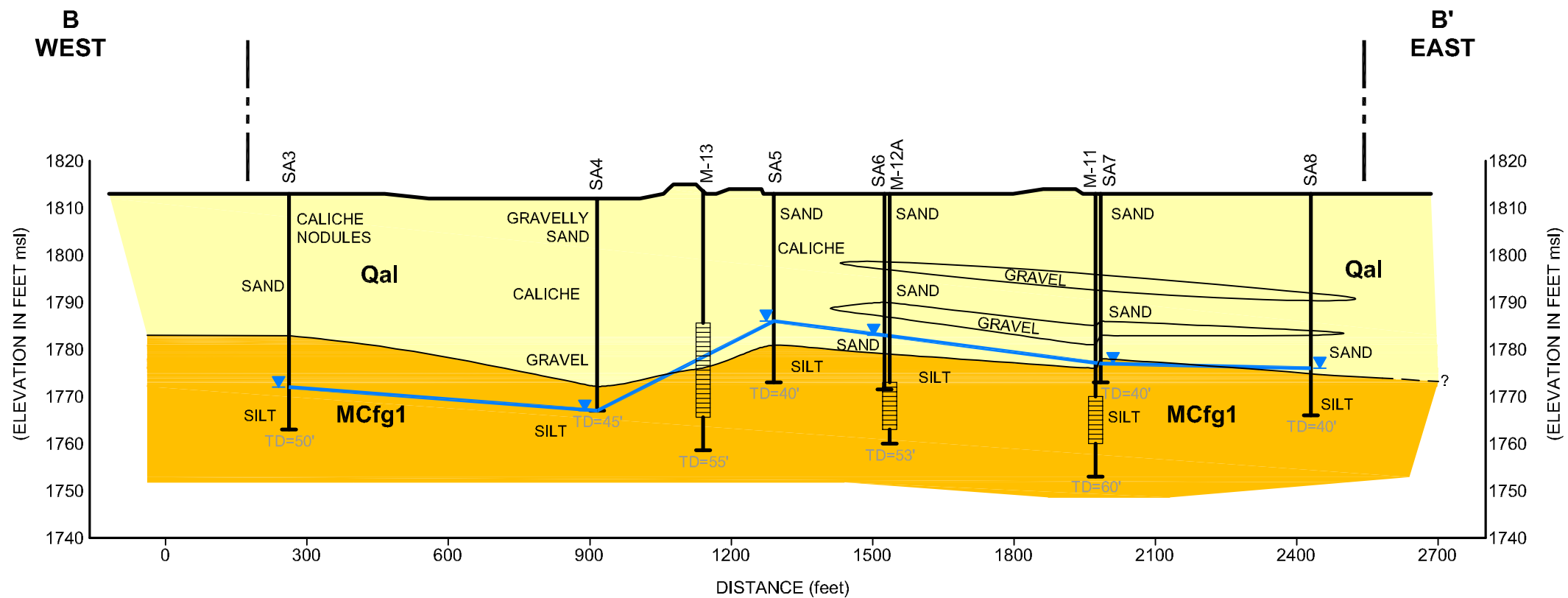
PHASE B WELL LOCATIONS AREA III WORKPLAN PHASE B SOURCE AREA INVESTIGATION TRONOX FACILITY HENDERSON, NEVADA		
SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	6/26/2008	04020-023-430

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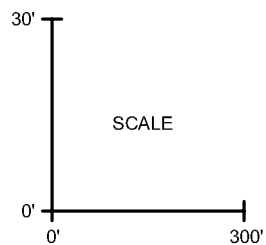
DESIGNED BY:	REVISIONS:			
M.F.	NO:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
T.M.				
CHECKED BY:				
B.H.				
APPROVED BY:				
M.F.				

FILENAME: j:\2008_Projects\04020- Tronox\023-Henderson\4.30 - Phase B\Phase B Source Area WPs\cross-sections\Xsec-b.dwg

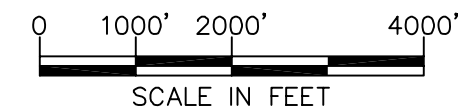
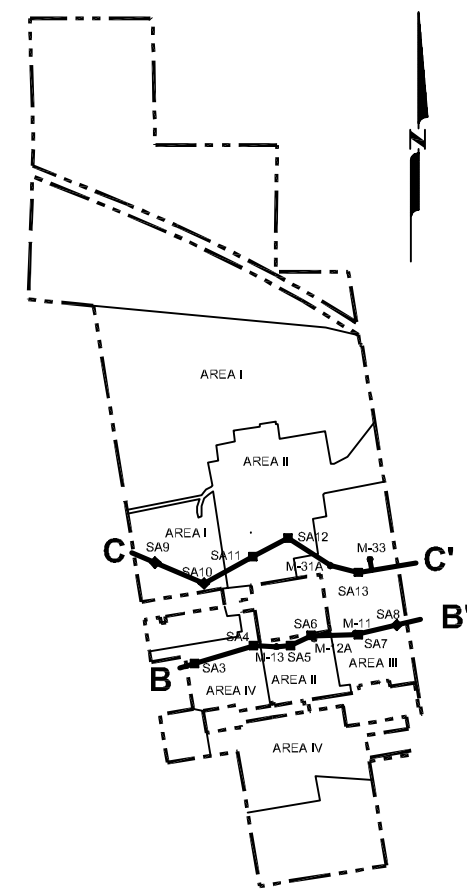


LEGEND

- GROUNDWATER LEVEL (NOVEMBER 2006)
- TRONOX FACILITY BOUNDARY
- BORING/WELL IDENTIFICATION
- SCREEN INTERVAL
- TOTAL DEPTH OF BORING/WELL
- Qal QUATERNARY ALLUVIUM
- MCfg1 MUDDY CREEK FORMATION FINE-GRAINED FACIES #1



NOTE: CROSS SECTION FROM PHASE A SOURCE AREA INVESTIGATION RESULTS, TRONOX FACILITY, HENDERSON, NEVADA SEPT. 2007



DESIGNED BY:	NO.:	DESCRIPTION:	DATE:	BY:
C. Schnell				
DRAWN BY:				
M. Scop				
CHECKED BY:				
C. Schnell				
APPROVED BY:				
M. Flack				

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ENSR CORPORATION
1220 AVENIDA ACASO
CARMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577
WEB: HTTP://WWW.ENSR.AECOM.COM

GEOLOGICAL CROSS SECTION B-B' WEST TO EAST

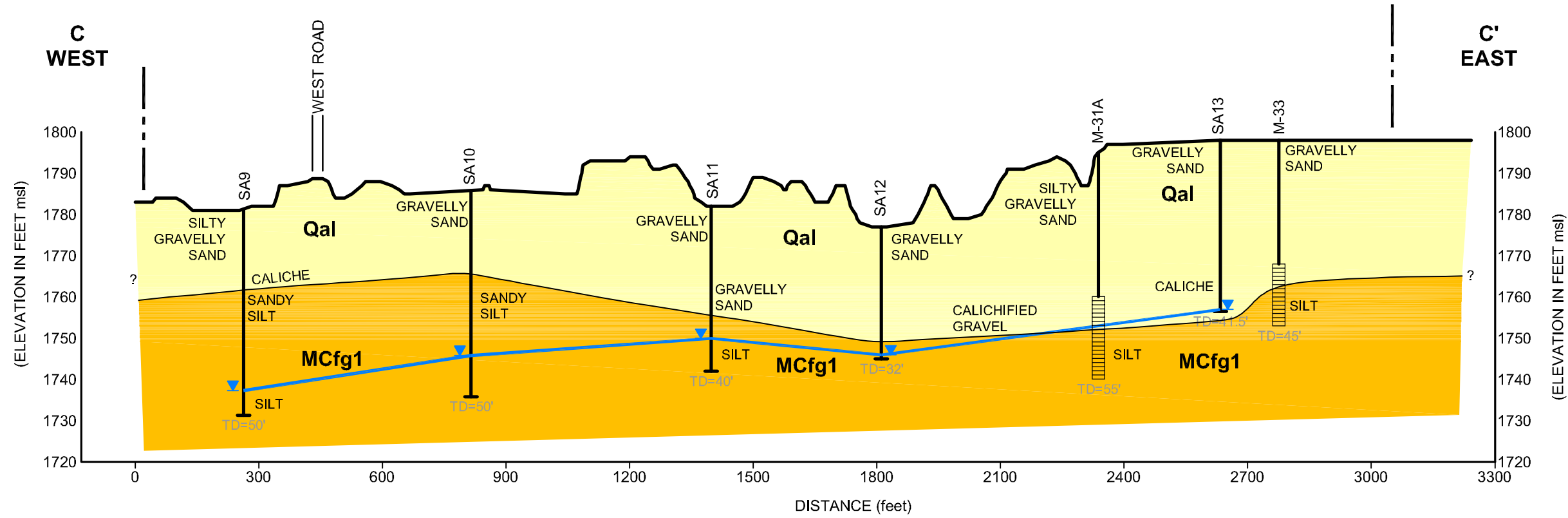
Phase B Area III Source Area Investigation
Tronox Facility
Henderson, Nevada

DATE: 6/26/2008
PROJECT NUMBER: 04020-023-430
SCALE: As Noted

FIGURE NUMBER:
6

SHEET NUMBER:
X

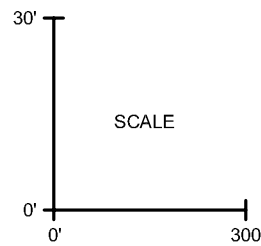
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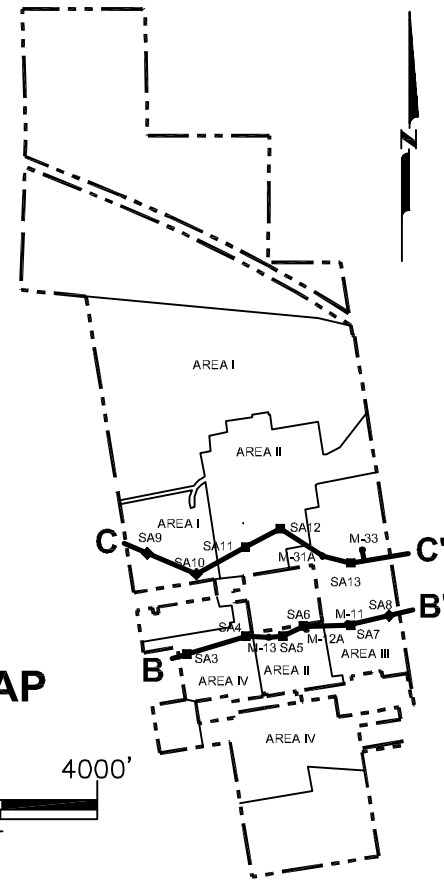
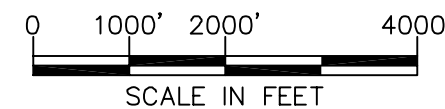
LEGEND

- GROUNDWATER LEVEL (NOVEMBER 2006)
- TRONOX FACILITY BOUNDARY
- BORING/WELL IDENTIFICATION
- SCREEN INTERVAL
- TOTAL DEPTH OF BORING/WELL
- Qal QUATERNARY ALLUVIUM
- MCfg1 MUDDY CREEK FORMATION FINE-GRAINED FACIES #1

NOTE: CROSS SECTION FROM PHASE A SOURCE AREA INVESTIGATION RESULTS, TRONOX FACILITY, HENDERSON, NEVADA SEPT. 2007



INDEX MAP



DESIGNED BY:		DRAWN BY:		CHECKED BY:		APPROVED BY:	
C. Schnell		M. Scop		C. Schnell		M. Flack	
REVISIONS		NO.		DESCRIPTION:		DATE:	

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 1220 AVENIDA ACASO
 CAMARILLO, CALIFORNIA 93012
 PHONE: (805) 388-3775
 FAX: (805) 388-3577
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GEOLOGICAL CROSS SECTION C-C'
WEST TO EAST

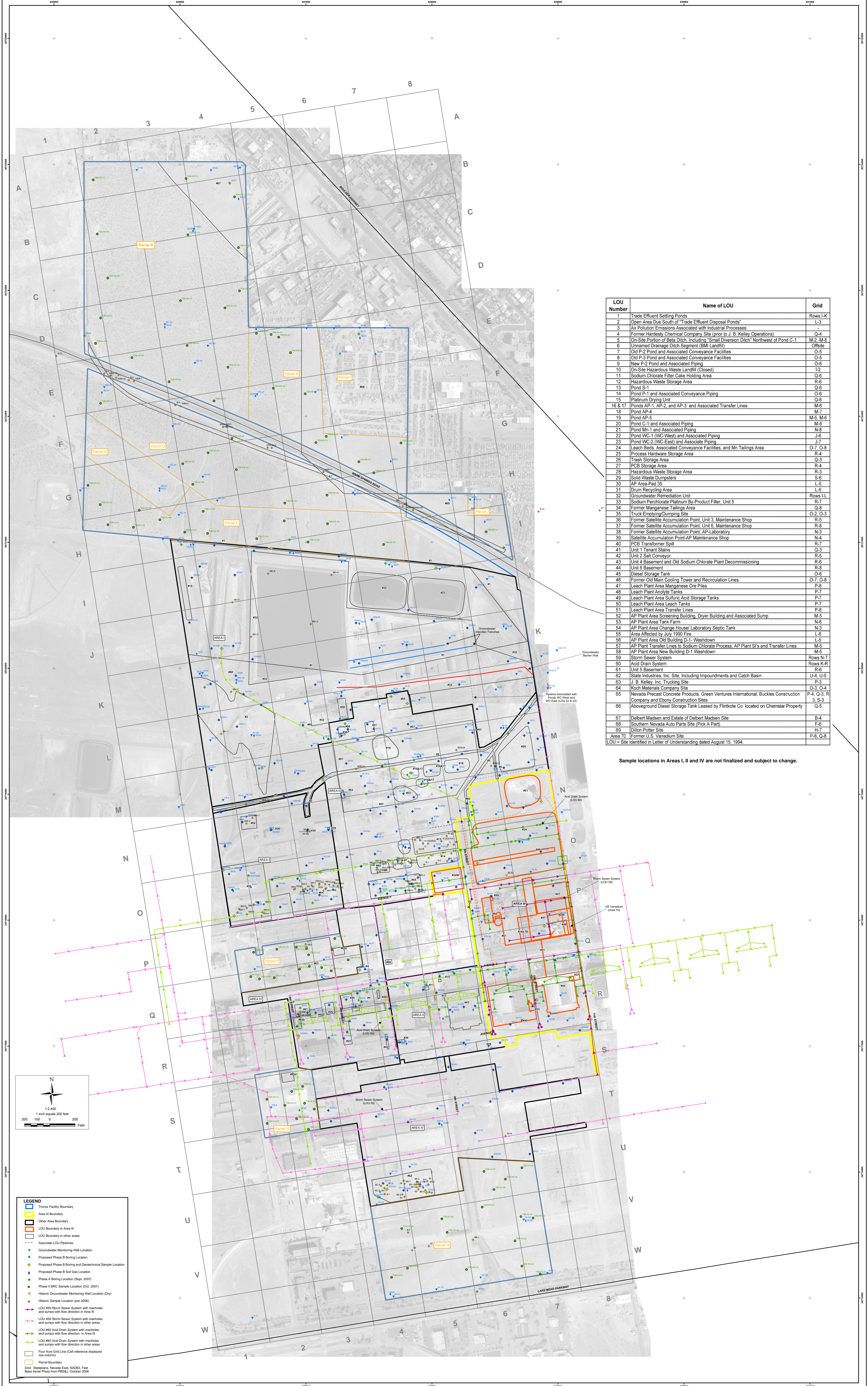
Phase B Area III Source Area Investigation
 Tronox Facility
 Henderson, Nevada

SCALE: As Noted DATE: 6/26/2008 PROJECT NUMBER: 04020-023-430

FIGURE NUMBER:
7

SHEET NUMBER:
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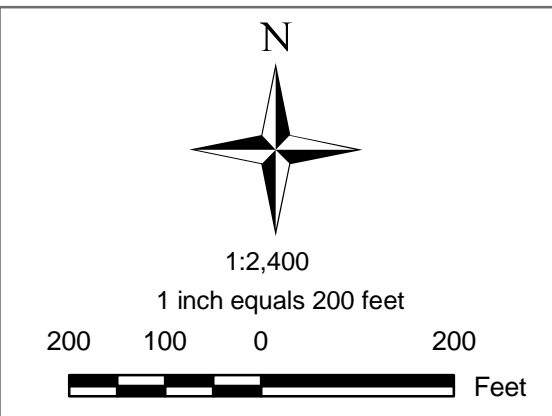
Plate A – Phase B Sample Locations and LOUs for Area III



LOU Number	Name of LOU	Grid
1	Trade Effluent Settling Ponds	Rows I-K
2	Open Area Due South of "Trade Effluent Disposal Ponds"	L-3
3	Air Pollution Emissions Associated with Industrial Processes	-
4	Former Hardesty Chemical Company Site (prior to J. B. Kelley Operations)	Q-1
5	On-Site Portion of Beta Ditch, Including "Small Diversion Ditch" Northwest of Pond C-1	M-2, M-8
6	Unnamed Drainage Ditch Segment (SM Landfill)	Offsite
7	Old P-2 Pond and Associated Conveyance Facilities	O-5
8	Old P-2 Pond and Associated Conveyance Facilities	O-5
9	New P-2 Pond and Associated Piping	O-6
10	On-Site Hazardous Waste Landfill (Closed)	L-2
11	Sodium Chlorate Filter Cake Holding Area	Q-6
12	Hazardous Waste Storage Area	R-6
13	Pond S-1	Q-6
14	Pond P-1 and Associated Conveyance Piping	O-6
15	Platinum Drying Unit	O-6
16 & 17	Ponds AP-1, AP-2, and AP-3 and Associated Transfer Lines	M-6
18	Pond AP-4	M-7
19	Pond AP-5	M-5, M-6
20	Pond C-1 and Associated Piping	M-8
21	Pond Mh-1 and Associated Piping	N-8
22	Pond WC-1 (WC-West) and Associated Piping	J-6
23	Pond WC-2 (WC-East) and Associated Piping	J-7
24	Leach Beds, Associated Conveyance Facilities, and Mn Tailings Area	O-7, O-8
25	Process Hardware Storage Area	R-4
26	Trash Storage Area	Q-3
27	PCB Storage Area	R-4
28	Hazardous Waste Storage Area	R-3
29	Solid Waste Dumpsters	S-6
30	AP Area-Pad 35	L-5
31	Drum Recycling Area	L-5
32	Groundwater Remediation Unit	Rows I-L
33	Sodium Perchlorate Platinum By-Product Filter, Unit 5	R-7
34	Former Manganese Tailings Area	Q-8
35	Truck Emptying/Dumping Site	O-2, O-3
36	Former Satellite Accumulation Point, Unit 3, Maintenance Shop	R-6
37	Former Satellite Accumulation Point, Unit 6, Maintenance Shop	R-8
38	Former Satellite Accumulation Point, AP Laboratory	N-3
39	Satellite Accumulation Point-AP Maintenance Shop	N-4
40	PCB Transformer Spill	R-7
41	Unit 1 Tenant Stains	Q-3
42	Unit 2 Salt Conveyor	R-5
43	Unit 4 Basement and Old Sodium Chlorate Plant Decommissioning	R-6
44	Unit 5 Basement	R-6
45	Diesel Storage Tank	O-8
46	Former Old Main Cooling Tower and Recirculation Lines	O-7, O-8
47	Leach Plant Area Manganese Ore Piles	P-8
48	Leach Plant Area Sulfuric Acid Storage Tanks	P-7
49	Leach Plant Area Sulfuric Acid Storage Tanks	P-7
50	Leach Plant Area Leach Tanks	P-7
51	Leach Plant Area Transfer Lines	P-8
52	AP Plant Area Screening Building, Dryer Building and Associated Sump	M-5
53	AP Plant Area Tank Farm	N-6
54	AP Plant Area Change House/Laboratory Septic Tank	N-3
55	Area Affected by July 1990 Fire	L-6
56	AP Plant Area Old Building D-1, Washdown	L-6
57	AP Plant Transfer Lines to Sodium Chlorate Process, AP Plant SI's and Transfer Lines	M-6
58	AP Plant Area New Building D-1 Washdown	M-5
59	Storm Sewer System	Rows N-T
60	Acid Drain System (LOU 60)	Rows K-R
61	Unit 5 Basement	R-6
62	State Industries, Inc. Site, Including Impoundments and Catch Basin	U-4, U-5
63	J. B. Kelley, Inc. Trucking Site	P-3
64	Koch Materials Company Site	O-3, O-4
65	Nevada Precast Concrete Products, Green Ventures International, Buckles Construction Company and Ebony Construction Sites	P-4, Q-3, R-3, S-3
66	Aboveground Diesel Storage Tank Leased by Flintkote Co. Located on Chemstar Property	Q-5
67	Delbert Madsen and Estate of Delbert Madsen Site	B-4
68	Southern Nevada Auto Parts Site (Pick A Part)	F-6
69	Dillon Potter Site	H-7
Area 70	Former U.S. Vanadium Site	P-8, Q-8

LOU = Site identified in Letter of Understanding dated August 15, 1994.

Sample locations in Areas I, II and IV are not finalized and subject to change.



LEGEND	
[Blue line]	Tronox Facility Boundary
[Black line]	Area III Boundary
[Yellow line]	Other Area Boundary
[Red line]	LOU Boundary in Area III
[Black line]	LOU Boundary in other areas
[Dashed line]	Associate LOU Pipelines
[Blue dot]	Groundwater Monitoring Well Location
[Red dot]	Proposed Phase B Boring Location
[Green dot]	Proposed Phase B Boring and Geotechnical Sample Location
[Yellow dot]	Proposed Phase B Soil Gas Location
[Blue dot]	Phase A Boring Location (Sept. 2007)
[Green dot]	Phase II BRC Sample Location (Oct. 2007)
[Yellow dot]	Historic Groundwater Monitoring Well Location (Dry)
[Red dot]	Historic Sample Location (pre 2006)
[Red arrow]	LOU #59 Storm Sewer System with manholes and sumps with flow direction in Area III
[Blue arrow]	LOU #59 Storm Sewer System with manholes and sumps with flow direction in other areas
[Green arrow]	LOU #60 Acid Drain System with manholes and sumps with flow direction in Area III
[Blue arrow]	LOU #60 Acid Drain System with manholes and sumps with flow direction in other areas
[Black line]	Four Acre Grid Line (Cell reference displayed row column)
[Black line]	Parcel Boundary
[Small square]	GNIC Stationing, Nevada East, NAD83, Feet Base Aerial Photo from PBSA, October 2006

PHASE B SAMPLE LOCATIONS AND LOUS FOR AREA III
PHASE B AREA III SOURCE AREA INVESTIGATION
TRONOX FACILITY
HENDERSON, NEVADA

SCALE: AS SHOWN	DATE: 09/20/08	PROJECT NUMBER: 04020-023-430
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ENSR CORPORATION
 1220 AVENIDA ACASO
 CAMARILLO, CALIFORNIA 93012
 PHONE: (805) 388-3775
 FAX: (805) 388-3577
 WEB: HTTP://WWW.ENSR.AECOM.COM

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REVISIONS			
NO.	DESCRIPTION	DATE	BY

DRAWN BY: M. Scop	CHECKED BY: C. Schell	APPROVED BY: B. Ho
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SHEET NUMBER: 1 OF 1