

September 19, 2007

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

#### Subject: Phase 2 Sampling and Analysis Plan to Conduct Soil Characterization, Tronox Parcel "F" Site, Henderson, Nevada, Revision 1E

Dear Shannon:

On behalf of Tronox, Basic Environmental Company (BEC) appreciates the opportunity to submit this letter Phase 2 Sampling and Analysis Plan (SAP) to conduct soil characterization of the Tronox Parcel "F" (portions of APN No. 178-12-401-009). Parcel F will be referred to as the Site for the purposes of this SAP. The Site is located within the Tronox facility, approximately 1/2 mile north of Lake Mead Parkway, in Henderson, Nevada. Figure 1 illustrates the location of the subject Site within the Tronox property. Figure 1 also shows the various Tronox source areas. Figure 2 shows details of Parcel F. Legal boundaries of Parcel F will be provided to the Nevada Division of Environmental Protection (NDEP) prior to issuance of the requested No Further Action Determination (NFAD). This revision of the SAP, Revision 1, incorporates comments received from the NDEP, dated September 12, 2007, on Revision 0 of the SAP, dated August 28, 2007. The NDEP comments and BRC's response to these comments are included in Attachment A. Also included in Attachment A is a redline/strikeout version of the text showing the revisions from the August, 28 2007 version of the SAP.

#### **Background**

The Site, which represents a portion of the Tronox property, is comprised primarily of vacant land, and includes portions of a building foundation. A remediation project was recently completed on the Parcel directly north of this Parcel (by TIMET). The parcel to the north was contaminated with PCBs from electrical equipment. There are also several aboveground storage tanks to the south of the Site. Although these tanks are at a higher elevation than the Site, they are within a bermed and synthetic lined containment area designed to hold 110 percent of the largest tank's contents. The tanks are empty now but historically stored sodium chlorate, and there has been no history of the tanks leaking. Even if the tanks did leak, it would be contained with the containment area. Therefore, there is minimal possibility of impacts to the Site from these tanks. In addition, the former Hardesty Chemical/AMECCO operation may have occurred directly south of the Site. Hardesty Chemical Company leased electrolysis building #2 and the adjacent chlorination building for operation of a chemical plant from 1946 to 1947. The company produced synthetic detergents, muriatic acid, chlorobenzene, p-dichlorobenzene, and o-dichlorobenzene. Hardesty Chemical sold or assigned its interest in the lease to Amecco Chemicals, Inc. in 1947. Amecco purchased chlorine piped in from Stauffer and produced four chemical products: chlorobenzene, p-dichlorobenzene, o-dichlorobenzene, and arsenite. The chemicals that may have been produced by these facilities are included in the proposed analytical list for this SAP.

BEC also recognizes that other historic uses/disposals on or near the Site may have occurred. A Phase 1 investigation has been performed on the Site. The Phase 1 investigation, Site visits and historical aerial photographs analysis indicate the presence of staining and debris. Electrical equipment (owned by BMI) is also located on the Site in a fenced area. None of this equipment contained PCBs. The equipment is de-energized and will be removed from the Site prior to its development. Given the Site is within the Tronox facility, and in the vicinity of the other BMI Industrial Companies, it is also possible that the Site or portions thereof could also have been indirectly impacted by such operations.

Several monitoring wells are located within the Site, which are used by several of the BMI plant operating companies. For example, Stauffer Management Company LLC (Stauffer), Montrose Chemical Corporation of California (Montrose), Syngenta Crop Protection, Inc., and Pioneer Americas, LLC (the Companies) conducted quarterly groundwater samples from one alluvial aquifer monitoring well within the property (TR-6). Chemicals concentrations were generally low or non-detect; however, chloroform was detected at 2,500 parts per billion (ppb). Tronox conducted groundwater sampling as part of their Phase A investigation in November-December 2006, as well as sampling conducted for their quarterly performance report in February 2007. Results of both the Montrose and Tronox groundwater sampling events are presented in Table 1.

This SAP will focus on the upper ten feet of soil in order to obtain a NFAD from the NDEP in order to support future industrial/commercial use on this Site. No residential use is planned. Tronox anticipates that, if needed, the site NFAD will contain a deed restriction precluding residential use of the property. The rationale for sampling for the upper ten feet (as opposed to the upper five feet) is that although imported fill of roughly five feet depth will be required in order to meet final site grading requirements on a site-wide average basis, the fill depth may not be exactly five feet at all locations. This fill will be clean. One possible source is material from the BRC Borrow Pit.

#### **Objective**

The objective of the field investigation is to identify and characterize the distribution of Siterelated chemicals (SRCs) in the vicinity of the future land use features (e.g., warehouses, commercial office buildings) and historical site features (e.g., electrical equipment storage, debris piles, etc.). Surface and shallow subsurface samples that will be collected are depthdiscrete soil matrix samples. Sample locations have been placed to both evaluate potential future land use exposures (although future plans are not fully defined at this time), and to characterize potential source areas on the Site. Source areas (defined during the Kerr-McGee Chemical Phase II work completed in the 1990's) within the Tronox property are shown on Figure 1. The sample locations proposed in this SAP provide spatial coverage of the Site (Figure 2). The rationale for location of the sampling points is to ensure that the entire Site is reasonably and completely covered for sampling purposes in order to obtain data that are representative of the Site, that specific locations within the Site that were potentially impacted are also sampled, and that the sampled concentrations can be meaningfully used in subsequent risk assessments, if needed. Ultimately, the purpose of this sampling is to support the NFAD for Parcel F.

#### Scope of Work

The following is the proposed scope of work for investigating the Site and meeting the SAP objectives. The scope of work has been divided into three main tasks: 1) Field Implementation; 2) Data Evaluation; and 3) Reporting.

### Task 1: Field Implementation

The purpose of the intrusive investigation is to collect data sufficient to meet the objectives of the SAP. All sampling and sample handling procedures will be consistent with the NDEP-approved BRC Field Sampling and Standard Operating Procedures (FSSOP; BRC, ERM and MWH 2007a).

The proposed analyte list is composed of VOCs, semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), dioxins/furans, metals, organochlorine pesticides, perchlorate, ions (including chloride, nitrate, nitrite, and sulfate), radionuclides, and asbestos. This list includes all of the compounds (with a few additional modifications as discussed subsequently) on Tronox's "reduced list" as shown in Table 2. Tronox's reduced list was developed as a subset of the entire suite of Tronox SRCs based on the findings of the Tronox Phase A Source Area Investigation. The modifications are as follows: first, in general instead of analyzing for specific members of certain analyte categories like metals, VOCs and SVOCs, the entire suite will be analyzed and reported; second, the organophosphate pesticide and chlorinated herbicide suites were eliminated since only three detections were in these analytical suites (dimethoate and demeton-o) which were at least an order of magnitude below their respective U.S. Environmental Protection Agency (USEPA) Region 9 industrial preliminary remediation goals (PRGs); and lastly, not all SRCs are proposed to be analyzed at all depths in this SAP (for example, dioxins/furans and asbestos are proposed to be analyzed in surface soil samples only). Although only a single Aroclor was detected once in the Tronox Phase A Source Area Investigation, at 20 feet below ground surface (bgs) and below it's respective PRG, because PCBs may potentially be present on the Site (for example, in the electrical equipment area), they are retained for analysis in surface soil samples, given the proximity to the TIMET Parcel F portion which contained PCBs. Summary results of the Tronox Phase A investigation for PCBs, organophosphate pesticides, and chlorinated herbicides are provided in Table 3.

Given the absence of direct operations on this Site of a nature commensurate to that which took place on the Tronox plant site itself, the proposed SRC list and proposed sampling should characterize those sources that were located on the Site, as well as likely chemicals that may have been deposited on the Site via fugitive dust emissions from the Tronox operations and property and/or other neighboring BMI plants. The proposed analyte list for this SAP is presented in Table 2. Unless as otherwise noted above, all analytes will be analyzed at all locations. BEC notes that this analyte list may not be appropriate for any future planned investigations (such as the proposed Tronox Phase B investigation) at the Site (which will extend from 10 feet bgs to groundwater).

#### Pre-Field Activities

The pre-field activities will be conducted in accordance with applicable standard operating procedures (SOPs; BRC, ERM and MWH 2007a). The BRC Quality Assurance Project Plan (QAPP; BRC and MWH 2007b) and Health and Safety Plan (HASP; BRC and MWH 2005) prepared for the BMI Common Areas will be used for this proposed scope of work. All work will be completed under the direction of a State of Nevada Certified Environmental Manager.

### Soil Borings

The SOPs referred to in the following discussion are documented in the FSSOP. BEC will implement field screening using photoionization detectors (PIDs) (using two lamps) in

accordance with SOP-39. SOP-1 will be followed for all drilling activities including Hollow Stem Auger drilling. The field geologist will prepare logs for each boring indicating the Unified Soil Classification System (USCS) soil classification (SOP-17), an estimate of field moisture content, sampling depths, progress of drilling (SOP-15), final completion depth, and the nature and resolution of any problems encountered.

Soil sample and auger boring locations will be surveyed using a handheld GPS to a horizontal accuracy of 3 meters (approximately 10 feet) or better. Soil cuttings generated during soil sampling and drilling activities will be collected on visqueen, analyzed, and appropriately disposed off. Due to the nature of the shallow sampling, it is not anticipated that a significant amount of excess soil will be generated as a result of the sampling, or that the soils will require special handling. Also, because the groundwater at the Site is generally 35 feet bgs, it is not anticipated that groundwater will be encountered during drilling of the shallow borings. The quality assurance/quality control (QA/QC) procedures that will be followed during the field investigation are detailed in Section B of the QAPP (BRC, ERM and MWH 2007b).

Soil matrix samples will be collected based on random sample locations placed within a 4-acre grid across the Site. The random sample locations were supplemented with judgmental sampling locations targeting specific site features (e.g., miscellaneous pile locations). The rationale for the various judgmental sampling locations is provided below:

- Parcel F, grid cell 'F-A2' 55-gallon drum location;
- Parcel F, grid cell 'F-B1' above ground vault location;
- Parcel F, grid cell 'F-B2' electrical equipment location;
- Parcel F, grid cell 'F-B1' debris pile location;
- Parcel F, grid cell 'F-B1' debris pile location;
- Parcel F, grid cell 'F-A1' debris pile location;
- Parcel F, grid cell 'F-A1' debris pile location;
- Parcel F, grid cell 'F-B2' debris pile location
- Parcel F, grid cell 'F-B1' debris pile location; and
- Parcel F, grid cell 'F-B2' mobile aboveground storage tank (AST) location.

Soil borings will be advanced with a hollow-stem auger to a total depth of ten feet bgs. Soil samples will be collected at approximately zero (i.e., surface) and ten feet bgs. Soil samples will be analyzed for the analyte list provided in Table 2, with limitations as noted in the footnotes to this table.

#### Task 2: Data Evaluation

Once the data are collected, BEC will subject the data to validation per procedures agreed to previously with the NDEP and consistent with the QAPP (BRC, ERM and MWH 2007b). Only those data determined by the QA/QC review to be suitable for use will be considered for the site data set. A separate Data Validation Summary Report will be prepared and submitted to NDEP.

#### Task 3: Reporting

Upon receipt of laboratory analytical results, an investigation report will be prepared. The report shall contain, but not be limited to, the following items:

- A summary of the sampling procedures conducted;
- Sampling location map;

- Soil boring logs;
- An evaluation and summary of the collected data;
- Tables(s) summarizing soil results; and
- If appropriate, plan view maps indicating the locations of detected constituents in soil.

Given the depth to groundwater at the Site (approximately 35 feet bgs, as measured at on-site monitoring wells), and the fact that future development will cover the Site with paved areas and buildings, migration of chemicals at the Site to groundwater is considered unlikely. However, once the data are collected this will be evaluated in the report. It should also be noted that development of the site will not preclude future groundwater investigation or remediation activities that may need to be conducted by Tronox.

Following collection and analysis of soil samples, the data will be discussed with the NDEP. This will include a comparison to the recently approved BRC-TIMET background data set (BRC/TIMET 2007). If required upon this evaluation, a risk assessment will be conducted to evaluate the potential risks to future on-site human receptors. The receptors identified to be evaluated in the risk assessment will be consistent with the proposed development of the Site. These receptors will include construction workers, indoor commercial workers, and outdoor maintenance workers. Because the proposed development does not include residential units, on-site residents will not be evaluated. The risk assessment will be conducted using standard USEPA guidance, input parameters, and methods. A risk assessment work plan will be submitted to NDEP after sample results have been obtained and NDEP approval will be obtained prior to conducting the risk assessment.

#### <u>Schedule</u>

Once final approval of the SAP is received from NDEP, field implementation activities can commence within one to two weeks. BEC will provide NDEP with at least one week notice prior to the initiation of field activities at the Site. It is anticipated that this work can be completed within one week, depending on field conditions. The soil samples will be submitted to the laboratories and placed on a standard turn around time, which is 28 days for the complete analyte list. A report will be completed within three weeks after the final data are received from the laboratory and validated.

#### **Closing Remarks**

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

Sincerely,

Basic Environmental Company

Ranajit Sahu, CEM Project Manager

cc: Brian Rakvica, NDEP, BCA, Las Vegas, NV 89119 Jim Najima, NDEP, BCA, Carson City, NV 89701 Attachments: Table 1 – Recent Groundwater Results for Monitoring Wells within/near Parcel F Table 2 – Project List of Analytes – Soil Table 3 – Tronox Phase A Organophosphorous Pesticide and Chlorinated Herbicide Results Summary
Figure 1 – Tronox/BEC Parcel Map with Tronox Source Areas Figure 2 – Proposed Sample Locations – Parcel "F"

Attachment A - NDEP Comments and BRC's Response to Comments

#### **References**

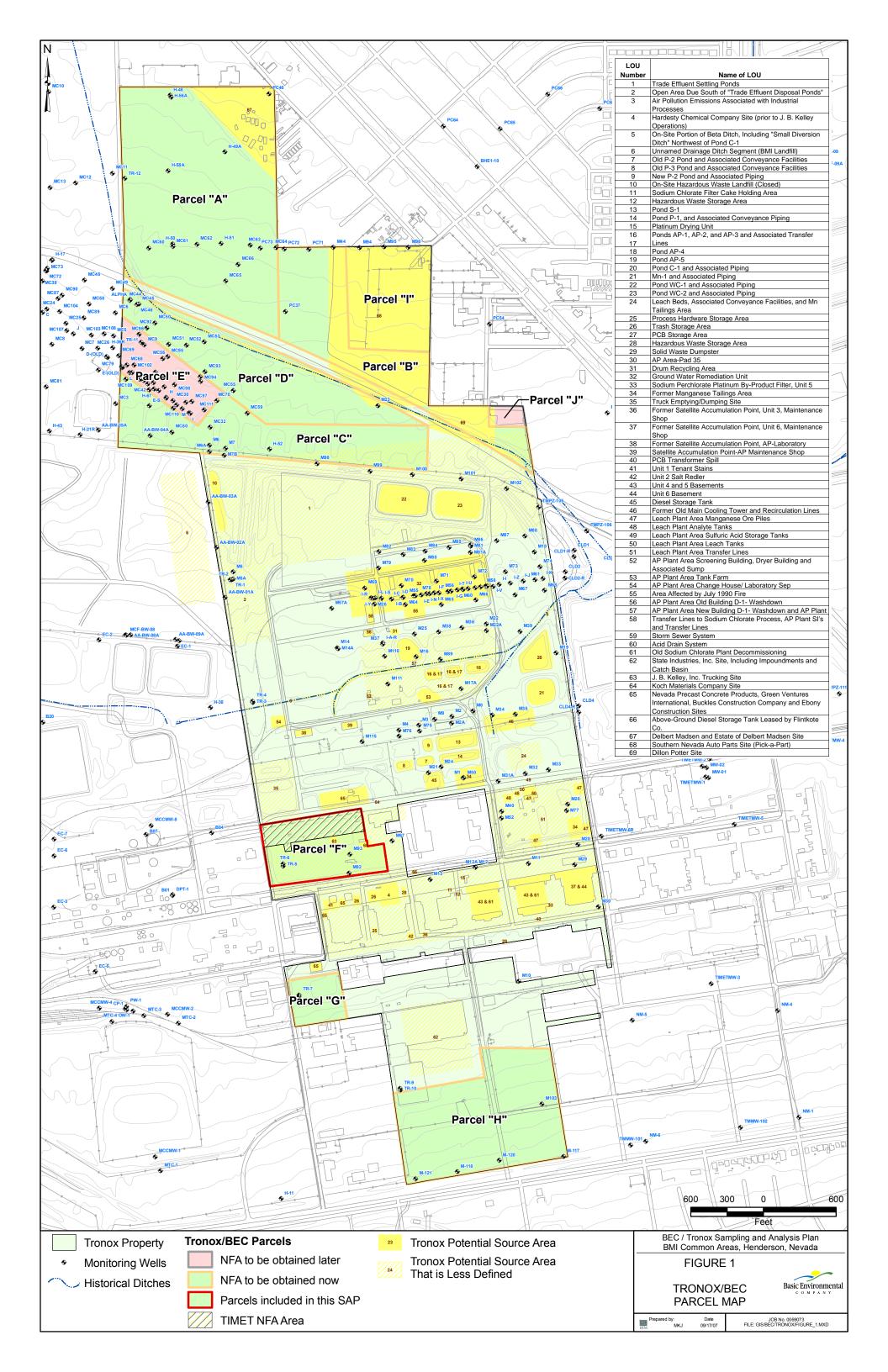
- Basic Remediation Company (BRC) and MWH. 2005. BRC Health and Safety Plan, BMI Common Areas, Clark County, Nevada. October.
- Basic Remediation Company (BRC), ERM, and MWH. 2007a. BRC Field Sampling and Standard Operating Procedures, BMI Common Areas, Clark County, Nevada. August.
- Basic Remediation Company (BRC), ERM, and MWH. 2007b. BRC Quality Assurance Project Plan. BMI Common Areas, Clark County, Nevada. August.
- Basic Remediation Company (BRC) and Titanium Metals Corporation (TIMET). 2007. Background Shallow Soil Summary Report, BMI Complex and Common Areas Vicinity. March 16.

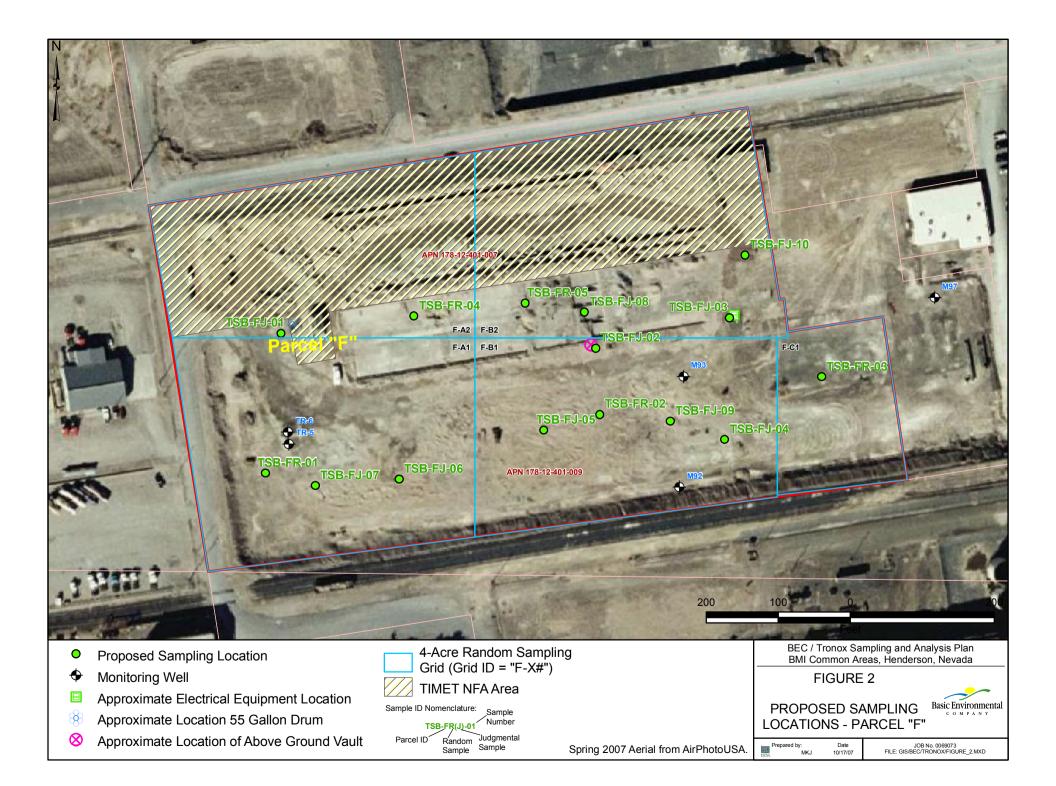
I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable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

September 19, 2007

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

FIGURES





TABLES

# TABLE 1 RECENT GROUNDWATER RESULTS FOR MONITORING WELLS WITHIN/NEAR PARCEL F (Page 1 of 5)

			Location	TR-06 <sup>a</sup>	M92 <sup>b</sup>	M92 <sup>c</sup>	M93 <sup>c</sup>	M97 <sup>b</sup>
Analytical			Date	01/23/2007	11/29/2006	2/2007	2/2007	11/29/2006
Method	Parameter	MCL	Units	<b>7</b> 0	N.T. 4	2.7.4		27.4
Organic Acids	4-Chlorobenzenesulfonic acid		µg/L	<50	NA	NA	NA	NA
	Benzenesulfonic acid Diethyl phosphorodithioic acid		μg/L 	<50 <50	NA NA	NA NA	NA NA	NA NA
	Dimethyl phosphorodithioic acid		μg/L μg/L	<250	NA	NA	NA	NA
	Phthalic acid		μg/L μg/L	<50	NA	NA	NA	NA
EPA 160.1	Total Dissolved Solids	500	mg/L	6300	1850	1990	2820	3750
EPA 160.2	Total Suspended Solids		mg/L	NA	22 J	NA	NA	16 J
EPA 310.1	Alkalinity (as CaCO3)		mg/L	NA	< 5 U	NA	NA	< 5 U
	Bicarbonate Alkalinity		mg/L	NA	80	NA	NA	90
	Total Alkalinity		mg/L	NA	80	NA	NA	90
EPA 425.1	MBAS		mg/L	NA	0.2 U	NA	NA	0.24
EPA 9056	Bromide		mg/L	NA	0.21 J	NA	NA	< 25 U
	Chlorate		mg/L	NA NA	3.2 J 192	NA NA	NA NA	277 <b>1190</b>
	Chloride	250	mg/L mg/L	NA	4	NA	NA	8.4
	Nitrate Nitrite		mg/L mg/L	NA	< 0.02 U	NA	NA	< 2 U
	ortho-Phosphate		mg/L mg/L	NA	4.5	NA	NA	315
	Sulfate	250	mg/L	NA	992	NA	NA	1150
EPA 9060	Total organic carbon		mg/L	NA	< 50 U	NA	NA	< 50 U
EPA 9040B	pH (liquid)	6.5-9	none	NA	7.4 J	NA	NA	7.3 J
EPA 9050A	Specific conductance		umhos/cm	NA	1930	NA	NA	2410
EPA 314.0	Perchlorate	18/24.5	μg/L	NA	610	670	7000	74500
EPA 350.1	Ammonia (as N)		μg/L	NA	< 50 U	NA	NA	< 50 U
EPA 9012A	Cyanide	200	μg/L	NA	R	NA	NA	R
EPA 8081A	2,4'-DDD		μg/L	<0.094 L	NA	NA	NA	NA
	2,4'-DDE 2.4'-DDT		μg/L μg/L	<0.094	NA NA	NA NA	NA NA	NA NA
	4,4-DDD		μg/L μg/L	<0.094	< 0.05 U	NA	NA	< 0.05 U
	4,4-DDE		μg/L μg/L	<0.094	< 0.05 U	NA	NA	< 0.05 U
	4,4-DDE 4.4-DDT		μg/L μg/L	<0.094	< 0.05 U	NA	NA	< 0.05 U
	Aldrin		μg/L	< 0.094	< 0.05 U	NA	NA	< 0.05 U
	alpha-BHC		μg/L	< 0.094	< 0.05 U	NA	NA	< 0.05 U
	alpha-Chlordane	2	μg/L	NA	< 0.05 U	NA	NA	< 0.05 U
	beta-BHC		μg/L	< 0.094	< 0.05 U	NA	NA	< 0.05 U
	Chlordane (Tech)	2	μg/L	< 0.94	< 0.5 U	NA	NA	< 0.5 U
	delta-BHC		μg/L	< 0.19	< 0.05 U	NA	NA	< 0.05 U
	Dieldrin		µg/L	<0.094	< 0.05 U	NA	NA	< 0.05 U
	Endosulfan I		μg/L	<0.094 <0.094	< 0.05 U < 0.05 U	NA NA	NA NA	< 0.05 U < 0.05 U
	Endosulfan II		μg/L μg/L	<0.094	< 0.05 U < 0.05 U	NA	NA	< 0.05 U
	Endosulfan Sulfate Endrin	2	μg/L μg/L	<0.094	< 0.05 U	NA	NA	< 0.05 U
	Endrin aldehyde		μg/L μg/L	<0.094	< 0.05 U	NA	NA	< 0.05 U
	Endrin ketone		μg/L	< 0.094	< 0.05 U	NA	NA	< 0.05 U
	gamma-BHC (Lindane)	0.2	µg/L	< 0.094	< 0.05 U	NA	NA	< 0.05 U
	gamma-Chlordane	2	μg/L	NA	< 0.05 U	NA	NA	< 0.05 U
	Heptachlor	0.2	μg/L	< 0.094	< 0.05 U	NA	NA	< 0.05 U
	Heptachlor epoxide	0.4	μg/L	< 0.094	< 0.05 U	NA	NA	< 0.05 U
	Methoxychlor	40	μg/L	<0.094	< 0.1 U	NA	NA	< 0.1 U
	Toxaphene	3	μg/L	<4.7	< 2 U	NA	NA	< 2 U
EPA 6020	Aluminum	0.05	mg/L mg/I	NA	<b>1.59</b> < 0.0005 U	NA	NA	<b>0.51</b>
	Antimony Arsenic	0.006	mg/L mg/L	NA 0.055	< 0.0005 U 0.0914	NA NA	NA NA	< 0.01 U 0.188
	Barium	2	mg/L mg/L	0.054	0.0383	NA	NA	0.0387 J
	Beryllium	0.004	mg/L mg/L	NA	< 0.00088 U	NA	NA	< 0.0018 U
	Boron		mg/L	NA	1.36	NA	NA	4.81
	Cadmium	0.005	mg/L	<0.010 RL1	0.000089 J	NA	NA	< 0.0012 U
	Calcium		mg/L	NA	138	NA	NA	309
	Chromium, Total	0.1	mg/L	0.012	0.0163	< 0.01	0.1	0.0772 J
	Cobalt		mg/L	NA	0.00084 J	NA	NA	< 0.0063 U
	Copper	1.3	mg/L	NA	0.0045	NA	NA	0.007
	Iron	0.3	mg/L	NA	1.01 J-	NA	NA	< 0.188 UJ
	Lead	0.015	mg/L	<0.010 RL1	0.00082 J	NA	NA	< 0.0098 U
	Magnesium		mg/L	NA	67	NA	NA	192
	Manganese	0.05	mg/L	NA	< 0.0353 U	NA	NA	< 0.0146 U

## TABLE 1 RECENT GROUNDWATER RESULTS FOR MONITORING WELLS WITHIN/NEAR PARCEL F (Page 2 of 5)

			Location	TR-06 <sup>a</sup>	M92 <sup>b</sup>	M92 <sup>c</sup>	M93 <sup>c</sup>	<b>M97</b> <sup>b</sup>
Analytical			Date	01/23/2007	11/29/2006	2/2007	2/2007	11/29/2006
Method	Parameter	MCL	Units					
EPA 6020	Nickel		mg/L	NA	0.0058	NA	NA	0.0114 J
	Platinum		mg/L	NA	< 0.0001 U	NA	NA	< 0.002 U
	Potassium Seleminum		mg/L mg/L	NA <0.020 RL1	11.4 0.003 J	NA NA	NA NA	17.3 < 0.02 U
	Selenium Silver	0.05	mg/L	<0.020 RL1	< 0.0002 U	NA	NA	< 0.02 U < 0.0041 U
	Sodium		mg/L mg/L	NA	306	NA	NA	623
	Strontium		mg/L	NA	3.09	NA	NA	7.62
	Thallium	0.002	mg/L	NA	< 0.00032 U	NA	NA	< 0.0064 U
	Tin		mg/L	NA	< 0.0002 U	NA	NA	< 0.004 U
	Titanium		mg/L	NA	0.0718	NA	NA	0.0223 J
	Tungsten		mg/L	NA	0.00063 J	NA	NA	< 0.01 U
	Uranium		mg/L	NA	0.0056	NA	NA	0.0346
	Vanadium		mg/L	NA	0.0367 J	NA	NA	0.043 J
	Zinc	0.5	mg/L	NA	< 0.0172 UJ	NA	NA	< 0.0452 UJ
EPA 7470A	Mercury	0.002	mg/L	<0.0002	< 0.000093 U	NA	NA	< 0.000093 L
EPA 7199	Hexavalent chromium		mg/L	NA NA	0.0143 J 0.209 J	NA	NA NA	0.0646 0.522 J
EPA 903.1	Radium-226 - soluble	5	pCi/L pCi/L	NA	0.209 J 0.204 U	NA NA	NA	0.322 J 0.718 J
EPA 904.0 EPA 8015B	Radium-228 - soluble Ethanol	5	mg/L	NA	0.204 U 5 U	NA	NA	0.718 J NA
A 0013B	Ethanol Ethylene glycol		mg/L	NA	10 UJ	NA	NA	NA
	Methanol		mg/L mg/L	NA	5 U	NA	NA	NA
EPA 8082	Aroclor 1016	0.5	μg/L	NA	0.1 U	NA	NA	0.1 U
	Aroclor 1221	0.5	μg/L	NA	0.1 U	NA	NA	0.1 U
	Aroclor 1232	0.5	µg/L	NA	0.1 U	NA	NA	0.1 U
	Aroclor 1242	0.5	µg/L	NA	0.1 U	NA	NA	0.1 U
	Aroclor 1248	0.5	μg/L	NA	0.1 U	NA	NA	0.1 U
	Aroclor 1254	0.5	µg/L	NA	0.1 U	NA	NA	0.1 U
	Aroclor 1260	0.5	μg/L	NA	0.1 U	NA	NA	0.1 U
EPA 8141A	Azinphos-methyl		μg/L	NA	< 2.5 UJ	NA	NA	< 2.5 UJ
	Bolstar		µg/L	NA	< 1 U	NA	NA	< 1 U
	Chlorpyrifos		µg/L	NA	<1U	NA	NA	<1U
	Coumaphos		μg/L ug/I	NA NA	< 1 U < 1 U	NA NA	NA NA	<1 U <1 U
	Demeton-O		μg/L μg/L	NA	<1U	NA	NA	<1U
	Demeton-S Diazinon		μg/L μg/L	NA	<1U	NA	NA	<1U
	Dichlorvos		μg/L μg/L	NA	<1U	NA	NA	<1U
	Dimethoate		μg/L	NA	<1U	NA	NA	<1U
	Disulfoton		μg/L	NA	< 0.5 U	NA	NA	< 0.5 U
	EPN		µg/L	NA	< 1.2 U	NA	NA	< 1.2 U
	Ethoprop		µg/L	NA	< 0.5 U	NA	NA	< 0.5 U
	Ethyl parathion		µg/L	NA	< 1 U	NA	NA	< 1 U
	Famphur		μg/L	NA	< 1 U	NA	NA	< 1 U
	Fensulfothion		μg/L	NA	< 2.5 U	NA	NA	< 2.5 U
	Fenthion		μg/L	NA	< 2.5 U	NA	NA	< 2.5 U
	Malathion		μg/L	NA	< 1.2 U	NA	NA	< 1.2 U
	Merphos		μg/L ug/I	NA NA	< 5 U < 4 U	NA	NA NA	< 5 U < 4 U
	Methyl parathion		μg/L μg/L	NA	< 4 U < 6.2 U	NA NA	NA	< 4 U < 6.2 U
	Mevinphos Naled		μg/L μg/L	NA	< 0.2 U	NA	NA	< 0.2 U < 1 UJ
	Phorate		μg/L μg/L	NA	< 1.2 U	NA	NA	< 1.2 U
	Ronnel		μg/L	NA	< 10 U	NA	NA	< 10 U
	Stirphos		μg/L	NA	< 3.5 U	NA	NA	< 3.5 U
	Sulfotep		µg/L	NA	< 1.5 U	NA	NA	< 1.5 U
	Thionazin		µg/L	NA	< 1 U	NA	NA	< 1 U
	Tokuthion		μg/L	NA	< 1.6 U	NA	NA	< 1.6 U
	Trichloronate		μg/L	NA	< 0.5 U	NA	NA	< 0.5 U
EPA 8260B	1,1,1,2-Tetrachloroethane		μg/L	<250	< 5 U	NA	NA	< 5 U
	1,1,1-Trichloroethane	200	μg/L	<100	< 5 U	NA	NA	< 5 U
	1,1,2,2-Tetrachloroethane		μg/L	<100	< 5 U	NA	NA	< 5 U
	1,1,2-Trichloroethane	5	µg/L	<100	< 5 U	NA	NA	< 5 U
	1,1-Dichloroethane		μg/L	<100	< 5 U	NA	NA	< 5 U
	1,1-Dichloroethene	7	μg/L ug/I	<250 <100	14 < 5 U	NA NA	NA NA	5.4
	1,1-Dichloropropene		μg/L μg/L	<100 <250 C	< 5 U < 5 U	NA NA	NA NA	< 5 U < 5 U
	1,2,3-Trichlorobenzene		µg/L	~230 C	< <u>5</u> U	1874	INA	< 5 U

# TABLE 1 RECENT GROUNDWATER RESULTS FOR MONITORING WELLS WITHIN/NEAR PARCEL F (Page 3 of 5)

			Location	TR-06 <sup>a</sup>	M92 <sup>b</sup>	M92 <sup>c</sup>	M93 <sup>c</sup>	M97 <sup>b</sup>
Analytical			Date	01/23/2007	11/29/2006	2/2007	2/2007	11/29/2006
Method	Parameter	MCL	Units	-250	- <b>F</b> U	NT A	NIA	- <b>5</b> I I
PA 8260B	1,2,4-Trichlorobenzene 1.2,4-Trimethylbenzene	70	μg/L μg/L	<250 <100	< 5 U < 5 U	NA NA	NA NA	< 5 U < 5 U
	1,2,4-1 rimetnyibenzene 1,2-Dibromo-3-chloropropane	0.2	μg/L μg/L	<250	< 5 U	NA	NA	< 5 U
	1,2-Dibromoethane		μg/L μg/L	<100	NA	NA	NA	NA
	1,2-Dichlorobenzene	600	μg/L	<100	< 5 U	NA	NA	< 5 U
	1,2-Dichloroethane	5	μg/L	<100	< 5 U	NA	NA	< 5 U
	1,2-Dichloropropane	5	μg/L	<100	< 5 U	NA	NA	< 5 U
	1,3,5-Trimethylbenzene		μg/L	<100	< 5 U	NA	NA	< 5 U
	1,3-Dichlorobenzene		μg/L	<100	< 5 U	NA	NA	< 5 U
	1,3-Dichloropropane		μg/L	<100	< 5 U	NA	NA	< 5 U
	1,4-Dichlorobenzene	75	µg/L	<100	0.76 J	NA	NA	< 5 U
	2,2-Dichloropropane		μg/L	<100	< 5 U	NA	NA	< 5 U
	2-Butanone		μg/L	NA	< 10 U	NA	NA	< 10 U
	2-Chlorotoluene		μg/L	<250	< 5 U	NA	NA	< 5 U
	2-Hexanone		µg/L	NA	< 10 UJ	NA	NA	< 10 UJ
	2-Methoxy-2-methyl-butane		µg/L	NA (250	< 5 U	NA	NA	< 5 U
	4-Chlorotoluene		μg/L ug/I	<250 NA	< 5 U < 5 U	NA NA	NA NA	< 5 U < 5 U
	4-Isopropyltoluene		μg/L μg/L	NA	< 10 U	NA	NA	< 10 U
	4-Methyl-2-pentanone		μg/L μg/L	NA	< 10 U	NA	NA	< 10 U
	Acetone Benzene	5	μg/L μg/L	<100	< 5 U	NA	NA	< 10 U
	Bromobenzene		μg/L	<250	< 5 U	NA	NA	< 5 U
	Bromochloromethane		μg/L	<250	< 5 U	NA	NA	< 5 U
	Bromodichloromethane		μg/L	<100	< 5 U	NA	NA	< 5 U
	Bromoform	80	μg/L	<250	< 5 U	NA	NA	< 5 U
	Chloroform	80	µg/L	2500	30	NA	NA	12
	Dibromochloromethane		μg/L	<100	< 5 U	NA	NA	< 5 U
	Bromomethane		μg/L	<250	< 10 UJ	NA	NA	< 10 UJ
	Carbon tetrachloride	5	μg/L	<250	< 5 U	NA	NA	< 5 U
	Chlorobenzene	100	μg/L	<100	< 5 U	NA	NA	< 5 U
	Chloroethane		μg/L	<250	< 5 UJ	NA	NA	< 5 UJ
	Chloromethane		μg/L	<250	< 5 UJ	NA	NA	< 5 UJ
	cis-1,2-Dichloroethene	70	μg/L	<100 <100	< 5 U < 5 U	NA NA	NA NA	< 5 U
	cis-1,3-Dichloropropene		μg/L ug/I	<100	< 5 U	NA	NA	< 5 U < 5 U
	Dibromomethane Dichlorodifluoromethane		μg/L μg/L	<250	< 5 UJ	NA	NA	< 5 UJ
	Dimethyl Disulfide		μg/L μg/L	<100	NA	NA	NA	NA
	Ethyl t-butyl ether		μg/L	NA	< 5 U	NA	NA	< 5 U
	Ethylbenzene	700	μg/L	<100	< 5 U	NA	NA	< 5 U
	Ethylene dibromide		μg/L	NA	< 5 U	NA	NA	< 5 U
	Hexachlorobutadiene		μg/L	<250	< 5 U	NA	NA	< 5 U
	isopropyl ether		µg/L	NA	< 5 U	NA	NA	< 5 U
	Isopropylbenzene		μg/L	<100	< 5 U	NA	NA	< 5 U
	p-Isopropyl toluene		µg/L	<100	NA	NA	NA	NA
	Methyl tert butyl ether		µg/L	NA	< 5 U	NA	NA	< 5 U
	Methylene chloride	5	μg/L	<250	< 5 U	NA	NA	< 5 U
	Naphthalene		μg/L	<250	< 5 U	NA	NA	< 5 U
	n-Butylbenzene		μg/L	<250	< 5 U	NA	NA	< 5 U
	n-Propylbenzene		μg/L	<100	< 5 U	NA	NA	< 5 U
	sec-Butylbenzene		µg/L	<250	< 5 U	NA	NA	< 5 U
	Styrene		μg/L μg/L	<100 NA	< 5 U < 10 UJ	NA NA	NA NA	< 5 U < 10 UJ
	t-Butyl alcohol		μg/L μg/L	<250	< 5 U	NA	NA	< 10 UJ
	tert-Butylbenzene Tetrachloroethene	5	μg/L μg/L	<100	< 5 U	NA	NA	< 3 U < 5 U
	Toluene	1,000	μg/L μg/L	<100	< 5 U	NA	NA	< 5 U
	trans-1,2-Dichloroethylene	1,000	μg/L μg/L	<100	< 5 U	NA	NA	< 5 U
	trans-1,3-Dichloropropene		μg/L μg/L	<100	< 5 U	NA	NA	< 5 U
	Trichloroethene	5	μg/L	<100	3.8 J	NA	NA	< 5 U
	Trichlorofluoromethane		μg/L	<250	< 5 UJ	NA	NA	< 5 UJ
	Vinyl chloride	2	μg/L	<250	< 5 UJ	NA	NA	< 5 UJ
	m,p-Xylene	10,000	μg/L	<100	NA	NA	NA	NA
	o-Xylene	10,000	μg/L	<100	NA	NA	NA	NA
	Xylene (Total)	10,000	μg/L	NA	< 10 U	NA	NA	< 10 U

# TABLE 1 RECENT GROUNDWATER RESULTS FOR MONITORING WELLS WITHIN/NEAR PARCEL F (Page 4 of 5)

			Location	TR-06 <sup>a</sup>	M92 <sup>b</sup>	M92 <sup>c</sup>	M93 <sup>c</sup>	M97 <sup>b</sup>
Analytical	<b>D</b>	MOL	Date	01/23/2007	11/29/2006	2/2007	2/2007	11/29/2006
Method PA 8270C	Parameter 1,2,4-Trichlorobenzene	70 MCL	Units	<9.4	NA	NA	NA	NA
PA 8270C	1.2-Dichlorobenzene	600	μg/L μg/L	<9.4	NA	NA	NA	NA
	1.3-Dichlorobenzene		μg/L μg/L	<9.4	NA	NA	NA	NA
	1,4-Dichlorobenzene	75	$\mu g/L$	<9.4	NA	NA	NA	NA
	1.4-Dioxane		$\mu g/L$	NA	< 10 U	NA	NA	< 10 U
	2,4,5-Trichlorophenol		μg/L	<19 L	NA	NA	NA	NA
	2.4.6-Trichlorophenol		μg/L	<19 L	NA	NA	NA	NA
	2,4-Dichlorophenol		μg/L	<9.4	NA	NA	NA	NA
	2,4-Dimethylphenol		μg/L	<19	NA	NA	NA	NA
	2,4-Dinitrophenol		μg/L	<19	NA	NA	NA	NA
	2,4-Dinitrotoluene		μg/L	<9.4 L	NA	NA	NA	NA
	2,6-Dinitrotoluene		μg/L	<9.4	NA	NA	NA	NA
	2-Chloronaphthalene		μg/L	<9.4	NA	NA	NA	NA
	2-Chlorophenol		μg/L	<9.4	NA	NA	NA	NA
	2-Methylnaphthalene		µg/L	<9.4	< 10 U	NA	NA	< 10 U
	2-Methylphenol		µg/L	<9.4	NA	NA	NA	NA
	2-Nitroaniline		μg/L	<19	NA	NA	NA	NA
	2-Nitrophenol		µg/L	<9.4	NA	NA	NA	NA
	3,3'-Dichlorobenzidine		µg/L	<19	NA	NA	NA	NA
	3-Nitroaniline		μg/L	<19	NA	NA	NA	NA
	4,6-Dinitro-2-methylphenol		μg/L	<19	NA	NA	NA	NA
	4-Bromophenyl phenyl ether		µg/L	<9.4 L	NA	NA	NA	NA
	4-Chloro-3-methylphenol		µg/L	<19	NA	NA	NA	NA
	4-Chloroaniline		µg/L	<9.4	NA	NA	NA	NA
	4-Chlorophenyl phenyl ether		µg/L	<9.4	NA	NA	NA	NA
	4-Methylphenol		µg/L	<9.4	NA	NA	NA	NA
	4-Nitroaniline		µg/L	<19	NA	NA	NA	NA
	4-Nitrophenol		µg/L	<19 L	NA	NA	NA	NA
	Acenaphthene		µg/L	<9.4	< 10 U	NA	NA	< 10 U
	Acenaphthylene		µg/L	<9.4	< 10 U	NA	NA	< 10 U
	Aniline		μg/L	<9.4	NA	NA	NA	NA
	Anthracene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Azobenzene		μg/L	<19	NA	NA	NA	NA
	Benzidine		µg/L	<19 L	NA	NA	NA	NA
	Benz(a)anthracene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Benzo(a)pyrene	0.2	µg/L	<9.4 L	< 10 U	NA	NA	< 10 U
	Benzo(b)fluoranthene		μg/L	<9.4 L	< 10 U	NA	NA	< 10 U
	Benzo(g,h,i)perylene		μg/L	<9.4 L	< 10 U	NA	NA	< 10 U
	Benzo(k)fluoranthene		μg/L	<9.4 L	< 10 U	NA	NA	< 10 U
	Benzoic acid		μg/L	<19	NA	NA	NA	NA
	Benzyl alcohol		μg/L	<19	NA	NA	NA	NA
	bis(2-Chloroethoxy)methane		μg/L	<9.4	NA	NA	NA	NA
	Bis(2-Chloroethyl)ether		μg/L	<9.4	NA	NA	NA	NA
	Bis(2-Chloroisopropyl)ether		μg/L	<9.4	NA	NA	NA	NA
	bis(2-Ethylhexyl)phthalate		μg/L	<47	3.2 J	NA	NA	1.5 J
	Butyl benzyl phthalate		μg/L	<19	< 10 U	NA	NA	< 10 U
	Chrysene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Di-n-butyl phthalate		μg/L	<19	< 10 U	NA	NA	< 10 U
	Di-n-octyl phthalate		μg/L	<19	< 10 U	NA	NA	< 10 U
	Dibenz(a,h)anthracene		μg/L	<19 L	< 10 U	NA	NA	< 10 U
	Dibenzofuran		μg/L	<9.4	NA	NA	NA	NA
	Diethyl phthalate		μg/L	<9.4 CL	< 10 U	NA	NA	< 10 U
	Dimethyl phthalate		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Fluoranthene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Fluorene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Hexachlorobenzene	1	μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Hexachlorobutadiene		μg/L	<9.4	NA	NA	NA	NA
	Hexachlorocyclopentadiene	50	μg/L	<19	NA	NA	NA	NA
	Hexachloroethane		μg/L	<9.4	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene		μg/L	<19 L	< 10 U	NA	NA	< 10 U
	Isophorone		μg/L	<9.4	NA	NA	NA	NA
	n-Nitroso-di-n-propylamine		μg/L	<9.4	NA	NA	NA	NA
	n-Nitrosodiphenylamine		μg/L	<9.4	NA	NA	NA	NA
	Naphthalene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Nitrobenzene		μg/L	<19	< 10 U	NA	NA	< 10 U

#### TABLE 1 RECENT GROUNDWATER RESULTS FOR MONITORING WELLS WITHIN/NEAR PARCEL F (Page 5 of 5)

Analytical			Location Date	<b>TR-06<sup>a</sup></b> 01/23/2007	<b>M92<sup>b</sup></b> 11/29/2006	<b>M92<sup>c</sup></b> 2/2007	<b>M93<sup>c</sup></b> 2/2007	<b>M97<sup>b</sup></b> 11/29/2006
Method	Parameter	MCL	Units					
EPA 8270C	Octachlorostyrene		μg/L	NA	< 10 U	NA	NA	< 10 U
	Pentachlorophenol	1	μg/L	<19	NA	NA	NA	NA
	Phenanthrene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Phenol		μg/L	<9.4	NA	NA	NA	NA
	Pyrene		μg/L	<9.4	< 10 U	NA	NA	< 10 U
	Pyridine		μg/L	NA	< 20 U	NA	NA	< 20 U

a = From Montrose, Syngenta, And Pioneer Groundwater Monitoring Data Submittal, First Quarter 2007, Quarterly Groundwater Monitoring Program, March 30, 2007.

b = From Tronox Source Area Investigation, Phase A, May 2007.

c = From Tronox Quarterly Performance Report, Perchlorate Recovery System, January-March 2007, May 2007.

NA = Not analyzed.

C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

L = Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.

R = The sample result is rejected and unusable.

RL1 = Reporting limit raised due to sample matrix effects.U = The analyte was analyzed for, but was not detected above the sample reporting limit

UJ = The analyte was not detected above the sample reporting limit and the reporting limit is approximate.

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 1 of 11)

					Soil Samp	le Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Ions	EPA 300.0	Bromide	24959-67-9		Х	Х
		Bromine	7726-95-6		Х	Х
		Chlorate	14866-68-3	Х	Х	Х
		Chloride	16887-00-6	Х	Х	Х
		Chlorine (soluble)	7782-50-5	Х	Х	Х
		Chlorite	14998-27-7		Х	Х
		Fluoride	16984-48-8		Х	Х
		Nitrate (as N)	14797-55-8	Х	Х	Х
		Nitrite (as N)	14797-65-0		Х	Х
		Orthophosphate	14265-44-2	Х	Х	Х
		Sulfate	14808-79-8	Х	Х	Х
	EPA 314.0	Perchlorate	14797-73-0	Х	Х	Х
Polychlorinated	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	Х	Х	
Dibenzodioxins/		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	Х	Х	
Dibenzofurans		1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	Х	Х	
		1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	Х	Х	
		1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	Х	Х	
		1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	Х	Х	
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	Х	Х	
		1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	Х	Х	
		1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	Х	Х	
		1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	Х	Х	
		1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	Х	Х	
		1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	Х	Х	
		1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	Х	Х	
		2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	Х	Х	
		2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	Х	Х	
		2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	Х	Х	
		2,3,7,8-Tetrachlororodibenzo-p-dioxin	1746-01-6	Х	Х	
Asbestos	Elutriator/TEM	Asbestos	1332-21-4	Х	Х	1

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 2 of 11)

					-	ole Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Metals	EPA 6020/6010B	Aluminum	7429-90-5	X	X	X
		Antimony	7440-36-0	X	X	X
		Arsenic	7440-38-2	Х	X	X
		Barium	7440-39-3	X	X	X
		Beryllium	7440-41-7	Х	X	X
		Boron	7440-42-8	Х	X	Х
		Cadmium	7440-43-9	Х	X	X
		Calcium	7440-70-2	Х	Х	Х
		Chromium	7440-47-3	Х	Х	Х
		Cobalt	7440-48-4	Х	Х	Х
		Copper	7440-50-8	Х	Х	Х
		Iron	7439-89-6	Х	Х	Х
		Lead	7439-92-1	Х	Х	Х
		Lithium	1313-13-9		Х	Х
		Magnesium	7439-95-4	Х	Х	Х
		Manganese	7439-96-5	Х	Х	Х
		Molybdenum	7439-98-7	Х	Х	Х
		Nickel	7440-02-0	Х	Х	Х
		Niobium	7440-03-1		Х	Х
		Palladium	7440-05-3		Х	Х
		Phosphorus	7723-14-0	Х	Х	Х
		Platinum	7440-06-4	Х	Х	Х
		Potassium	7440-09-7	Х	Х	Х
		Selenium	7782-49-2	Х	Х	Х
		Silicon	7440-21-3	Х	Х	Х
		Silver	7440-22-4	Х	Х	Х
		Sodium	7440-23-5	Х	Х	Х
		Strontium	7440-24-6	Х	Х	Х
		Sulfur	7704-34-9		Х	Х
		Thallium	7440-28-0	Х	Х	Х
		Tin	7440-31-5	Х	Х	Х
		Titanium	7440-32-6	Х	Х	Х

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 3 of 11)

					Soil Samp	ole Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Metals	EPA 6020/6010B	Tungsten	7440-33-7	Х	Х	Х
(continued)		Uranium	7440-61-1	Х	Х	Х
		Vanadium	7440-62-2	Х	Х	Х
		Zinc	7440-66-6	Х	Х	Х
		Zirconium	7440-67-7		Х	Х
	EPA 7196A	Chromium (VI)	18540-29-9	Х	Х	Х
Polychlorinated	EPA 8141A	Aroclor 1016	12674-11-2	Х	Х	
Biphenyls (PCBs) <sup>1</sup>		Aroclor 1221	11104-28-2	Х	Х	
		Aroclor 1232	11141-16-5	Х	Х	
		Aroclor 1242	53469-21-9	Х	Х	
		Aroclor 1248	12672-29-6	Х	Х	
		Aroclor 1254	11097-69-1	Х	Х	
		Aroclor 1260	11096-82-5	Х	Х	
Organophosphorous	EPA 8141A	Azinphos-Methyl	86-50-0	Х		
<b>Pesticides</b> <sup>1</sup>		Bolstar	35400-43-2	Х		
		Chlorpyrifos	2921-88-2	Х		
		Coumaphos	56-72-4	Х		
		Demeton-O	298-03-3	Х		
		Demeton-S	126-75-0	Х		
		Diazinon	333-41-5	Х		
		Dichlorvos	62-73-7	Х		
		Dimethoate	60-51-5	Х		
		Disulfoton	298-04-4	Х		
		Epn	2104-64-5	Х		
		Ethoprop	13194-48-4	Х		
		Ethyl Parathion	56-38-2	Х		
		Famphur	52-85-7	Х		
		Fensulfothion	115-90-2	Х		
		Fenthion	55-38-9	Х		
		Malathion	121-75-5	Х		
		Merphos	150-50-5	Х		
		Methyl Parathion	298-00-0	Х		

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 4 of 11)

					Soil Samp	ole Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Organophosphorous	EPA 8141A	Mevinphos	7786-34-7	Х		
Pesticides <sup>1</sup>		Naled	300-76-5	Х		
(continued)		Phorate	298-02-2	Х		
		Ronnel	299-84-3	Х		
		Stirphos	22248-79-9	Х		
		Sulfotep	3689-24-5	Х		
		Thionazin	297-97-2	Х		
		Tokuthion	34643-46-4	Х		
		Trichloronate	327-98-0	Х		
Organochlorine	EPA 8081A	2,4-DDD	53-19-0	Х	Х	Х
Pesticides		2,4-DDE	3424-82-6	Х	Х	Х
		4,4-DDD	72-54-8	Х	Х	Х
		4,4-DDE	72-55-9	Х	Х	Х
		4,4-DDT	50-29-3	Х	Х	Х
		Aldrin	309-00-2	Х	Х	Х
		alpha-BHC	319-84-6	Х	Х	Х
		alpha-Chlordane	5103-71-9	Х	Х	Х
		beta-BHC	319-85-7	Х	Х	Х
		Chlordane	57-74-9	Х	Х	Х
		delta-BHC	319-86-8	Х	Х	Х
		Dieldrin	60-57-1	Х	Х	Х
		Endosulfan I	959-98-8	Х	Х	Х
		Endosulfan II	33213-65-9	Х	Х	Х
		Endosulfan sulfate	1031-07-8	Х	Х	Х
		Endrin	72-20-8	Х	Х	Х
		Endrin aldehyde	7421-93-4	Х	Х	Х
		Endrin ketone	53494-70-5	Х	Х	Х
		gamma-BHC (Lindane)	58-89-9	Х	Х	Х
		gamma-Chlordane	5103-74-2	Х	Х	Х

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 5 of 11)

					Soil Samp	ole Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Organochlorine	EPA 8081A	Heptachlor	76-44-8	Х	Х	Х
Pesticides		Heptachlor epoxide	1024-57-3	Х	Х	Х
(continued)		Methoxychlor	72-43-5	Х	Х	Х
		Toxaphene	8001-35-2	Х	Х	Х
Chlorinated Herbicides <sup>1</sup>	EPA 8151A	2,4,5-TP (Silvex)	93-72-1	Х		
Polynuclear	EPA 8310 <sup>2</sup>	Acenaphthene	83-32-9	Х	Х	Х
Aromatic		Acenaphthylene	208-96-8	Х	Х	Х
Hydrocarbons		Anthracene	120-12-7	Х	Х	Х
		Benzo(a)anthracene	56-55-3	Х	Х	Х
		Benzo(a)pyrene	50-32-8	Х	Х	Х
		Benzo(b)fluoranthene	205-99-2	Х	Х	Х
		Benzo(g,h,i)perylene	191-24-2	Х	Х	Х
		Benzo(k)fluoranthene	207-08-9	Х	Х	Х
	EPA 8310 <sup>2</sup>	Chrysene	218-01-9	Х	Х	Х
		Dibenzo(a,h)anthracene	53-70-3	Х	Х	Х
		Indeno(1,2,3-cd)pyrene	193-39-5	Х	Х	Х
		Phenanthrene	85-01-8	Х	Х	Х
		Pyrene	129-00-0	Х	Х	Х
Radionuclides	HASL A-01-R	Thorium-228	14274-82-9	Х	Х	Х
		Thorium-230	14269-63-7	Х	Х	Х
		Thorium-232	7440-29-1	Х	Х	Х
		Uranium-233/234	13966-29-5	Х	Х	Х
		Uranium 235/236	15117-96-1	Х	Х	Х
		Uranium-238	7440-61-1	Х	Х	Х
	EPA 903.0 / 903.1	Radium-226	13982-63-3	Х	Х	Х
	EPA 904.0	Radium-228	15262-20-1	Х	Х	Х
Semivolatile	EPA 8270C <sup>3</sup>	1,2,4,5-Tetrachlorobenzene	95-94-3		Х	Х
Organic		1,2-Diphenylhydrazine	122-66-7		Х	Х
Compounds		1,4-Dioxane	123-91-1		Х	Х
		2,2'/4,4'-Dichlorobenzil	3457-46-3		Х	Х
		2,4,5-Trichlorophenol	95-95-4		Х	Х
		2,4,6-Trichlorophenol	88-06-2		Х	Х

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 6 of 11)

					Soil Samp	ole Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Semivolatile	EPA 8270C <sup>3</sup>	2,4-Dichlorophenol	120-83-2		Х	Х
Organic		2,4-Dimethylphenol	105-67-9		Х	Х
Compounds		2,4-Dinitrophenol	51-28-5		Х	Х
(continued)		2,4-Dinitrotoluene	121-14-2		Х	Х
		2,6-Dinitrotoluene	606-20-2		Х	Х
		2-Chloronaphthalene	91-58-7		Х	Х
		2-Chlorophenol	95-57-8		Х	Х
		2-Methylnaphthalene	91-57-6		Х	Х
		2-Nitroaniline	88-74-4		Х	Х
		2-Nitrophenol	88-75-5		Х	Х
		3,3-Dichlorobenzidine	91-94-1		Х	Х
		3-Nitroaniline	99-09-2		Х	Х
		4,4'-Dichlorobenzil	3457-46-3		Х	Х
		4-Bromophenyl phenyl ether	101-55-3		Х	Х
		4-Chloro-3-methylphenol	59-50-7		Х	Х
		4-Chlorophenyl phenyl ether	7005-72-3		Х	Х
		4-Chlorothioanisole	123-09-1		Х	Х
		4-Chlorothiophenol	106-54-7		Х	Х
		4-Nitroaniline	100-01-6		Х	Х
		4-Nitrophenol	100-02-7		Х	Х
		Acenaphthene	83-32-9	Х	Х	Х
		Acenaphthylene	208-96-8	Х	Х	Х
		Acetophenone	98-86-2		Х	Х
		Aniline	62-53-3		Х	Х
		Anthracene	120-12-7	Х	Х	Х
		Azobenzene	103-33-3		Х	Х
		Benzo(a)anthracene	56-55-3	Х	Х	Х
		Benzo(a)pyrene	50-32-8	Х	Х	Х
		Benzo(b)fluoranthene	205-99-2	Х	Х	Х
		Benzo(g,h,i)perylene	191-24-2	Х	Х	Х
		Benzo(k)fluoranthene	207-08-9	Х	Х	Х
		Benzoic acid	65-85-0	1	Х	Х

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 7 of 11)

					Soil Samp	ole Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Semivolatile	EPA 8270C <sup>3</sup>	Benzyl alcohol	100-51-6		Х	Х
Organic		bis(2-Chloroethoxy)methane	111-91-1		Х	Х
Compounds		bis(2-Chloroethyl) ether	111-44-4		Х	Х
(continued)		bis(2-Chloroisopropyl) ether	108-60-1		Х	Х
		bis(2-Ethylhexyl) phthalate	117-81-7		Х	Х
		bis(Chloromethyl) ether	542-88-1		Х	Х
		bis(p-Chlorophenyl) sulfone	80-07-9		Х	Х
		bis(p-Chlorophenyl)disulfide	1142-19-4		Х	Х
		Butylbenzyl phthalate	85-68-7		Х	Х
		Carbazole	86-74-8		Х	Х
		Chrysene	218-01-9	Х	Х	Х
		Dibenzo(a,h)anthracene	53-70-3	Х	Х	Х
		Dibenzofuran	132-64-9		Х	Х
		Dichloromethyl ether	542-88-1		Х	Х
		Diethyl phthalate	84-66-2		Х	Х
		Dimethyl phthalate	131-11-3		Х	Х
		Di-n-butyl phthalate	84-74-2		Х	Х
		Di-n-octyl phthalate	117-84-0		Х	Х
		Diphenyl disulfide	882-33-7		Х	Х
		Diphenyl sulfide	139-66-2		Х	Х
		Diphenyl sulfone	127-63-9		Х	Х
		Fluoranthene	206-44-0	Х	Х	Х
		Fluorene	86-73-7	Х	Х	Х
		Hexachlorobenzene	118-74-1	Х	Х	Х
		Hexachlorobutadiene	87-68-3		Х	Х
		Hexachlorocyclopentadiene	77-47-4		Х	Х
		Hexachloroethane	67-72-1		Х	Х
		Hydroxymethyl phthalimide	118-29-6		Х	Х
		Indeno(1,2,3-cd)pyrene	193-39-5	Х	Х	Х
		Isophorone	78-59-1		Х	Х
		m,p-Cresol	106-44-5		Х	Х
		Naphthalene	91-20-3	Х	Х	Х

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 8 of 11)

					Soil Sample Analysis		
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface	
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)	
Semivolatile	EPA 8270C <sup>3</sup>	Nitrobenzene	98-95-3	Х	Х	Х	
Organic		N-nitrosodi-n-propylamine	621-64-7		Х	Х	
Compounds		N-nitrosodiphenylamine	86-30-6		Х	Х	
(continued)		o-Cresol	95-48-7		Х	Х	
		Octachlorostyrene	29082-74-4	Х	Х	Х	
		p-Chloroaniline (4-Chloroaniline)	106-47-8		Х	Х	
		p-Chlorobenzenethiol	106-54-7		Х	Х	
		Pentachlorobenzene	608-93-5		Х	Х	
		Pentachlorophenol	87-86-5		Х	Х	
		Phenanthrene	85-01-8	Х	Х	Х	
		Phenol	108-95-2		Х	Х	
		Phthalic acid	88-99-3		Х	Х	
		Pyrene	129-00-0	Х	Х	Х	
		Pyridine	110-86-1	Х	Х	Х	
		Thiophenol	108-98-5		Х	Х	
		Tentatively Identified Compounds (TICs)			Х	Х	
Volatile	EPA 8260B	1,1,1,2-Tetrachloroethane	630-20-6		Х	Х	
Organic		1,1,1-Trichloroethane	71-55-6	Х	Х	Х	
Compounds		1,1,2,2-Tetrachloroethane	79-34-5		Х	Х	
		1,1,2-Trichloroethane	79-00-5		Х	Х	
		1,1-Dichloroethane	75-34-3		Х	Х	
		1,1-Dichloroethene	75-35-4		Х	Х	
		1,1-Dichloropropene	563-58-6		Х	Х	
		1,2,3-Trichlorobenzene	87-61-6		Х	Х	
		1,2,3-Trichloropropane	96-18-4		Х	Х	
		1,2,4-Trichlorobenzene	120-82-1		Х	Х	
		1,2,4-Trimethylbenzene	95-63-6		Х	Х	
		1,2-Dichlorobenzene	95-50-1	Х	Х	Х	
		1,2-Dichloroethane	107-06-2		Х	Х	
		1,2-Dichloroethene	540-59-0		Х	Х	
		1,2-Dichloropropane	78-87-5	1	Х	Х	
		1,3,5-Trichlorobenzene	108-70-3		Х	Х	

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 9 of 11)

					Soil Sample Analysis		
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface	
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)	
Volatile	EPA 8260B	1,3,5-Trimethylbenzene	108-67-8		Х	Х	
Organic		1,3-Dichlorobenzene	541-73-1	Х	Х	Х	
Compounds		1,3-Dichloropropene	542-75-6		Х	Х	
(continued)		1,3-Dichloropropane	142-28-9		Х	Х	
		1,4-Dichlorobenzene	106-46-7	Х	Х	Х	
		2,2-Dichloropropane	594-20-7		Х	Х	
		2,2-Dimethylpentane	590-35-2		Х	Х	
		2,2,3-Trimethylbutane	464-06-2		Х	Х	
		2,3-Dimethylpentane	565-59-3		Х	Х	
		2,4-Dimethylpentane	108-08-7		Х	Х	
		2-Chlorotoluene	95-49-8		Х	Х	
		2-Hexanone	591-78-6	Х	Х	Х	
		2-Methylhexane	591-76-4		Х	Х	
		2-Nitropropane	79-46-9		Х	Х	
		3,3-Dimethylpentane	562-49-2		Х	Х	
		3-Ethylpentane	617-78-7		Х	Х	
		3-Methylhexane	589-34-4		Х	Х	
		4-Chlorobenzene	108-90-7		Х	Х	
		4-Chlorotoluene	106-43-4		Х	Х	
		4-Methyl-2-pentanone (MIBK)	108-10-1	Х	Х	Х	
		Acetone	67-64-1	Х	Х	Х	
		Acetonitrile	75-05-8		Х	Х	
		Benzene	71-43-2	Х	Х	Х	
		Bromobenzene	108-86-1		Х	Х	
		Bromodichloromethane	75-27-4		Х	Х	
		Bromoform	75-25-2		Х	Х	
		Bromomethane	74-83-9		Х	Х	
		Carbon disulfide	75-15-0		Х	Х	
		Carbon tetrachloride	56-23-5	1	Х	Х	
		Chlorobenzene	108-90-7	Х	Х	Х	
		Chlorobromomethane	74-97-5	1	Х	Х	
		Chlorodibromomethane	124-48-1		Х	Х	

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 10 of 11)

				Tronox	Soil Sample Analysis		
Parameter of	Analytical		CAS		Surface	Subsurface	
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)	
Volatile	EPA 8260B	Chloroethane	75-00-3		Х	Х	
Organic		Chloroform	67-66-3	Х	Х	Х	
Compounds		Chloromethane	74-87-3		Х	Х	
(continued)		cis-1,2-Dichloroethene	156-59-2		Х	Х	
		cis-1,3-Dichloropropene	10061-01-5		Х	Х	
		Cymene (Isopropyltoluene)	99-87-6		Х	Х	
		Dibromochloroethane	73506-94-2		Х	Х	
		Dibromochloromethane	124-48-1		Х	Х	
		Dibromochloropropane	96-12-8		Х	Х	
		Dibromomethane	74-95-3		Х	Х	
		Dichloromethane (Methylene chloride)	75-09-2		Х	Х	
		Dimethyldisulfide	624-92-0		Х	Х	
		Ethanol	64-17-5		Х	Х	
		Ethylbenzene	100-41-4	Х	Х	Х	
		Freon-11 (Trichlorofluoromethane)	75-69-4		Х	Х	
		Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	76-13-1		Х	Х	
		Freon-12 (Dichlorodifluoromethane)	75-71-8		Х	Х	
		Heptane	142-82-5		Х	Х	
		Isoheptane	31394-54-4		Х	Х	
		Isopropylbenzene	98-82-8		Х	Х	
		m,p-Xylene	mp-XYL	Х	Х	Х	
		Methyl ethyl ketone (2-Butanone)	78-93-3	Х	Х	Х	
		Methyl iodide	74-88-4		Х	Х	
		MTBE (Methyl tert-butyl ether)	1634-04-4	Х	Х	Х	
		n-Butyl benzene	104-51-8		Х	Х	
		n-Propylbenzene	103-65-1		Х	Х	
		Nonanal	124-19-6		Х	Х	
		o-Xylene	95-47-6	Х	Х	Х	
		sec-Butylbenzene	135-98-8		Х	Х	
		Styrene	100-42-5		Х	Х	
		tert-Butyl benzene	98-06-6		Х	Х	
		Tetrachloroethene	127-18-4	Х	Х	Х	

#### TABLE 2 PROJECT LIST OF ANALYTES – SOIL (Page 11 of 11)

					Soil Samp	le Analysis
Parameter of	Analytical		CAS	Tronox	Surface	Subsurface
Interest	Method	Compound List	Number	SRC	(0 ft bgs)	(10 ft bgs)
Volatile	EPA 8260B	Toluene	108-88-3	Х	Х	Х
Organic		trans-1,2-Dichloroethene	156-60-5		Х	Х
Compounds		trans-1,3-Dichloropropene	10061-02-6		Х	Х
(continued)		Trichloroethene	79-01-6	Х	Х	Х
		Vinyl acetate	108-05-4		Х	Х
		Vinyl chloride	75-01-4		Х	Х
		Xylenes (total)	1330-20-7	Х	Х	Х
		Tentatively Identified Compounds (TICs)			Х	Х
Total Petroleum	EPA 8015	Diesel	64742-46-7	Х	Х	Х
Hydrocarbons		Gasoline	8006-61-9	Х	Х	Х
		Grease	68153-81-1	Х	Х	Х

Notes:

The laboratory will be instructed to report the top 25 Tentatively Identified Compounds (TICs) under method 8260B and 8270C.

<sup>1</sup>PCBs, organophosphorous pesticides and chlorinated herbicides are not included in the analyte list. See text for rationale.

<sup>2</sup>For polynuclear aromatic hydrocarbons, Method 8270C is the primary analytical method, but Method 8310 may be used if necessary.

<sup>3</sup>Method 3540 for extraction and Method 3640 for cleanup are to be used as appropriate.

## TABLE 3 TRONOX PHASE A ORGANOPHOSPHOROUS PESTICIDE AND CHLORINATED HERBICIDE RESULTS SUMMARY (Page 1 of 2)

					Minimum	Maximum	Minimum	Maximum	
Method	Matrix	Chemical	Count	Hits	Detect	Detect	DL	DL	PRG/MCL
Organophosphorous	Soil (mg/kg)	Azinphos-Methyl	36	0			0.014	0.017	
Pesticides		Bolstar	36	0			0.014	0.017	
		Chlorpyrifos	36	0			0.021	0.026	1,847
		Coumaphos	36	0			0.014	0.017	
		Demeton-O	36	1	0.092	0.092	0.041	0.05	24.6
		Demeton-S	36	0			0.016	0.019	24.6
		Diazinon	36	0			0.023	0.028	554
		Dichlorvos	36	0			0.024	0.03	5.9
		Dimethoate	36	3	0.011	0.013	0.023	0.028	123
		Disulfoton	36	0			0.05	0.062	24.6
		Epn	36	0			0.014	0.017	6.16
		Ethoprop	36	0			0.016	0.019	
		Ethyl Parathion	36	0			0.019	0.023	3,694
		Famphur	36	0			0.014	0.017	
		Fensulfothion	36	0			0.014	0.017	
		Fenthion	36	0			0.034	0.043	
		Malathion	36	0			0.016	0.019	12,312
		Merphos	36	0			0.031	0.039	
		Methyl Parathion	36	0			0.021	0.026	154
		Mevinphos	36	0			0.016	0.019	
		Naled	36	0			0.034	0.043	1,231
		Phorate	36	0			0.021	0.026	123
		Ronnel	36	0			0.019	0.023	30,780
		Stirphos	36	0			0.016	0.019	72
		Sulfotep	36	0			0.021	0.026	308
		Thionazin	36	0			0.019	0.023	
		Tokuthion	36	0			0.021	0.026	
		Trichloronate	36	0			0.021	0.026	
	Groundwater (ug/L)	Azinphos-Methyl	30	0			2.5	2.5	
	_	Bolstar	30	0			1	1	
		Chlorpyrifos	30	0			1	1	
		Coumaphos	30	0			1	1	
		Demeton-O	30	0			1	1	
		Demeton-S	30	0			1	1	
		Diazinon	30	0			1	1	
		Dichlorvos	30	0			1	1	
		Dimethoate	30	0			1	1	
		Disulfoton	30	0			0.5	0.5	

### TABLE 3 TRONOX PHASE A ORGANOPHOSPHOROUS PESTICIDE AND CHLORINATED HERBICIDE RESULTS SUMMARY (Page 2 of 2)

					Minimum	Maximum	Minimum	Maximum	
Method	Matrix	Chemical	Count	Hits	Detect	Detect	DL	DL	PRG/MCL
Organophosphorous	Groundwater (ug/L)	Epn	30	0			1.2	1.2	
Pesticides		Ethoprop	30	0			0.5	0.5	
		Ethyl Parathion	30	0			1	1	
		Famphur	30	0			1	1	
		Fensulfothion	30	0			2.5	2.5	
		Fenthion	30	0			2.5	2.5	
		Malathion	30	0			1.2	1.2	
		Merphos	30	0			5	5	
		Methyl Parathion	30	0			4	4	
		Mevinphos	30	0			6.2	6.2	
		Naled	30	0			1	1	
		Phorate	30	0			1.2	1.2	
		Ronnel	30	0			10	10	
		Stirphos	30	0			3.5	3.5	
		Sulfotep	30	0			1.5	1.5	
		Thionazin	30	0			1	1	
		Tokuthion	30	0			1.6	1.6	
		Trichloronate	30	0			0.5	0.5	
Chlorinated	Soil (mg/kg)	2,4,5-TP (Silvex)	3	0			0.021	0.025	4,925
Herbicides	Groundwater (ug/L)	2,4,5-TP (Silvex)	4	0			1	1	50

-- = None detected/none established.

DL = detection limit

PRG = U.S. Environmental Protection Agency (USEPA) Region 9 preliminary remediation goal

MCL = USEPA Maximum Contaminant Level

ATTACHMENT A

#### Attachment A

#### <u>Response to NDEP Comments Dated September 12, 2007 on the</u> <u>Phase 2 Sampling and Analysis Plan to Conduct Soil Characterization, Tronox Parcel "F"</u> <u>Site, Henderson, Nevada Dated August 28, 2007</u>

1. General comment, the Figures do not show the relationship of Parcel "F" to surrounding source areas. TRX has identified most of these source areas in their CSM: however, transparency is lacking in this document. Please provide a map showing Parcel "F" in comparison to these source areas.

*Response: Tronox source areas have been added to Figure 1. Figure 1 shows Parcel F.* 

- 2. Background, the NDEP provides the following comments:
  - a. TRX indicates that the aboveground storage tanks (ASTs) located south of the Site "...are at a different elevation – and therefore there is limited possibility that spills from the tanks would have affected the surface to 10 foot elevation of the Site." The text does not specify whether the tanks are higher or lower that the Site. The NDEP notes that these tanks are higher than Parcel F. It is unclear how this difference in elevation would prevent a release from these ASTs to the Site. Please revise and clarify this statement.

**Response:** The following text has been added to the sampling and analysis plan (SAP): Although the aboveground storage tanks are at a higher elevation than the Site, they are within a bermed and synthetic lined containment area, designed to hold 110% of the largest tank's contents. The tanks are empty now but historically stored sodium chlorate, and there has been no history of the tanks leaking. Even if the tanks did leak, it would be contained with the containment area. Therefore, there is no possibility of impacts to the Site from these tanks.

b. TRX states that this Site is in "the vicinity of BMI Industrial Companies". The Site is located on TRX property and in the vicinity of other BMI Industrial Companies. Please revise the text accordingly.

**Response:** The sentence has been reworded to read: Given the Site is within the Tronox facility, and in the vicinity of the other BMI Industrial Companies....

c. TRX states that several monitoring wells are located within the Site. TRX additionally states that monitoring well data from TR-6 indicated that concentrations of monitored chemicals are "generally low to non-detect". Please provide a table listing the concentration data available from all of the monitoring wells located on and in the immediate vicinity of the Site.

**Response:** A table (Table 1) with recent groundwater data from wells on the Site; shallow monitoring wells M92, M93, and TR-6, as well as monitoring well M95 which is approximately 75 feet east of the Site, has been added to the SAP.

d. TRX states that the concentration of chloroform in TR-6 was 2,500 ppb. Please provide a discussion on the vapor intrusion pathway in relation to future land use including development and construction activities.

**Response:** Depth to groundwater at the Site is approximately 40 feet below ground surface (bgs). In addition, the other on-site wells had only low levels of chloroform (and other VOCs), and Tronox is planning soil vapor sampling as part of its Phase B investigation. Therefore, given the depth to groundwater, and that subsequent soil vapor sampling will be collected, no further evaluation of this pathway is recommended as part of this SAP.

e. TRX proposes to focus sampling on the upper five feet of soil since five feet of fill will be imported to bring the Site to grade for construction. Please note that deed restrictions may need to be placed on the Site to facilitate a No Further Action Determination (NFAD).

**Response:** Comment noted. Text has been added to reflect the likely placement of a deed restriction down to the sampling depth of 10 feet below current ground surface.

Scope of Work, Task 1: Field Implementation, see the following comments:
 a. The reference for the BRC Field Sampling and Standard Operating Procedures (FSSOP) should be updated.

**Response:** The first revision of the SAP was submitted prior to the updated BRC FSSOP and QAPP documents. These references have been updated in this revision of the SAP.

b. Please note and revise text accordingly that dioxins/furans are listed on the TRX SRC list dated March 2006.

**Response:** The text has been revised accordingly.

c. The reference for the quality assurance project procedure (QAPP) should be updated.

**Response:** The first revision of the SAP was submitted prior to the updated BRC FSSOP and QAPP documents. These references have been updated in this revision of the SAP.

4. Scope of Work, Task 2: Data Evaluation, add SOP 40 to QAPP reference.

**Response:** The text has been revised to reference the updated FSSOP, which includes SOP-40.

5. Schedule, 1st paragraph, please verify that the 28-day turn around time is applicable to all analytes (i.e.: asbestos, radionuclides).

**Response:** Although in practice BRC has experienced longer turn around times from the laboratories, the specified project turn around time for all laboratory analysis is 28 days.

6. Figure 2, the NDEP observed that judgmental samples are not located on all seemingly disturbed areas on the provided aerial photograph (e.g. disturbed area in grid F-B2 between TSB-FR-05 and TSB-FJ-03, disturbed area in grid F-B1 between TSB-FR-02 and TSB-FJ-04, etc.). Please add samples to these areas or discuss rationale for not sampling these areas in the text.

**Response:** Judgmental samples have been added between TSB-FR-05 and TSB-FJ-03, and TSB-FR-02 and TSB-FJ-04.

- 7. The following comments are based on a May 11, 2007 letter from the NDEP, Re: Nevada Division of Environmental Protection Response to: Phase I Environmental Site Assessment Approximately 182 Acres of land (Phase I), dated March 5, 2007. These comments were generated for portions of APN 178-12-401-009 and 178-13-101-002 as shown in Figure 3 of the Phase I (currently labeled as Parcel "F" in the Phase 2 SAP)
  - a. Figure 3 in the Phase I, the NDEP has the following comments:
    - i. There appears to be large piles of debris that are not labeled on Figure 3. These had been removed by the time the NDEP had completed a site visit. It is necessary to correlate these piles to aerial photographs and investigate these areas, as necessary. Please discuss and illustrate on Figure 2 of the Phase II SAP.

**Response:** Six judgmental samples, as shown on the revised Figure 2, have been placed on these debris piles.

ii. As noted above it is imperative that TRX identify and discuss the features displayed on Figure 3.

**Response:** BRC has identified these features and has placed judgmental samples throughout the site in order to address these locations.

b. There is a building foundation on Parcel "F", which appears similar to the peat building that was destroyed on the TIMET parcel. Please discuss what the use of this building was.

**Response:** Tronox believes that this was also for a similar peat building.

c. TRX states that there is electrical equipment on Parcel "F" in a fenced area. The ownership and condition of this equipment needs to be assessed and reported in the Phase II SAP.

**Response:** The electrical equipment was operated by BMI. It has been de-energized and is no longer in operation. To the best of BMI's knowledge, none of the equipment contained any *PCBs*.

d. It is the understanding of the NDEP that the former Hardesty Chemical/ AMECCO operation may have occurred directly south of Parcel "F". Please discuss this.

**Response:** Additional text regarding these operations has been added to the text.

e. A mobile aboveground storage tank is located on Parcel "F". Please discuss this.

**Response:** According to Tronox the mobile aboveground storage tank was on the Timet NFA property south of the canteen, near its west end. The tank was small, approximately 300 to 400 gallons, and mounted on axels for transporting. On visual inspection, it appeared to be empty, except for some solid residue in the bottom, and did not give off any odors.

### **REDLINE/STRIKEOUT**



September 19, 2007

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

## Subject: Phase 2 Sampling and Analysis Plan to Conduct Soil Characterization, Tronox Parcel "F" Site, Henderson, Nevada, <u>Revision 1</u>

Dear Shannon:

On behalf of Tronox, Basic Environmental Company (BEC) appreciates the opportunity to submit this letter Phase 2 Sampling and Analysis Plan (SAP) to conduct soil characterization of the Tronox Parcel "F" (portions of APN No. 178-12-401-009). Parcel F will be referred to as the Site for the purposes of this SAP. The Site is located within the Tronox facility, approximately 1/2 mile north of Lake Mead Parkway, in Henderson, Nevada. Figure 1 illustrates the location of the subject Site withinrelative to the Tronox property. Figure 1 also shows the various Tronox source areas. Figure 2 shows details of Parcel F. Legal boundaries of Parcel F will be provided to the Nevada Division of Environmental Protection (NDEP) prior to issuance of the requested No Further Action Determination (NFAD). This revision of the SAP, Revision 1, incorporates comments received from the NDEP, dated September 12, 2007, on Revision 0 of the SAP, dated August 28, 2007. The NDEP comments and BRC's response to these comments are included in Attachment A. Also included in Attachment A is a redline/strikeout version of the text showing the revisions from the August, 28 2007 version of the SAP.

#### **Background**

The Site, which represents a portion of the Tronox property, is comprised primarily of vacant land, and includes portions of a building foundation. A remediation project was recently completed on the Parcel directly north of this Parcel (by TIMET). The parcel to the north was contaminated with PCBs from electrical equipment. There are also several aboveground storage tanks to the south of the Site. Although these tanks are at a higher elevation than the Site, they are within a bermed and synthetic lined containment area designed to hold 110 percent of the largest tank's contents. The tanks are empty now but historically stored sodium chlorate, and there has been no history of the tanks leaking. Even if the tanks did leak, it would be contained with the containment area. Therefore, there is minimal possibility of impacts to the Site from these tanks. Tronox indicates that these are at a different elevation — and therefore there is limited possibility that spills from the tanks would have affected the surface to 10 foot elevation of the Site. Hardesty Chemical/–AMECCO operation may have occurred directly south of the Site. Hardesty Chemical Company leased electrolysis building #2 and the adjacent chlorination building for operation of a chemical plant from 1946 to 1947. The company produced synthetic detergents, muriatic acid, chlorobenzene, p-dichlorobenzene, and

Ms. Shannon Harbour

o-dichlorobenzene. Hardesty Chemical sold or assigned its interest in the lease to Amecco Chemicals, Inc. in 1947. Amecco purchased chlorine piped in from Stauffer and produced four chemical products: chlorobenzene, p-dichlorobenzene, o-dichlorobenzene, and arsenite. The chemicals that may have been produced by these facilities are included in the proposed analytical list for this SAP.

BEC also recognizes that other historic uses/disposals on or near the Site may have occurred. A Phase 1 investigation has been performed on the Site. The Phase 1 investigation, Site visits and historical aerial photographs analysis indicate the presence of staining and debris. Electrical equipment (owned by BMI) is also located on the Site in a fenced area. None of this equipment contained PCBs. The equipment is de-energized and will be removed from the Site prior to its development. Given the Site is within the Tronox facility, and in the vicinity of the other BMI Industrial Companies, it is also possible that the Site or portions thereof could also have been indirectly impacted by such operations.

Several monitoring wells are located within the Site, which are used by several of the BMI plant operating companies. For example, Stauffer Management Company LLC (Stauffer), Montrose Chemical Corporation of California (Montrose), Syngenta Crop Protection, Inc., and Pioneer Americas, LLC (the Companies) conducted quarterly groundwater samples from one alluvial aquifer monitoring well within the property (TR-6). Chemicals concentrations were generally low or non-detect; however, chloroform was detected at 2,500 parts per billion (ppb). Tronox conducted groundwater sampling as part of their Phase A investigation in November-December 2006, as well as sampling conducted for their quarterly performance report in February 2007. Results of both the Montrose and Tronox groundwater sampling events are presented in Table 1.

This SAP will focus on the upper <u>tenfive</u> feet of soil in order to obtain a NFAD from the NDEP in order to support future industrial/commercial use on this Site. No residential use is planned. <u>Tronox anticipates that, if needed, the site NFAD will contain a deed restriction precluding</u> <u>residential use of the property.</u> The rationale for sampling for the upper <u>tenfive</u> feet (as opposed to the upper <u>five10</u> feet) is that <u>although</u> imported fill of roughly five feet depth will be required in order to meet final site grading requirements <u>on a site-wide average basis, the fill depth may</u> <u>not be exactly five feet at all locations</u>. This fill will be clean. One possible source is material from the BRC Borrow Pit.

#### **Objective**

The objective of the field investigation is to identify and characterize the distribution of Siterelated chemicals (SRCs) in the vicinity of the future land use features (e.g., warehouses, commercial office buildings) and historical site features (e.g., electrical equipment storage, debris piles, etc.). Surface and shallow subsurface samples that will be collected are depthdiscrete soil matrix samples. Sample locations have been placed to both evaluate potential future land use exposures (although future plans are not fully defined at this time), and to characterize potential source areas on the Site. <u>Source areas (defined during the Kerr-McGee Chemical Phase</u> <u>II work completed in the 1990's) within the Tronox property are shown on Figure 1.</u> The sample locations <u>proposed in this SAP</u> provide spatial coverage of the Site (Figure 2). The rationale for location of the sampling points is to ensure that the entire Site is reasonably and completely covered for sampling purposes in order to obtain data that are representative of the Site, that specific locations within the Site that were potentially impacted are also sampled, and that the

-2-

#### Ms. Shannon Harbour

-3-

sampled concentrations can be meaningfully used in subsequent risk assessments, if needed. Ultimately, the purpose of this sampling is to support the NFAD for Parcel F.

#### Scope of Work

The following is the proposed scope of work for investigating the Site and meeting the SAP objectives. The scope of work has been divided into three main tasks: 1) Field Implementation; 2) Data Evaluation; and  $\underline{32}$  Reporting.

#### Task 1: Field Implementation

The purpose of the intrusive investigation is to collect data sufficient to meet the objectives of the SAP. All sampling and sample handling procedures will be consistent with the NDEP-approved BRC Field Sampling and Standard Operating Procedures (FSSOP; ) (BRC, ERM and MWH 2007a2006a).

The proposed analyte list is composed of VOCs, semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), dioxins/furans, metals, organochlorine pesticides, perchlorate, ions (including chloride, nitrate, nitrite, and sulfate), radionuclides, and asbestos. This list includes all of the compounds (with a few additional modifications as discussed subsequently) on Tronox's "reduced list" as shown in Table 2.1. Tronox's reduced list was developed as a subset of the entire suite of Tronox SRCs based on the findings of the Tronox Phase A Source Area Investigation. The modifications are as follows: first, in general instead of analyzing for specific members of certain analyte categories like metals, VOCs and SVOCs, the entire suite will be analyzed and reported; second, the organophosphate pesticide and chlorinated herbicide suites were eliminated since only three detections were in these analytical suites (dimethoate and demeton-o) which were at least an order of magnitude below their respective U.S. Environmental Protection Agency (USEPA) Region 9 industrial preliminary remediation goals (PRGs); and lastlythird, not all SRCs are proposed to be analyzed at all depths in this SAP (for example, dioxins/furans and asbestos are is proposed to be analyzed in surface soil samples only).; and lastly, although dioxins/furans are not on the Tronox SRC list, because they may potentially be present on the Site, they are also proposed for analysis in surface soil samples. Although only a single Aroclor was detected once in the Tronox Phase A Source Area Investigation, at 20 feet below ground surface (bgs) and below it's respective PRG, because PCBs may potentially be present on the Site (for example, in the electrical equipment area), they are retained for analysis in surface soil samples, given the proximity to the TIMET Parcel F portion which contained PCBs. Summary results of the Tronox Phase A investigation for PCBs, organophosphate pesticides, and chlorinated herbicides are provided in Table 32.

Given the absence of direct operations on this Site of a nature commensurate to that which took place on the Tronox plant site itself, the proposed SRC list and proposed sampling should characterize those sources that were located on the Site, as well as likely chemicals that may have been deposited on the Site via fugitive dust emissions from the Tronox operations and property and/or other neighboring BMI plants. The proposed analyte list for this SAP is presented in Table 2.1. Unless as otherwise noted above, all analytes will be analyzed at all locations. BEC notes that this analyte list may not be appropriate for any future planned investigations (such as the proposed Tronox Phase B investigation) at the Site (which will extend from 10 feet bgs to groundwater).

#### Ms. Shannon Harbour

#### **Pre-Field Activities**

The pre-field activities will be conducted in accordance with applicable standard operating procedures (SOPs; BRC, <u>ERM</u> and MWH <u>2007a</u>2006a). The BRC Quality Assurance Project Plan (QAPP; BRC and MWH <u>2007b</u>2006b) and Health and Safety Plan (HASP; BRC and MWH 2005) prepared for the BMI Common Areas will be used for this proposed scope of work. All work will be completed under the direction of a State of Nevada Certified Environmental Manager.

#### Soil Borings

The SOPs referred to in the following discussion are documented in the FSSOP. BEC will implement field screening using photoionization detectors (PIDs) (using two lamps) in accordance with SOP-39. SOP-1 will be followed for all drilling activities including Hollow Stem Auger drilling. The field geologist will prepare logs for each boring indicating the Unified Soil Classification System (USCS) soil classification (SOP-17), an estimate of field moisture content, sampling depths, progress of drilling (SOP-15), final completion depth, and the nature and resolution of any problems encountered.

Soil sample and auger boring locations will be surveyed using a handheld GPS to a horizontal accuracy of 3 meters (approximately 10 feet) or better. Soil cuttings generated during soil sampling and drilling activities will be collected on visqueen, analyzed, and appropriately disposed off. Due to the nature of the shallow sampling, it is not anticipated that a significant amount of excess soil will be generated as a result of the sampling, or that the soils will require special handling. Also, because the groundwater at the Site is generally 35 feet bgs, it is not anticipated that groundwater will be encountered during drilling of the shallow borings. The quality assurance/quality control (QA/QC) procedures that will be followed during the field investigation are detailed in Section B of the QAPP (BRC, ERM and MWH 2007b2006b).

Soil matrix samples will be collected based on random sample locations placed within a 4-acre grid across the Site. The random sample locations were supplemented with judgmental sampling locations targeting specific site features (e.g., miscellaneous pile locations). The rationale for the various judgmental sampling locations is provided below:

- Parcel F, grid cell 'F-A2' 55-gallon drum location;
- Parcel F, grid cell 'F-B1' above ground vault location;
- Parcel F, grid cell 'F-B2' electrical equipment location;
- Parcel F, grid cell 'F-B1' debris pile location;
- Parcel F, grid cell 'F-B1' debris pile location;
- Parcel F, grid cell 'F-A1' debris pile location; and
- Parcel F, grid cell 'F-A1' debris pile location; -
- Parcel F, grid cell 'F-B2' debris pile location; and
- Parcel F, grid cell 'F-B1' debris pile location.

Soil borings will be advanced with a hollow-stem auger to a total depth of <u>tenfive</u> feet bgs. Soil samples will be collected at approximately zero (i.e., surface) and <u>tenfive</u> feet bgs. Soil samples will be analyzed for the analyte list provided in Table  $2^1$ , with limitations as noted in the footnotes to this table.

-4-

#### Task 2: Data Evaluation

Once the data are collected, BEC will subject the data to validation per procedures agreed to previously with the NDEP and consistent with the QAPP (BRC, <u>ERM</u> and MWH <u>2007b</u><del>2006b</del>). Only those data determined by the QA/QC review to be suitable for use will be considered for the site data set. A separate Data Validation Summary Report will be prepared and submitted to NDEP.

#### Task <u>3</u>2: Reporting

Upon receipt of laboratory analytical results, an investigation report will be prepared. The report shall contain, but not be limited to, the following items:

- A summary of the sampling procedures conducted;
- Sampling location map;
- Soil boring logs;
- An evaluation and summary of the collected data;
- Tables(s) summarizing soil results; and
- If appropriate, plan view maps indicating the locations of detected constituents in soil.

Given the depth to groundwater at the Site (approximately 35 feet bgs, as measured at on-site monitoring wells), and the fact that future development will cover the Site with paved areas and buildings, migration of chemicals at the Site to groundwater is considered unlikely. However, once the data are collected this will be evaluated in the report. It should also be noted that development of the site will not preclude future groundwater investigation or remediation activities that may need to be conducted by Tronox.

Following collection and analysis of soil samples, the data will be discussed with the NDEP. This will include a comparison to the recently approved BRC-TIMET background data set (BRC/TIMETTetraTech 2007). If required upon this evaluation, a risk assessment will be conducted to evaluate the potential risks to future on-site human receptors. The receptors identified to be evaluated in the risk assessment will be consistent with the proposed development of the Site. These receptors will include construction workers, indoor commercial workers, and outdoor maintenance workers. Because the proposed development does not include residential units, on-site residents will not be evaluated. The risk assessment will be conducted using standard USEPA guidance, input parameters, and methods. A risk assessment work plan will be submitted to NDEP after sample results have been obtained and NDEP approval will be obtained prior to conducting the risk assessment.

#### **Schedule**

Once final approval of the SAP is received from NDEP, field implementation activities can commence within one to two weeks. BEC will provide NDEP with at least one week notice prior to the initiation of field activities at the Site. It is anticipated that this work can be completed within one week, depending on field conditions. The soil samples will be submitted to the laboratories and placed on a standard turn around time, which is 28 days for the complete analyte list. A report will be completed within three weeks after the final data are received from the laboratory and validated.

-5-

#### **Closing Remarks**

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

Sincerely,

**Basic Environmental Company** 

Ranajit Sahu, CEM Project Manager

cc: Brian Rakvica, NDEP, BCA, Las Vegas, NV 89119 Jim Najima, NDEP, BCA, Carson City, NV 89701

#### Attachments:

 Table 1 – Recent Groundwater Results for Monitoring Wells within/near Parcel F
 Table 2 – Project List of Analytes – Soil
Table $\frac{32}{2}$ – Tronox Phase A Organophosphorous Pesticide and Chlorinated
Herbicide Results Summary
Figure 1 – Tronox/BEC Parcel Map with Tronox Source Areas
Figure 2 – Proposed Sample Locations – Parcel "F"
 Attachment A – NDEP Comments and BRC's Response to Comments

#### **References**

- Basic Remediation Company (BRC) and MWH. 2005. BRC Health and Safety Plan, BMI Common Areas, Clark County, Nevada. October.
- Basic Remediation Company (BRC), ERM, and MWH. 2007a.2006a. BRC Field Sampling and Standard Operating Procedures, BMI Common Areas, Clark County, Nevada. <u>AugustMay</u>.
- Basic Remediation Company (BRC), ERM, and MWH. 2007b.2006b. BRC Quality Assurance Project Plan. BMI Common Areas, Clark County, Nevada. AugustApril.
- Basic Remediation Company (BRC) and <u>Titanium Metals Corporation (TIMET)</u>. 2007. Background Shallow Soil Summary Report, BMI Complex and Common Areas Vicinity. March 16.

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

September 19August 28, 2007

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

-7-