SOIL MANAGEMENT PLAN

for the

5900 SUCCESS DRIVE SITE
City of Rome, Oneida County, New York
DEC VCA No. V00612-6

Prepared by:

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Project No. 2006184

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1.0 INTRODUCTION AND BACKGROUND

The 5900 Success Drive site (Site) is a 6.3-acre commercial-industrial property located in the West Rome Industrial Park in the City of Rome, Oneida County, New York. The location of the Site is provided on *Figure 1 – Site Location Map*. The Site contains a commercial-industrial building, paved parking lot areas and some small grass lawn areas (subsequently referred to as the "developed section"). West of the developed section, the remainder of the property is a rectangular area of approximately 2 acres, currently vacant and forested (subsequently referred to as the "vacant section"). Refer to *Figure 2 – Site Plan* for additional information on the boundaries and main features of the property.

The Site is part of a ±189-acre property formerly owned by the Federal Creosote Company, which operated a wood treating facility from the early 1900's until the late1950's. Refer to *Figure 3 – Aerial Map of Former Federal Creosote Property* for additional information. The facility treated railroad ties, using creosote as the preservative. A subsidiary company of Tronox LLC acquired the property in 1959, but did not operate it. The Rome Industrial Development Corporation (RIDC) acquired the property in 1969 and initiated development of what is now the West Rome Industrial Park. The Park is zoned industrial in the City of Rome zoning code. 5900 Success Drive Realty, LLC currently owns and leases the Site.

In 2004, Tronox LLC entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (DEC) and completed a remedial investigation (RI) of the Site and adjacent parts of the former Federal Creosote facility. The purpose of the RI and the VCA program was to identify remaining contamination attributed to the former Federal Creosote operations and, if needed, undertake remedial actions on the property. The Site was one of the parcels of the Park identified in the VCA. The objective of this Soil Management Plan (SMP) is to set guidelines for the identification and handling of remaining potentially contaminated soils in the event of future intrusive (subsurface) activities. This SMP also summarizes the current environmental conditions relating to soil management.

2.0 NATURE AND EXTENT OF CONTAMINATION

The environmental conditions at the Site were characterized from subsurface investigation activities for the RI completed by Tronox LLC under the VCA. The historical information regarding the former Federal Creosote operations and investigation findings are summarized in the VCA Final Work Plan, dated December 2002, and Remedial Investigation Reports, dated June 2004 and September 2005, prepared by Plumley Engineering, P.C. and approved by the DEC.

Available historical information obtained regarding Federal Creosote operations indicates the Site includes an area of the former wood treating property that was used as an aboveground creosote storage tank facility and operational support area containing a number of buildings, known to include a shop, office and boiler house. These former facilities were located in what is now the developed section of the property, as indicated on *Figure 2*. The vacant section was part of the facility's large, outdoor storage yard area used to store tie materials. The actual wood (tie) treatment operations were conducted in what was called the "retort building", located in a currently undeveloped and wooded area south and adjacent to the developed section, as indicated on *Figure 2*. Sawmills used for cutting and trimming the ties prior to treatment were located west of the vacant lot in the former storage yard area.

The characteristics of the residual contamination on the Site have been evaluated based on the completion of 36 soil borings, three test pits and four groundwater monitoring wells (refer to *Figure 2*) and supporting surface soil, subsurface soil and groundwater laboratory analytical results obtained for the RI report. The following is a summary of the findings of this work.

- No soils exceeding hazardous waste concentration thresholds or listing criteria[1] have been identified.

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR), Part 371, *Identification and Listings of Hazardous Waste*.

- The investigation activities did not find any areas of significant soil or groundwater impact requiring remediation by the DEC in the vacant section of the Site.

- The contaminants of concern (COCs) identified in soils at the Site were semi-volatile organic compounds (SVOCs) and metals. These contaminants tend to adsorb to the soil and are not highly volatile to the atmosphere, nor mobile in the groundwater. The list of detected COCs, their ranges of concentration detected at the Site and the currently applicable DEC soil cleanup and reuse[2] guidelines (SCGs) are summarized in *Table 1 – Summary of Soil Analytical Results.*

- Soil COCs were found to occur at different depths and under different surface cover conditions in the developed and undeveloped areas of the Site, as further described below:

    - The COCs found in the vacant section occur in near-surface soils and shallow subsurface soils at depths less than 4 feet below grade. The COC concentrations were highest at shallowest depths and found to be associated with cindery fill materials that were used as a surface gravel layer on the former storage yards. A thin layer (6 inches or less) of topsoil and/or forest organic debris covers the impacted, cindery materials in this area.

    - In the developed section of the Site, RI activities have demonstrated that a non-impacted sand and gravel fill was placed throughout the developed area to raise the grade to facilitate site development, and to provide select fill materials for pavement and the concrete floor in the building. The thickness of the pavement-concrete sections and their underlying clean fill ranges from a thickness of approximately 2 feet in the paved areas to approximately 5 feet beneath the building. The COCs were found to occur beneath these cover materials.

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[2]DEC Spill Technology and Remediation Series (STARS) Memo #1 - *Petroleum-Contaminated Soil Guidance Policy*, dated August 1992.

- No COCs above project SCGs were found during the RI activities in the area north of the building nor in the area east of the building.

- COC concentrations were highest in areas beneath the current building and in the southern parking lot. The RI demonstrated the adequacy of the 6-inch thick concrete floor slab, vapor barrier and structural fills in providing a clean buffer protecting workers in the building from exposures to the underlying COCs, as reviewed and approved by the DEC and New York State Department of Health (DOH).

- The delineated area of elevated impact in the southern parking lot area was excavated and properly disposed of off-site in an approved landfill during the Fall of 2006, with follow-up activities completed during the Fall of 2007. These excavation activities were conducted by Tronox and approved by the DEC, and are summarized in reports prepared by Plumley Engineering, P.C. The area excavated is shown on *Figure 2*.

- The source of the contaminated materials in the vacant section is attributed to activities related to the storage of railroad ties, including the use of cindery gravel as a surface cover for the nearly flat, open yard areas. The source of the contaminated materials in the developed section of the Site is attributed to activities related to the use and storage of creosote preservative in the treatment process.

- Analytical results from groundwater samples obtained from the monitoring wells installed on the site indicated:

  - No volatile organic compounds (VOCs) or SVOCS above State groundwater standards[3] were detected in the two monitoring wells north of the building. This area was shown to be located upgradient, with respect to the groundwater flow direction, of the former Federal Creosote facility operations and related potential sources of contamination.

[3]DEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, *Ambient Water Quality Standards and Guidance Values*, dated June 1998 and April 2002 Addendum.

- The presence of some VOC and SVOC compounds was indicated in wells downgradient (south) of the building at concentrations above State groundwater standards, but at relatively low levels, as summarized in *Table 1 – Summary of Soil Analytical Results*.
- *Figure 4 – Groundwater Site Plan* summarizes available data regarding groundwater contamination on and around the 5900 Success Drive commercial facility.

3.0 SITE HEALTH AND SAFETY CONCERNS

Although not expected to be significant, possible hazards associated with exposure to COC contaminated soils on the Site are primarily related to inhalation of dust or incidental dermal contacts with soils containing SVOCs and metals. Excavation and handling of the impacted materials should be undertaken in accordance with all applicable local, State and Federal regulations to protect the worker's health and safety.

4.0 CONTEMPLATED USE

The zoning in the West Rome Industrial Park is industrial and use of the Site is restricted to commercial-industrial, consistent with the existing City of Rome zoning and the VCA land use requirements and restrictions.

Deed restrictions will be implemented in accordance with the requirements of the VCA, requiring excavation of on-site soils to be managed in accordance with this SMP.

5.0 SOIL INSPECTION PROCEDURES

Impacted soils are identifiable based on the following characteristics:

- A distinct chemical ("moth ball") odor when disturbed.

- Brown to very dark staining of otherwise light brown soil color.

- Highly impacted material, if encountered, may exhibit an oily sheen or contain dark, tarry material, both of which typically have a distinct chemical odor.

- Dark, gray to black cindery gravel materials are commonly associated with the impacted soils.

As previously described in Section 2.0, the following occurrence of potentially impacted soils at the Site should be expected:

- In the vacant section, at or near the ground surface beneath the existing forest organic cover, and within shallow depths below grade.

- In the developed section:

    - Beneath the pavement and underlying clean sand and gravel fill at a depth of approximately 2 feet or more in the south parking lot area.

    - Beneath the concrete floor and underlying clean sand and gravel fill at an average depth of approximately 5 feet or more within the footprint of the building.

No COCs were found during the RI in the grass lawn and pavement areas north of the building, nor east of the building.

If soil contamination is suspected, an experienced environmental consultant should complete field screening of the excavated soils. If contaminated soils are identified, the procedures detailed in the sections below should be followed for handling the soils.

6.0 SOIL HANDLING

Prior to excavation activities, this document shall be made available to the workers for review. The document will serve as notification to the workers of the site conditions and instructions regarding how to proceed in managing excavated soils.

6.1 Management and Reuse of Soils On-Site

Soils excavated at the Site are to be managed as follows:

- The clean fill materials covering the developed section of the Site, as previously described (Sections 2.0 and 5.0), can be excavated without any restrictions. The clean fill materials can be removed and set aside for backfilling or for use as unrestricted on-site fill at any location.

- Excavated surface soils within the vacant section of the Site, or from beneath the clean cover materials in the developed section, should be placed on and covered with plastic sheeting during the excavation work. At the conclusion of the excavation activity, these materials may be reused on-site as backfill, provided they contain no significant oil staining or tar contamination and are left covered with at least 1 foot of clean soil. Clean surface soil initially removed from excavations in the developed section may be used for this purpose.

- If any soils excavated from the vacant section, or from beneath the clean surface materials in the developed section, are to be reused at a different location on the Site, it should be spread and covered with 1 foot of clean soil.

- Soils that contain significant oil staining or tar contamination (oil sheen, free liquid or semi-solid tars) may not be reused as backfill and must be properly disposed of at a DEC approved landfill, according to the procedures outlined below.

- If groundwater is encountered during construction and dewatering is required, the water must be properly handled. Groundwater with site COCs present cannot be discharged without proper treatment and authorization from the DEC. A qualified environmental consultant should be contracted to test the water and arrange proper treatment, approvals and disposal.

6.2 Taking Soils Off-Site

Soils that are excavated at the Site and are intended or required to be removed from the Site must be managed, characterized and properly disposed of in accordance with DEC requirements. All soils to be removed from the Site shall be handled as follows:

- ***Impacted or Potentially Impacted Soils***

  Any soils dug from the vacant lot, or soils dug from beneath the clean surface materials in the developed section, must be disposed of at a DEC-approved landfill (contact the receiving facility to determine the sampling and analysis requirements needed to obtain approval). Analytical results must be submitted and approved by the landfill before any soil can be removed from the site. The soil must be transported by trucking companies with DEC Part 364 hauling permits.

- ***Clean Soils***

  Clean soils forming the surface cover layer in the developed section of the site, or from the areas north and east of the building and which exhibit no indication of contamination (odors, staining, cindery materials), may be taken off-site for use as fill at other commercial or industrial sites, subject to certain conditions. These conditions are:

  - There must be no visual or olfactory indication that contamination is present in the soil.

- The soil must be properly sampled by a qualified environmental consultant, analyzed to demonstrate that the soil meets applicable DEC guidelines for reuse off-site and the results documented in a written report.

- The owner of the site receiving the fill material must be provided with a copy of this SMP, along with the testing results, and must sign a written acknowledgement that they will accept the soil.

- The DEC must be notified and approve the fill site.

Refer to *Appendix A – Analytical Procedures and Sampling Requirements* for sampling and testing procedures applicable for off-site reuse of clean soil, with DEC soil guidelines included in *Table 1 – Summary of Soil Analytical Results* (third column).

7.0 CONTACTS

This SMP pertains to and remains in effect for the continued use of the property by current and all future "owners" (actual property owners, their leasers, etc.) of the property consistent with its current zoning uses established with the City of Rome (commercial-industrial) and the property VCA deed restrictions. Owners, particularly future owners, may have questions regarding the use or need of the SMP or conditions regarding discovered or unearthed contamination. The following contact information is provided for obtaining information or any clarifications regarding the SMP. Note that departments and agencies are listed without reference to any individuals, the agency contacted will direct you to an appropriate individual.

New York State Department of
Environmental Conservation
Division of Environmental Remediation
317 Washington Street
Watertown, New York 13601
Telephone: (315) 785-2513

New York State Department of Health
Bureau of Environmental Exposure Investigation
Corning Tower
Empire State Plaza
Albany, New York 12237
Telephone: (518) 402-7860

Herkimer District Office
5665 State Route 5
Herkimer, New York 13350
Telephone: (315) 866-6879

Current Property Owner
5900 Success Drive Realty, LLC
153 Brooks Road
Rome, New York 13441
Telephone: (315) 338-0393

For information regarding the former Federal Creosote operations and potentially related contamination conditions on the property, contact:

Tronox LLC
P.O. Box 268859
Oklahoma City, Oklahoma 73126-8859
Telephone: (405) 775-5000

FIGURES

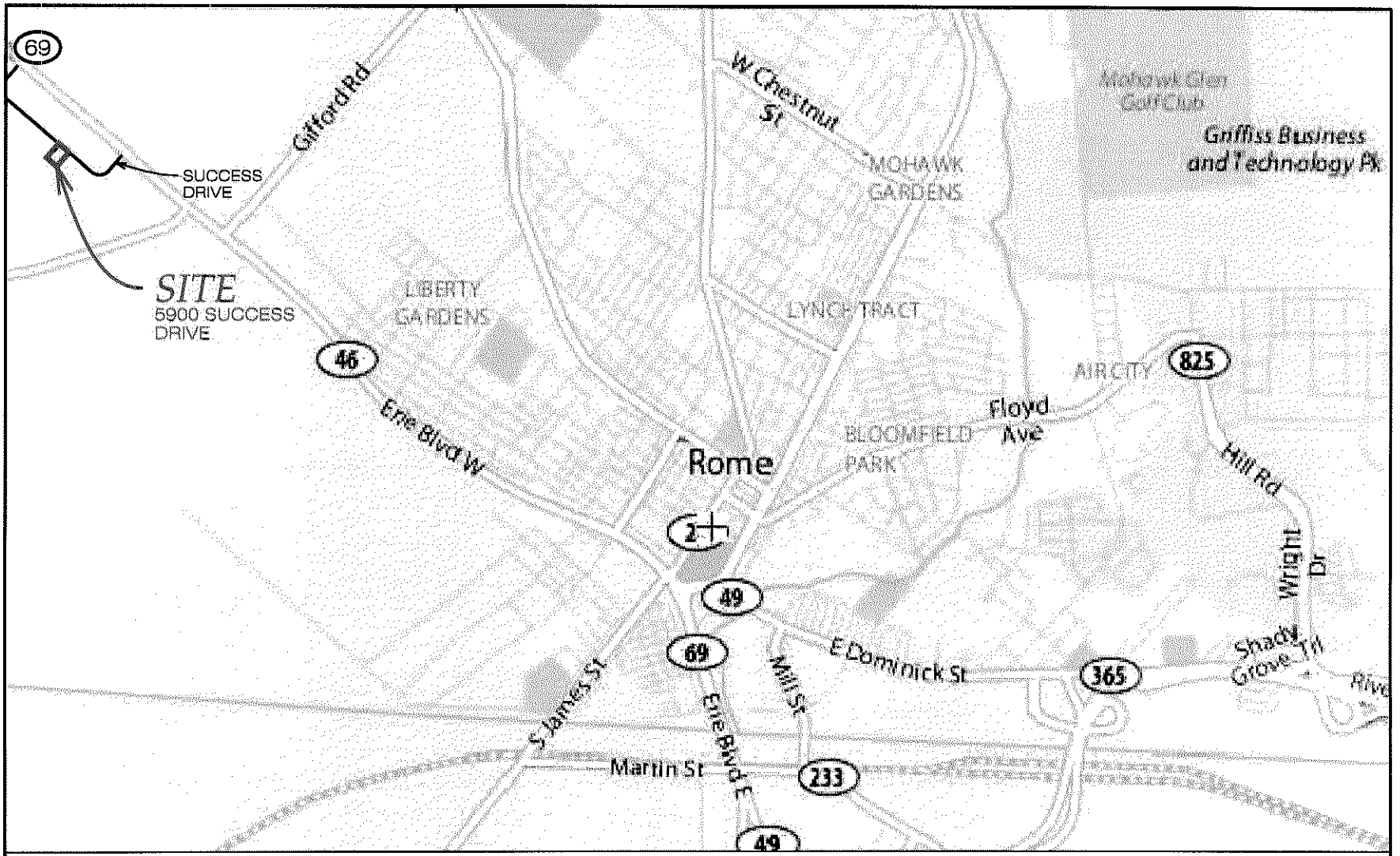

FIGURE 1

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Civil and Environmental Engineering

REVISIONS: DATE: BY:

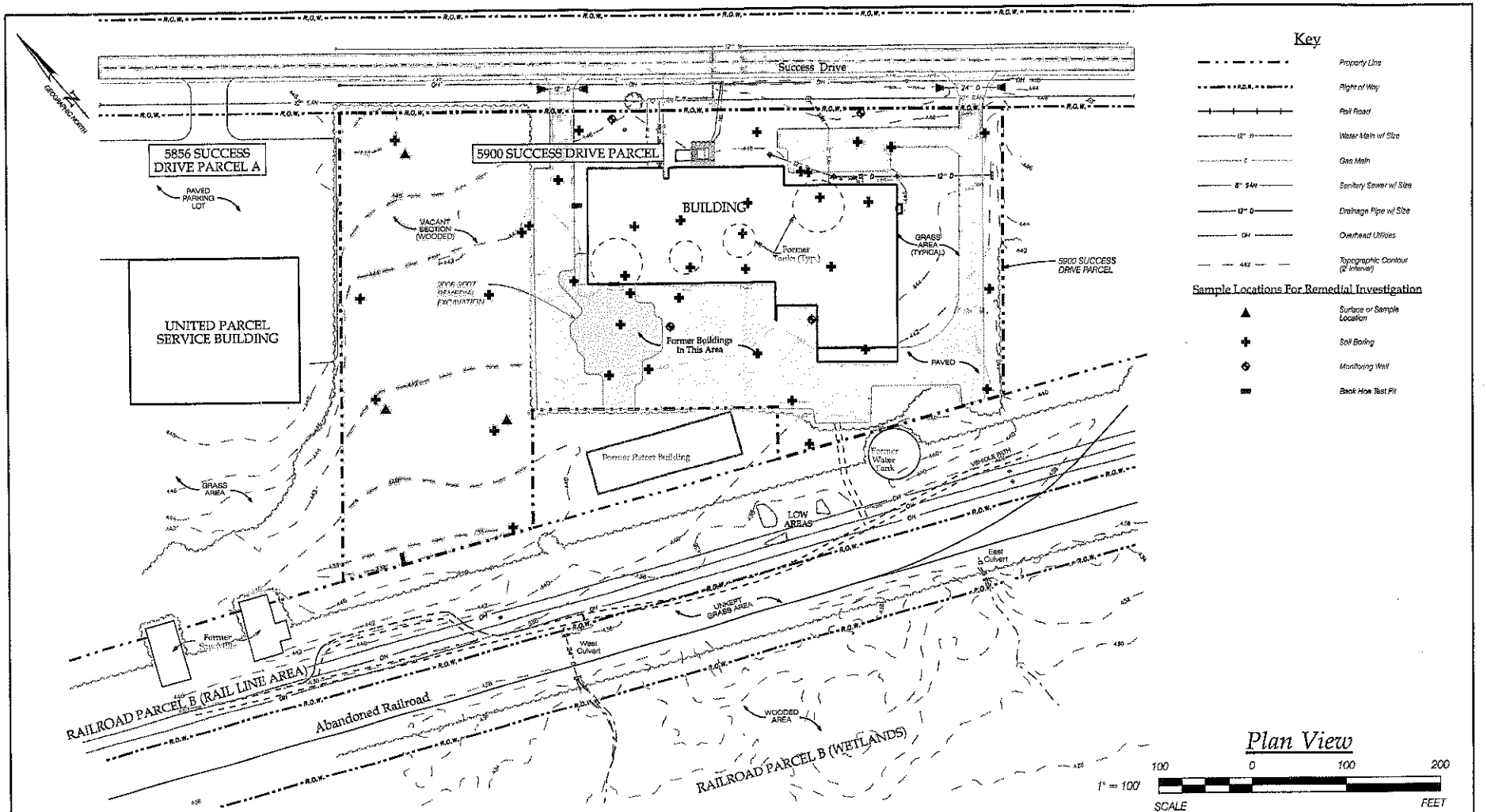
DESC.: SITE LOCATION MAP

PROJ.: 5900 SUCCESS DRIVE PROPERTY

CLIENT:

LCTN.: CITY OF ROME, ONEIDA COUNTY, NEW YORK

PROJECT No.:	2006184
FILE NAME.:	Figure1
SCALE:	AS NOTED
DATE:	FEB. 2008
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	FAK



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Civil and Environmental Engineering

REVISIONS: DATE: BY:

PROJECT: VOLUNTARY CLEANUP PROGRAM
5856 & 5900 SUCCESS DRIVE PARCELS

DWG. TITLE: SITE PLAN

CLIENT: TRONOX, LLC

LOCATION: CITY OF ROME, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006184.001
FILE NAME.:	FIGURE2
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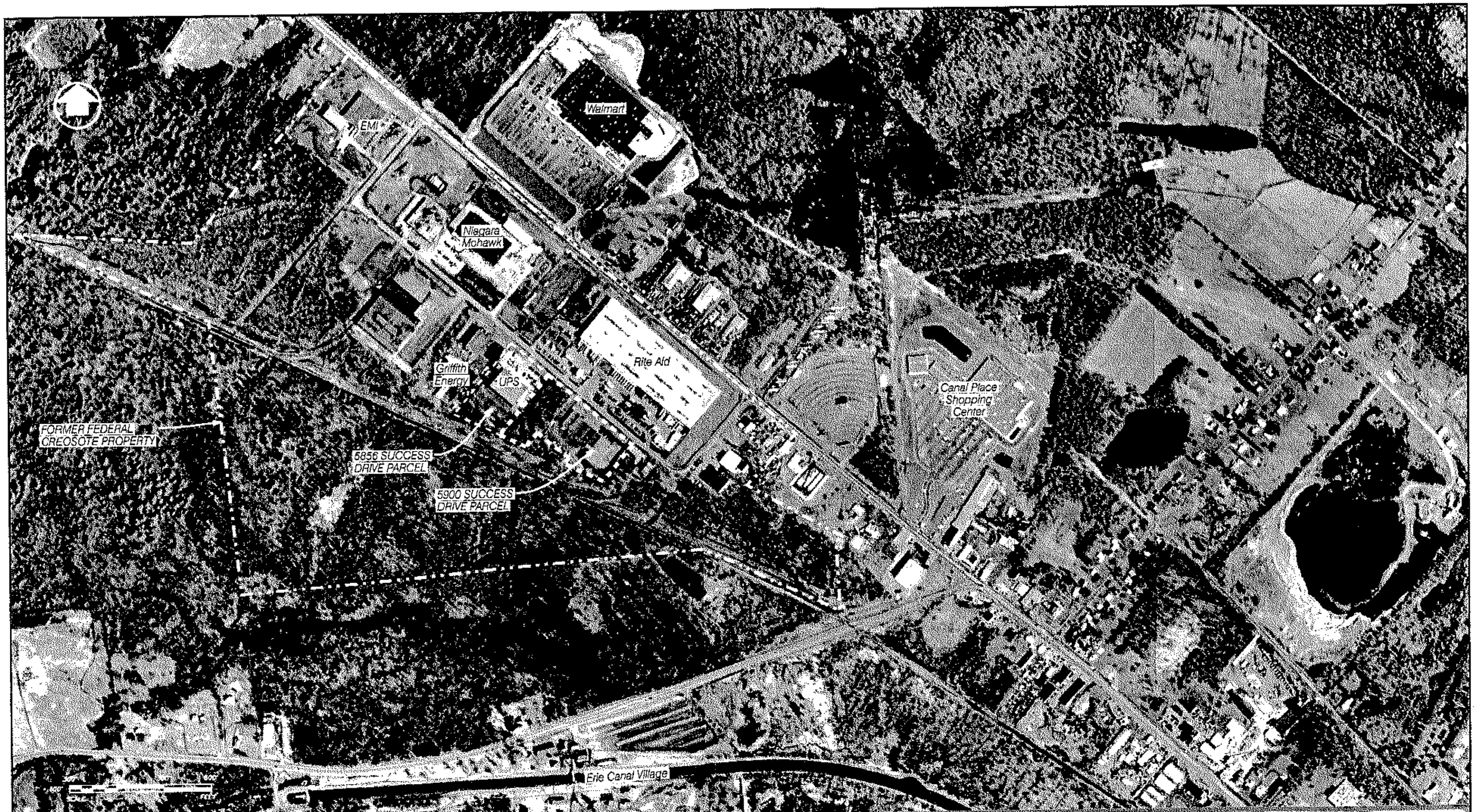
DATE:	FEB. 2008
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	FAK

SHEET NO.:

FIGURE 2



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Civil and Environmental Engineering

PROJECT: *VOLUNTARY CLEANUP PROGRAM*
5856 & 5900 SUCCESS DRIVE PARCELS

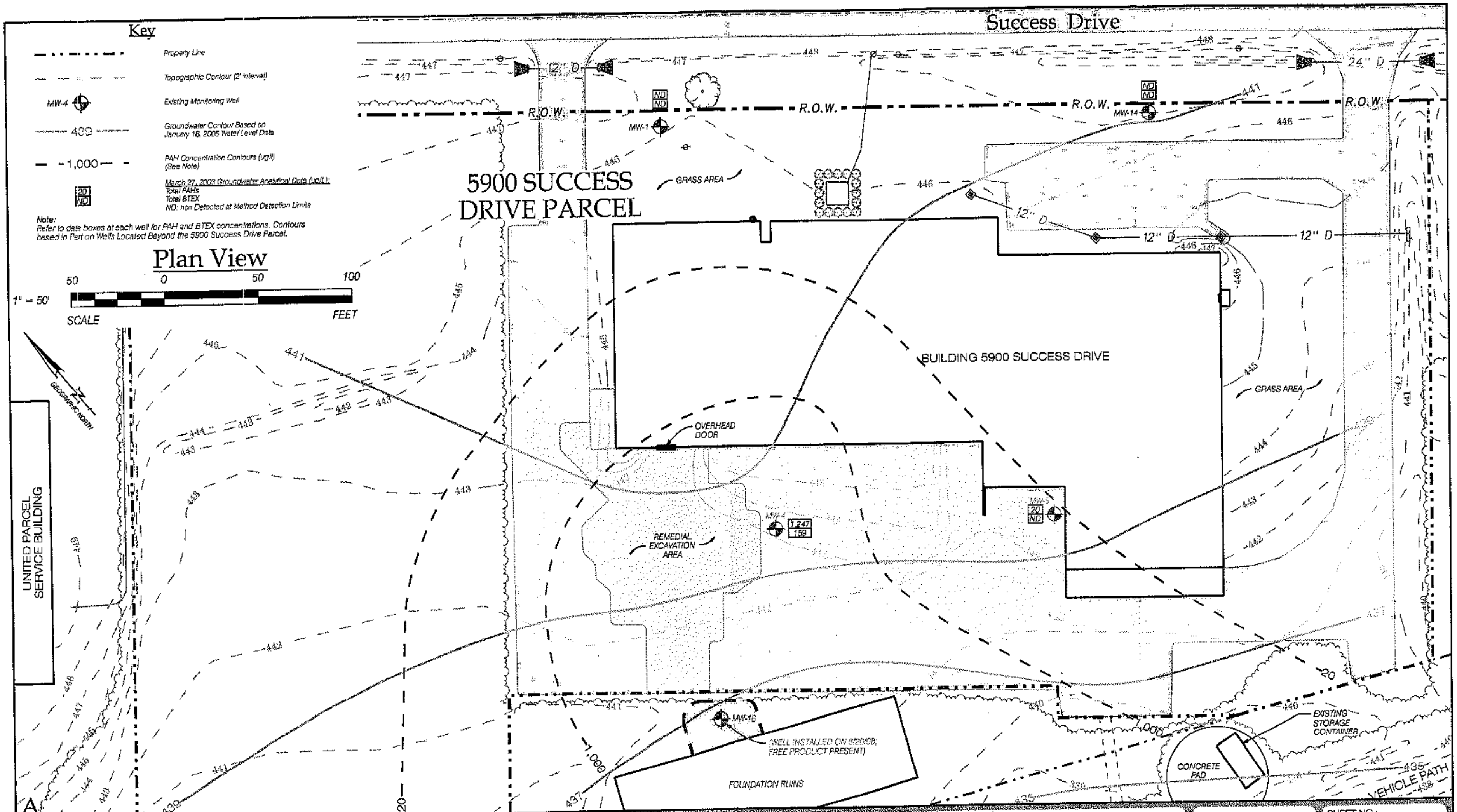
CLIENT: TRONOX, LLC

LOCATION: CITY OF ROME, ONEIDA COUNTY, NEW YORK

DWG. TITLE: AERIAL MAP OF FORMER FEDERAL CREOSOTE PROPERTY

PROJECT No.:	2008184.018
FILE NAME:	AV01P
SCALE:	1" = 600'
DATE:	FEB. 2008
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.: FIGURE 3



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PROJECT: VOLUNTARY CLEANUP PROGRAM
5900 SUCCESS DRIVE PARCEL-OPERABLE UNIT #2
DWG. TITLE: GROUNDWATER SITE PLAN - 5900 SUCCESS DRIVE
CLIENT: TRONOX, LLC
LOCATION: CITY OF ROME, ONEIDA COUNTY, NEW YORK
Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006184.020
FILE NAME.:	Figure4
SCALE:	AS NOTED
DATE:	JULY 2008
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.:
FIGURE 4

TABLES

5900 SUCCESS DRIVE PARCEL
City of Rome, Oneida County, New York
DEC VCA No. V00612-6

TABLE 1 - SUMMARY OF SOIL ANALYTICAL RESULTS - SVOCs AND METALS

Compound	DEC Part 375 Soil Cleanup Objectives[1] for Commercial Sites	DEC TAGM 4046 Recommended Soil Cleanup Objectives[2]	DEC Part 375 Soil Cleanup Objectives for Unrestricted Use (On-Site or Off-Site)[3]	Site Concentration Range
	Compound Concentration (mg/kg)			
SVOCs				
Acenaphthene	500	50	20	0.420 - 970
Naphththalene	500	13	12	0.064 - 1,600
Acenaphthylene	500	41	100	0.100 - 86
Fluorene	500	50	30	0.460 - 1,000
Phenanthrene	500	50	100	0.140 - 2,300
Anthracene	500	50	100	0.094 - 930
Fluoranthene	500	50	100	0.820 - 700
Benzo(a)anthracene	5.6	0.224	1	0.450 - 220
Chrysene	56	0.4	1	0.590 - 210
Benzo(b)fluoranthene	5.6	1.1	1	0.600 - 220
Benzo(k)fluoranthene	56	1.1	1	0.310 - 79
Benzo(a)pyrene	1	0.061	1	0.280 - 170
Indeno(1,2,3-cd)pyrene	5.6	3.2	0.5	0.200 - 91
Dibenzo(a,h)anthracene	0.56	0.014	0.33	0.065 - 27
Benzo(g,h,i)perylene	500	50	100	0.180 - 69
2-Methylnaphthalene	NA[5]	36.4	NA	0.064 - 1,100
Dibenzofuran	350	6.2	7	0.360 - 980
METALS				
Mercury	2.8	0.1	0.18	0.080 - 0.14
Cadmium	9.3	1 or SB	25	ND<0.12 - 0.30
Chromium	1,500[6]	10 or SB	Hex 1 / Tri 30	9.3 - 50.9
Lead	1,000	SB[4]	63	37.1 - 69.8
Arsenic	16	7.5 or SB	13	18.7 - 43.6

Notes:

mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
SB Site background concentration
ND No Detection

Results from *Subsurface Investigation Report - Volume II,* 5856 & 5900 Success Drive Parcels, prepared by Plumley Engineering, P.C., dated June 2004.

[1]DEC Remedial Program Soil Cleanup Objectives, 6NYCRR Part 375-6, effective December, 14, 2006.

[2]DEC Technical Administration Guidance Memorandum (TAGM) No. 4046, *Determination of Soil Cleanup Objectives and Cleanup Levels*, dated January 24, 1994 and revised April 10, 2001.

[3]DEC Remedial Program Soil Cleanup Objectives, 6NYCRR Part 375-6, effective December, 14, 2006. Case by case DEC approval of off-site reuse is required.

[4]Per TAGM 4046, background lead levels range from 4 to 61 mg/kg in rural areas and 200 to 500 mg/kg in urban areas.

[5]For compounds with no reuse guideline, TAGM 4046 values are to be used as a guideline.

[6]Soil cleanup objective applicable for trivalent chromium.

5900 SUCCESS DRIVE PARCEL
City of Rome, Oneida County, New York
DEC VCA No. V00612-6

TABLE 2 - SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - SVOCs AND VOCs

Compound	State Standard[1]	Site Concentration Range
	Compound Concentration (ug/L)	
SVOCs		
Acenaphthene	20	6 - 76
Naphththalene	10	14 - 950
Acenaphthylene	NS	ND<1 - 3
Fluorene	50	ND<1 - 55
Phenanthrene	50	ND<1 - 46
Anthracene	50	ND<1 - 10
Fluoranthene	50	ND<1 - 5
Benzo(a)anthracene	0.002	ND<1
Chrysene	0.002	ND<1
Benzo(b)fluoranthene	0.002	ND<1
Benzo(k)fluoranthene	0.002	ND<1
Benzo(a)pyrene	0.002	ND<1
Indeno(1,2,3-cd)pyrene	0.002	ND<1
Dibenzo(a,h)anthracene	NS	ND<1
Benzo(g,h,i)perylene	NS	ND<1
2-Methylnaphthalene	NS	ND<1 - 54
Dibenzofuran	NS	ND<1 - 48
VOCs		
Benzene	1	ND<0.5 - 31
Toluene	5	ND<0.7 - 28
Ethylbenzene	5	ND<0.8 - 29
m+p-xylene	5	ND<0.8 - 48
o-xylene	5	ND<0.8 - 23

Notes:

ug/L micrograms per Liter, equivalent to parts per billion (ppb)
NS No Standard
ND No Detection
Results from *Subsurface Investigation Report - Volume II,* 5856 & 5900 Success Drive Parcels, prepared by Plumley Engineering, P.C., dated June 2004.
[1]State Standard is in Referance to the NYSDEC Division of Water's Technical and Operational Guidance Series (TOGS) 1.1.1, "Ambient Water Quality Standards and Guidance Values", dated June 1998 and April 2002

APPENDICES

APPENDIX A

ANALYTICAL PROCEDURES AND SAMPLING REQUIREMENTS FOR OFF-SITE REUSE OF CLEAN SOILS

Analytical Methods

Contaminant Class	Analytical Method
Semi-Volatile Organic Compounds (SVOCs)	EPA Method 8270 b/n
Volatile Organic Compounds (VOCs)	EPA Method 8260
Priority Pollutant Metals	Various EPA Methods (refer to laboratory)

Recommended Number of Soil Pile Samples

Contaminant	Semi-Volatiles		Volatiles	
Sample Type	**Grab**	**Composite**	**Grab**	**Composite**
Soil Quantity (cubic yards)				
0 – 50	**1**	**1**	**1**	**1**
50 – 100	**1**	**2**	**2**	**1**
100 – 200	**1**	**3**	**3**	**1**
200 – 300	**1**	**4**	**4**	**1**
300 – 400	**2**	**4**	**4**	**2**
400 – 500	**2**	**5**	**5**	**2**
500 – 800	**2**	**6**	**6**	**2**
800 – 1,000	**2**	**7**	**7**	**2**
>1,000	**Proposed sampling plan shall be submitted for approval on a site-specific basis.**			