MAY 2016

SHA

SYRACUSE HOUSING AUTHORITY

MCKINNEY PROPERTY SITE

SITE MANAGEMENT PLAN

NYSDEC ERP SITE NO. E734086

D&B ENGINEERS AND ARCHITECTS, P.C.

SITE MANAGEMENT PLAN

MCKINNEY PROPERTY SITE

CITY OF SYRACUSE

ONONDAGA COUNTY, NEW YORK

(NYSDEC SITE NO. E734086)

Prepared for:

SYRACUSE HOUSING AUTHORITY

Prepared by:

D&B ENGINEERS AND ARCHITECTS, P.C.
KNOWN AS DVIRKA AND BARTILUCCI CONSULTING ENGINEERS

D&B ENGINEERS AND ARCHITECTS, P.C.
WOODBURY, NEW YORK

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

MAY 2016

SITE MANAGEMENT PLAN
MCKINNEY PROPERTY SITE
SYRACUSE, NEW YORK

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

List of Appendices

List of Figures

Section Title Page

List of Tables

1.0 INTRODUCTION

The McKinney Property Site (Site) is located at 1226 South McBride Street in the City of Syracuse, Onondaga County, New York (Figure 1-1). The Syracuse Housing Authority (SHA) entered into a State Assistance Contract (SAC) on June 6, 2006, which was last amended on May 22, 2014 (Contract No. C302977) with the New York State Department of Environmental Conservation (NYSDEC) under their Environmental Restoration Program (ERP). The SAC required SHA to complete a Remedial Investigation/Remedial Alternatives Analysis Report for the Site. SHA also conducted Interim Remedial Measures (IRMs) during the course of the project.

The Site is a 0.60 +/- acre portion of a parcel located in the County of Onondaga, New York, which is identified as Section 94, Block 09, Lot 04 based on available Onondaga County Tax Maps. The parcel on which the Site is located is approximately 0.61 acres in size and is bounded by a concrete retaining wall supporting an elevated railroad right-of-way to the north, Burt Street to the south, South McBride Street to the east and a commercial property to the west. Additionally, the Site is subject to an Environmental Easement that encompasses the entire area (approximately 0.60 acres) of the Site. The boundaries of the parcel, Site and the Environmental Easement are fully described in Appendix A, Survey Map, Metes and Bounds.

The Site is currently vacant and is fully enclosed by a 6-foot high chain link fence, with the exception of the concrete retaining wall that encloses the property to the north. Site features are shown on the As-Built Site Survey, which is included in Appendix B.

1.1 Purpose

The Site contains contamination which was left after completion of the remedial action. The purpose of this Site Management Plan (SMP) is to provide a detailed description of all procedures required to manage the remaining contamination. It provides guidance and

D&B ENGINEERS AND ARCHITECTS, P.C.

McKINNEY PROPERTY SITE
SYRACUSE, NEW YORK

SITE LOCATION MAP

FIGURE 1–1

SEP 5, 2006 SEP C:\2576\2576-siteloc.dwg

requirements that will allow future use and management of the Site in a manner which is consistent with the requirements identified in the State Assistance Contract with the NYSDEC.

In accordance with the requirements of New York State Environmental Conservation Law (ECL) Article 71, Title 36, an Environmental Easement has been recorded with the Onondaga County Clerk's office that requires compliance with this SMP and all institutional and engineering controls as outlined herein. The Environmental Easement places restrictions on Site use, and mandates operation, maintenance, monitoring and reporting measures for the Site. A copy of the Environmental Easement is appended to this SMP as Appendix C. It should be noted that the Site use is restricted to commercial and industrial use as defined in 6 NYCRR 375-1.8(g).

This SMP was prepared to manage remaining contamination, including but not limited to, soil exceeding NYSDEC unrestricted, commercial, and industrial use criteria, as well as provide guidance during any future use and long term maintenance and monitoring of the Site. This SMP specifies the methods necessary to comply with engineering and institutional controls required by the Environmental Easement for the Site. These controls remain in effect in perpetuity or until extinguishment of the Environmental Easement in accordance with ECL Article 71, Title 36. This SMP can only be revised with the approval of the NYSDEC.

Major components of this SMP include the following:

- Institutional and Engineering Control Plan;
- Soil Management Plan;
- Monitoring Plan;
- Operation and Maintenance Plan;
- Report Preparation;
- Quality Assurance; and
- Health and Safety.

This plan also includes a description of Periodic Review Reports (PRRs) for the periodic submittal of data, information, recommendations, and certifications to NYSDEC. It is important to note that this SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, and is grounds for revocation of the Certificate of Completion (COC). Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the State Assistance Contract (Index # C302977, Site #E724086) for the Site, and thereby subject to applicable penalties.

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easement for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 Site History and Previous Investigations

The McKinney Property Site was formerly used as a scrap metal storage/processing facility. Reportedly, site activities consisted of the operation of hydraulic machinery, an oil-water separator and petroleum storage tanks. In addition, the property was also utilized for the storage of scrap automobiles, household appliances, and other metal debris. A "crusher pit" was historically located on the south side of the Site, adjacent to the former main building footprint. A second pit, associated with a crane formerly housed in the main building, was located in the northeast portion of the Site. An oil-water separator was located in the main building.

In 1987, BLT Technical Services, Inc. collected twelve surface soil samples from various locations throughout the property. All twelve samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) organics, Targeted Compound List (TCL) polychlorinated biphenyls (PCBs) and pesticides and Extraction Procedure Toxicity metals. Low levels of organics, PCBs, and metals were detected in several of the samples collected. With the exception of beta-BHC which was detected in one sample, no pesticides were detected in the surface soil samples collected at the Site.

In December 2002 and May 2003, site investigation activities were performed by S&W Redevelopment of North America, LLC (SWRNA) to further characterize potential environmental concerns that may be present at the Site. The site investigation included surface soil sampling, subsurface soil sampling, installation of monitoring wells and groundwater sampling. A pre-demolition asbestos survey was also completed during the site investigation. Results of the site investigation are presented in SWRNA's report entitled "Site Investigation McKinney Parcel," dated January 2004. Samples collected during the SWRNA site investigation confirmed the presence of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), PCBs and metals contamination in soil and groundwater exceeding applicable standards, criteria and guidelines (SCGs) at the Site. The results of the asbestos survey indicated the presence of asbestos containing material (ACM) in both the main building and garage.

Throughout the period of February 2008 through March 2010, D&B conducted supplemental investigation activities and a qualitative exposure assessment to further characterize the nature and extent of contamination at the Site. The investigation included the collection and analysis of an additional sixty surface soil samples, sixteen subsurface soil samples, one separate-phase product sample, fifteen groundwater samples, and one soil vapor sample. Additionally, in April of 2009 the on-site buildings were condemned and subsequently demolished in October 2009 under the direction of the NYSDEC as part of an IRM. This work included the off-site disposal of the building debris as ACM, as well as, the decontamination and removal of a concrete sump from the first floor of the main building containing water and mercury. The results of the investigations/assessments performed and a description of the building demolition IRM are presented in D&B's report entitled "Site Investigation and Remedial Alternatives Report Work Plan," dated November 2011 (RI Report). At that time, it was concluded that current and future exposure to SVOCs, PCBs, and metals contaminated surface soil poses a potential risk to human health at the Site.

D&B subsequently performed a remedial alternatives analysis, utilizing data summarized in the RI Report and data available from prior investigation activities, to develop a long-term

cost effective remedial action that would be protective of human health and the environment. Alternatives evaluated based on an initial screening included the following:

- Alternative 1 – No Action with Long-term Monitoring;
- Alternative 2 – Pavement Cap with Long-term Monitoring;
- Alternative 3 – Excavation and Off-Site Disposal Meeting Commercial Use SCOs and Permeable Cover with Long-term Monitoring; and
- Alternative 4 – Excavation and Off-Site Disposal Meeting Unrestricted Use SCOs and Short-term Monitoring.

The results of the remedial alternatives analysis are presented in D&B's report entitled "Remedial Alternative Analysis Report," dated December 2011 (RAA Report).

1.3 Site Remediation

The overall goal of the remedial program was to eliminate or mitigate the significant threats to public health and/or the environment that were posed by the contaminated materials at the Site. Based on the RI and RAA Reports, an IRM was planned and conducted which consisted of the excavation and off-site disposal of soils which were grossly contaminated or which otherwise posed a threat to groundwater quality, and installation of a permeable cover with long-term monitoring. The three areas which were excavated are as follows: an area where trichloroethene (TCE) had been detected in soil and groundwater (Area 1); an area in the northwest portion of the Site where non-aqueous phase petroleum was identified in a monitoring well (Area 2); and the area in and around a structure referred to as the crusher pit, which had been identified as containing petroleum (Area 3). The locations of the excavated areas are depicted on the as-built drawings included in Appendix B. The following are the components of the selected remedy:

1. Excavation and off-site disposal of contaminated soil as described above from select areas of the Site;

2. Installation of a site-wide permeable cover consisting of a geotextile demarcation barrier overlain by 12-inches of crushed stone;

3. Development of a Site Management Plan (SMP) to: (i) address residual contaminated soil that may be excavated from the Site during future redevelopment and/or maintenance; (ii) evaluate the potential for vapor intrusion for any building that may be erected during future redevelopment; (iii) identify any use restriction; and (iv) describe site-specific institutional and engineering controls.

4. Filing of an Environmental Easement for the Site in accordance with ECL Article 71, Title 36 to restrict future use of the Site to commercial and industrial usage, as defined in 6 NYCRR 375-1.8(g) and to ensure property owners comply with the requirements of the SMP and other site institutional/engineering controls;

5. Periodic certification by a professional engineer or environmental professional acceptable to the NYSDEC, which will certify that the institutional controls and engineering controls (ICs/ECs) put in place are unchanged from the previous certification and nothing has occurred that would impair the ability of the controls to protect public health or the environment or constitute a violation or failure to comply with the SMP.

Remedial activities completed at the Site were conducted in accordance with the NYSDEC approved Interim Remedial Measure (IRM) Remedial Construction Contract Documents (Contract Number 2013-001-001) for the McKinney Property Site dated September 2013. Major components of the remedial program are presented below. The following list is not intended to be a comprehensive nor complete list of work performed at the Site.

- Site preparation;
- Clearing and grubbing;
- Demolition and removal of on-site masonry/concrete foundations and floor slabs, asphalt, concrete, and other miscellaneous elements required to complete the work;
- Excavation, transportation, and disposal of nonhazardous soil;
- Removal and proper disposal of aboveground and buried miscellaneous debris;
- Collection of documentation soil samples to determine final excavation depths, as well as, confirm achievement of site specific cleanup goals;

- Installation of a demarcation layer below the site-wide permeable cover and at the bottom of each excavation area to clearly distinguish limits of remedial excavations performed;

- Placement of backfill materials obtained from an off-site, certified clean source to achieve proper grading heights. All backfill materials were tested to confirm that they did not contain contaminants; and

- Final site restoration consisting of the placement of 12-inches of clean, imported soil or 12-inches of clean, imported crushed stone across the entire area of the Site.

Substantial completion of remedial construction activities was achieved in December 2014. The IRM activities are documented in the Construction Completion Report dated August 2015, which was prepared by D&B on behalf of SHA. As-built drawings documenting the extents of remedial activities performed as part of this IRM are provided in Appendix B.

1.4 Remaining Contamination

The Site contains contamination which was left after completion of the IRM. Site-contaminants are present at concentrations greater than Commercial Use-Soil Cleanup Objectives (CU-SCOs) in subsurface soil below the site-wide permeable cover. In several locations, site contaminants are present at concentrations greater than Industrial Use (IU) SCOs. The highest concentrations of contaminants remaining on-site are present immediately below the site-wide permeable cover. Additionally, site-contaminants are present at concentrations above Class GA Groundwater Standards and Guidance Values in groundwater beneath the Site. A summary of contamination remaining at the Site based on the results of the 2008/2010 site investigation activities and 2014 IRM is presented below.

1.4.1 Shallow Soil

Surface soil and shallow subsurface soil samples were collected for laboratory analysis from twenty locations (SSRI-1 through SSRI-20) as part of the 2008/2010 site investigation activities. Soil samples were collected from three intervals [0-0.1 feet below grade surface (bgs), 0.5-1.0 feet bgs, and 1.5-2.0 feet bgs] at each location. Each of these soil samples were analyzed

for TCL SVOCs, TCL pesticides/PCBs, Target Analyte List (TAL) metals and cyanide. In addition, the samples collected from 1.5-2.0 feet bgs were also analyzed for TCL VOCs.

The following site-contaminants were detected at concentrations above UU-SCOs in the shallow soil samples that were collected from the Site:

VOCs	SVOCs	Pesticides	PCBs	Metals
Acetone	Naphthalene	Dieldrin	Aroclor-1242	Arsenic
Benzene	Benzo (a) anthracene	4,4-DDE	Aroclor-1248	Barium
Ethylbenzene	Chrysene	Endrin	Aroclor-1254	Cadmium
Toluene	Benzo (b) fluoranthene	4,4-DDD	Aroclor-1260	Chromium
Xylene (Total)	Benzo (k) fluoranthene	4,4-DDT		Copper
	Benzo (a) pyrene			Lead
	Indeno (1,2,3-cd) pyrene			Manganese
	Dibenzo (a,h) anthracene			Mercury
	Dibenzofuran			Nickel
	Phenol			Selenium
				Silver
				Zinc

The following site-contaminants were detected at concentrations above CU-SCOs in the shallow soil samples that were collected from the Site:

VOCs	SVOCs	Pesticides	PCBs	Metals
No Exceedances	Benzo (a) anthracene	No Exceedances	Aroclor-1242	Arsenic
	Benzo (b) fluoranthene		Aroclor-1248	Barium
	Benzo (a) pyrene		Aroclor-1254	Cadmium
	Dibenzo (a,h) anthracene		Aroclor-1260	Chromium
	Indeno (1,2,3-cd) pyrene			Copper
				Lead
				Mercury
				Nickel
				Zinc

The following site-contaminants were detected at concentrations above IU-SCOs in the shallow soil samples that were collected from the Site:

VOCs	SVOCs	Pesticides	PCBs	Metals
No Exceedances	Benzo (a) anthracene Benzo (b) fluoranthene Benzo (a) pyrene Dibenzo (a,h) anthracene	No Exceedances	Aroclor-1254	Arsenic Cadmium Copper Lead Mercury Zinc

Table 1 in Appendix D and Figure 1-2 summarize the analytical results of all shallow soil sample locations remaining at the Site that exceed UU-SCOs, CU-SCOs, and IU-SCOs after completion of IRM. However, it should be noted that, Table 1 and Figure 1-2 present contaminant concentrations based on the original sample locations from the 2008/2010 site investigation. Since that time, the Site was re-graded to facilitate installation of the permeable cover as part of the 2014 IRM. As such, contaminant concentrations, although still present immediately below the cover system at the Site, may not be associated with the specific sample locations shown on Table 1 and Figure 1-2.

1.4.2 Subsurface Soil

Sixteen subsurface soil samples were collected from eight soil boring locations (SBRI-1 through SBRI-8) as part of the 2008/2010 site investigation. Subsurface soil samples were collected from intervals ranging from two feet bgs to eleven feet bgs. All samples were analyzed for TCL VOCs, TCL SVOCs, TCL Pesticides/PCBs, TAL metals, and cyanide. The following site-contaminants were detected at concentrations above UU-SCOs in the subsurface soil samples that were collected from the Site:

VOCs	SVOCs	Pesticides	PCBs	Metals
Acetone Trichloroethene	No Exceedances	Dieldrin 4,4-DDE	Aroclor-1248 Aroclor-1260	Barium Cadmium Chromium Copper Lead Mercury Nickel Silver Zinc

SSRI-1			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	---	10,000	4,100
Chrysene	1,100	8,800	4,300
Benzo(b)fluoranthene	1,200	11,000	4,800
Benzo(k)fluoranthene	---	2,000	2,100
Benzo(a)pyrene	---	8,900	4,200
Indeno(1,2,3-cd)pyrene	710	4,400	2,600
Dibenzo(a,h)anthracene	---	1,600	740
Pest/PCBs			
4,4'-DDE	4.8	4.8	---
Aroclor-1242	970	---	---
Aroclor-1254	390	---	---
INORGANICS			
Cadmium	3.1	4.4	10.6
Chromium	---	76.3	78.2
Copper	581	2,970	8,750
Lead	224	1,220	1,680
Mercury	9.3	1.4	1.6
Nickel	---	76.2	129
Selenium	6.9	---	---
Silver	7.0	---	---
Zinc	926	2,920	4,430

SSRI-4		
DEPTH	0-0.1	1.5-2
SVOCs		
Benzo(a)anthracene	1,500	---
Chrysene	1,600	---
Benzo(b)fluoranthene	1,900	---
Benzo(a)pyrene	1,400	---
Indeno(1,2,3-cd)pyrene	800	---
INORGANICS		
Barium	691	---
Cadmium	5.8	---
Chromium	30.9	---
Copper	3,730	277
Lead	1,490	203
Mercury	2.8	0.69
Nickel	123	---
Zinc	2,550	140

SSRI-5			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	1,600	---	1,200
Chrysene	2,000	---	---
Benzo(b)fluoranthene	2,300	---	1,400
Benzo(k)fluoranthene	930	---	---
Benzo(a)pyrene	1,700	---	---
Indeno(1,2,3-cd)pyrene	1,200	---	870
Dibenzo(a,h)anthracene	350	---	---
Pest/PCBs			
Dieldrin	9.5	---	12
4,4'-DDE	14	---	9.9
Endrin	21	---	23
Aroclor-1242	4,100	---	1,600
Aroclor-1254	520	---	---
INORGANICS			
Arsenic	---	---	17.5
Barium	---	---	404
Cadmium	3.3	3.9	18.2
Chromium	35.3	270	508
Copper	607	2,580	22,800
Lead	218	193	1,510
Mercury	1.3	0.99	14.5
Nickel	45.0	133	312
Selenium	4.8	---	---
Silver	4.9	---	---
Zinc	734	2,150	14,400

SSRI-6			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	2,100	2,300	---
Chrysene	2,300	2,900	---
Benzo(b)fluoranthene	2,900	2,800	---
Benzo(k)fluoranthene	1,400	1,000	---
Benzo(a)pyrene	2,200	2,100	---
Indeno(1,2,3-cd)pyrene	2,000	1,600	---
Dibenzo(a,h)anthracene	590	570	---
Pest/PCBs			
4,4'-DDE	23	---	---
Endrin	74	---	---
4,4'-DDT	9.3	---	---
Aroclor-1242	3,600	---	---
Aroclor-1254	1,800	---	---
INORGANICS			
Arsenic	29.3	54.3	---
Barium	674	551	---
Cadmium	17.9	4.3	---
Chromium	747	---	---
Copper	28,000	8,800	---
Lead	2,240	917	---
Mercury	110	2.2	0.22
Nickel	467	44.2	---
Selenium	---	---	18.0
Silver	---	---	18.1
Zinc	8,280	1,760	---

SSRI-7			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	3,000	2,100	1,500
Chrysene	3,300	2,100	1,600
Benzo(b)fluoranthene	4,700	2,000	1,800
Benzo(k)fluoranthene	1,500	1,100	---
Benzo(a)pyrene	3,000	1,700	1,500
Indeno(1,2,3-cd)pyrene	2,200	1,400	990
Dibenzo(a,h)anthracene	690	360	---
Pest/PCBs			
4,4'-DDE	14	30	---
Endrin	32	62	---
4,4'-DDD	---	59	4.7
Aroclor-1242	790	---	---
Aroclor-1254	800	1,400	180
INORGANICS			
Arsenic	35.1	114	24.2
Barium	1,220	875	921
Cadmium	15.2	22.6	---
Chromium	167	793	---
Copper	3,870	50,800	436
Lead	1,780	2,980	1,790
Mercury	184	16.7	1.8
Nickel	202	504	36.5
Selenium	---	12.2	---
Silver	---	7.8	---
Zinc	5,950	6,040	797

SSRI-8			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	---	4,900	2,600
Chrysene	---	8,200	4,400
Benzo(b)fluoranthene	1,500	8,300	4,300
Benzo(k)fluoranthene	---	2,800	---
Benzo(a)pyrene	---	5,700	3,000
Indeno(1,2,3-cd)pyrene	650	5,600	2,100
Dibenzo(a,h)anthracene	---	1,500	600
Pest/PCBs			
4,4'-DDE	10	14	3.9
Endrin	---	40	---
4,4'-DDD	---	22	5.0
4,4'-DDT	---	68	30
Aroclor-1254	840	---	---
INORGANICS			
Arsenic	13.6	14.0	---
Barium	387	---	---
Cadmium	17.8	13.0	4.3
Chromium	604	---	---
Copper	2,900	501	84.4
Lead	956	247	83.4
Mercury	73.7	2.5	5.6
Nickel	165	---	31.7
Zinc	3,070	2,240	609

SSRI-9			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Phenol	---	---	350
Benzo(a)anthracene	---	---	39,000
Chrysene	---	---	39,000
Benzo(b)fluoranthene	---	---	36,000
Benzo(a)pyrene	---	---	31,000
Indeno(1,2,3-cd)pyrene	---	---	10,000
Dibenzo(a,h)anthracene	---	---	3,900
Pest/PCBs			
4,4'-DDE	4.1	---	---
4,4'-DDT	6.4	---	5.3
INORGANICS			
Barium	369	---	---
Cadmium	4.9	---	---
Copper	1,340	---	---
Lead	548	---	235
Mercury	3.7	1.8	0.97
Nickel	30.3	---	---
Zinc	1,370	---	110

SSRI-10			
DEPTH	0-0.1	0.5-1	1.5-2
VOCs			
Acetone	---	---	170
SVOCs			
Benzo(a)anthracene	2,000	---	---
Chrysene	2,200	1,600	---
Benzo(b)fluoranthene	2,900	1,400	---
Benzo(k)fluoranthene	1,100	---	---
Benzo(a)pyrene	1,900	---	---
Indeno(1,2,3-cd)pyrene	770	---	---
Pest/PCBs			
4,4'-DDE	4.7	---	---
4,4'-DDD	---	---	7.9
4,4'-DDT	4.8	---	---
Aroclor-1248	130	---	---
Aroclor-1254	---	380	160
Aroclor-1260	280	---	---
INORGANICS			
Arsenic	---	128	36.7
Barium	---	---	833
Cadmium	7.0	23.5	33.7
Chromium	69.6	293	112
Copper	1,730	11,300	5,920
Lead	363	811	2,180
Mercury	5.8	28.3	2.2
Nickel	82.7	245	102
Silver	3.8	---	---
Zinc	2,890	13,500	13,100

SSRI-11			
DEPTH	0-0.1	0.5-1	1.5-2
VOCs			
Acetone	---	---	97
SVOCs			
Benzo(a)anthracene	2,200	1,500	---
Chrysene	2,400	1,600	---
Benzo(b)fluoranthene	2,400	2,400	---
Benzo(k)fluoranthene	1,400	890	---
Benzo(a)pyrene	2,000	---	---
Indeno(1,2,3-cd)pyrene	1,300	---	---
Dibenzo(a,h)anthracene	400	---	---
Pest/PCBs			
4,4'-DDE	11	---	---
4,4'-DDT	7.4	---	---
Aroclor-1254	1,100	---	---
INORGANICS			
Arsenic	19.4	20.7	19.0
Barium	806	1,120	678
Cadmium	33.5	21.9	8.6
Chromium	89.4	54.6	---
Copper	1,940	666	250
Lead	2,250	4,040	1,970
Mercury	22.0	2.1	1.7
Nickel	97.5	60.8	41.2
Zinc	5,850	6,920	2,580

SSRI-12			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	2,200	2,300	---
Chrysene	2,400	2,600	---
Benzo(b)fluoranthene	2,500	3,000	---
Benzo(k)fluoranthene	1,400	1,400	---
Benzo(a)pyrene	2,000	2,100	---
Indeno(1,2,3-cd)pyrene	1,400	1,700	---
Dibenzo(a,h)anthracene	400	560	---
Pest/PCBs			
4,4'-DDE	280	20	6.2
4,4'-DDT	---	8.9	---
Aroclor-1254	29,000	1,100	340
INORGANICS			
Arsenic	27.5	72.7	---
Barium	1,100	6,390	1,700
Cadmium	39.6	139	33.2
Chromium	458	65.1	---
Copper	3,700	7,230	500
Lead	3,250	8,770	3,910
Mercury	438	4.7	4.8
Nickel	239	161	---
Zinc	6,720	118,000	14,000

SSRI-13			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	---	2,800	1,900
Chrysene	---	3,200	2,600
Benzo(b)fluoranthene	---	2,200	2,100
Benzo(k)fluoranthene	---	990	---
Benzo(a)pyrene	---	1,600	1,300
Indeno(1,2,3-cd)pyrene	---	890	830
Pest/PCBs			
4,4'-DDE	4.5	9.4	---
4,4'-DDT	3.4	16	15
Aroclor-1254	250	---	---
INORGANICS			
Barium	1,130	---	457
Cadmium	80.5	---	4.5
Chromium	934	---	44.4
Copper	6,300	---	155
Lead	877	73.8	143
Manganese	1,830	---	---
Mercury	8.5	1.3	0.41
Nickel	610	---	---
Silver	---	2.4	---
Zinc	5,360	---	661

SSRI-14			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	1,500	---	---
Chrysene	1,600	---	---
Benzo(b)fluoranthene	1,700	---	---
Benzo(k)fluoranthene	1,000	---	---
Benzo(a)pyrene	1,400	---	---
Indeno(1,2,3-cd)pyrene	890	---	---
Pest/PCBs			
4,4'-DDE	7.8	---	---
4,4'-DDD	8.9	---	---
4,4'-DDT	8.5	---	5.7
Aroclor-1254	590	---	160
INORGANICS			
Barium	628	---	---
Cadmium	57.0	32.3	22.7
Chromium	254	45.1	62.4
Copper	14,400	2,660	1,120
Lead	2,780	610	895
Mercury	9.5	4.9	4.1
Nickel	275	66.4	73.5
Zinc	11,200	3,090	2,620

SSRI-15			
DEPTH	0-0.1	0.5-1	1.5-2
VOCs			
Toluene	---	---	1,600
Ethylbenzene	---	---	1,400
Xylenes (total)	---	---	5,800
SVOCs			
Naphthalene	---	44,000	150,000
Benzo(a)anthracene	6,100	7,100	13,000
Chrysene	6,900	9,600	12,000
Benzo(b)fluoranthene	8,300	7,000	8,600
Benzo(k)fluoranthene	3,100	2,500	3,200
Benzo(a)pyrene	6,100	5,300	7,000
Indeno(1,2,3-cd)pyrene	4,000	2,200	3,800
Dibenzo(a,h)anthracene	1,200	---	1,200
Dibenzofuran	310	6,300	17,000
Pest/PCBs			
4,4'-DDE	17	---	4.8
Endrin	---	46	20
4,4'-DDD	---	---	40
4,4'-DDT	12	---	---
Aroclor-1254	1,300	---	---
INORGANICS			
Arsenic	29.9	22.6	13.7
Barium	1,320	2,880	710
Cadmium	48.1	62.5	21.1
Chromium	179	392	165
Copper	9,520	5,590	2,620
Lead	3,710	4,790	1,680
Manganese	---	1,670	---
Mercury	29.5	3.5	3.2
Nickel	192	635	338

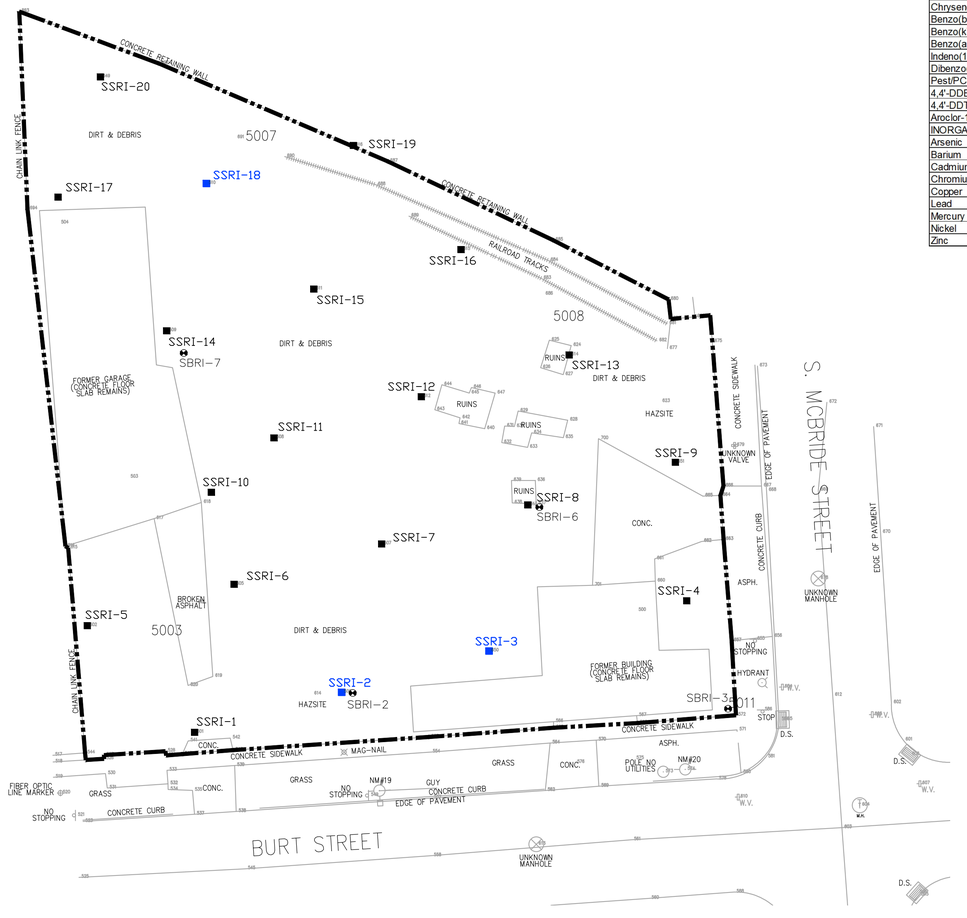
SSRI-17			
DEPTH	0-0.1	0.5-1	1.5-2
VOCs			
Acetone	---	---	93
SVOCs			
Benzo(a)anthracene	---	---	3,500
Chrysene	---	---	2,600
Benzo(b)fluoranthene	---	1,300	1,600
Benzo(k)fluoranthene	---	---	1,000
Benzo(a)pyrene	---	---	1,900
Indeno(1,2,3-cd)pyrene	---	---	1,100
Pest/PCBs			
Dieldrin	---	---	27
4,4'-DDE	16	160	21
4,4'-DDD	5.0	18	---
4,4'-DDT	6.8	---	33
Aroclor-1248	320	3,800	250
Aroclor-1260	1,400	4,400	---
INORGANICS			
Barium	513	396	---
Cadmium	9.5	21.8	5.2
Chromium	37.2	162	44.1
Copper	596	1,230	4,950
Lead	1,210	1,550	1,350
Mercury	7.5	4.5	0.84
Nickel	44.9	116	92.8
Zinc	1,790	5,980	4,890

SSRI-19			
DEPTH	0-0.1	0.5-1	1.5-2
VOCs			
Acetone	---	---	190
Pest/PCBs			
4,4'-DDE	---	4.3	---
4,4'-DDD	---	4.1	---
4,4'-DDT	---	43	---
Aroclor-1248	---	110	---
Aroclor-1260	140	390	---
INORGANICS			
Arsenic	23.3	29.5	---
Barium	---	413	---
Cadmium	10.9	21.4	---
Chromium	1,560	3,530	112
Copper	6,680	3,660	202
Lead	1,380	2,280	115
Manganese	2,510	3,630	---
Mercury	8.0	5.2	0.74
Nickel	472	781	96.9
Zinc	2,830	11,000	296

SSRI-20			
DEPTH	0-0.1	0.5-1	1.5-2
SVOCs			
Benzo(a)anthracene	---	1,500	6,300
Chrysene	---	1,400	3,500
Benzo(b)fluoranthene	---	1,700	6,900
Benzo(k)fluoranthene	---	---	2,800
Benzo(a)pyrene	---	1,200	5,600
Indeno(1,2,3-cd)pyrene	---	690	1,500
Dibenzo(a,h)anthracene	---	---	480
Pest/PCBs			
4,4'-DDE	10	12	180
4,4'-DDD	---	---	21
Aroclor-1248	180	190	5,000
Aroclor-1260	500	590	5,800
INORGANICS			
Arsenic	---	---	30.4
Barium	---	---	3,490
Cadmium	---	---	56.7
Chromium	---	---	588
Copper	322	113	2,240
Lead	153	91.0	19,200
Manganese	---	---	2,090
Mercury	10.1	0.72	38.1
Nickel	---	48.7	232
Silver	5.6	---	---
Zinc	687	311	16,100

SSRI-16			
DEPTH	0-0.1	0.5-1	1.5-2
VOCs			
Acetone	---	---	150
SVOCs			
Benzo(a)anthracene	3,200	1,400	6,600
Chrysene	3,000	1,700	13,000
Benzo(b)fluoranthene	4,200	1,600	4,800
Benzo(k)fluoranthene	1,800	---	1,500
Benzo(a)pyrene	2,500	1,100	2,600
Indeno(1,2,3-cd)pyrene	1,300	---	800
Pest/PCBs			
4,4'-DDE	15	21	---
Aroclor-1248	310	310	---
Aroclor-1254	---	270	---
Aroclor-1260	330	---	---
INORGANICS			
Arsenic	17.3	---	---
Barium	368	---	---
Cadmium	21.9	4.0	---
Chromium	297	189	---
Copper	51,100	1,180	190
Lead	4,200	382	67.8
Mercury	16.4	---	---
Nickel	501	112	---
Selenium	4.7	---	---
Silver	4.0	---	---
Zinc	4,270	894	---

Analyte	Unrestricted Use Soil Cleanup Objectives	Restricted Use Soil Cleanup Objectives Protection of Public Health	
		Commercial	Industrial
	(ug/kg)	(ug/kg)	(ug/kg)
VOCs			
Acetone	50	500,000	1,000,000
Toluene	700	500,000	1,000,000
Ethylbenzene	1,000	390,000	780,000
Xylenes (total)	260	500,000	1,000,000
SVOCs			
Phenol	330	500,000	1,000,000
Naphthalene	12,000	500,000	1,000,000
Benzo(a)anthracene	1,000	5,600	11,000
Chrysene	1,000	56,000	110,000
Benzo(b)fluoranthene	1,000	5,600	11,000
Benzo(k)fluoranthene	800	56,000	110,000
Benzo(a)pyrene	1,000	1,000	1,100
Indeno(1,2,3-cd)pyrene	500	5,600	11,000
Dibenzo(a,h)anthracene	330	560	1,100
Dibenzofuran	7,000	350,000	1,000,000
Pest/PCBs			
Dieldrin	5	1,400	2,800
4,4'-DDE	3.3	62,000	120,000
Endrin	14	89,000	410,000
4,4'-DDD	3.3	92,000	180,000
4,4'-DDT	3.3	47,000	94,000
Aroclor-1242	100	1,000	25,000
Aroclor-1248	100	1,000	25,000
Aroclor-1254	100	1,000	25,000
Aroclor-1260	100	1,000	25,000
INORGANICS			
Arsenic	13	16	16
Barium	350	400	10,000
Cadmium	2.5	9.3	60
Chromium	30	1,500	6,800
Copper	50	270	10,000
Lead	63	1,000	3,900
Manganese	1,600	10,000	10,000
Mercury	0.18	3	5.7
Nickel	30	310	10,000
Selenium	3.9	1,500	6,800
Silver	2	1,500	6,800



0 20

SCALE: 1"=20'

LEGEND:

SITE BOUNDARY

SSRI-1 ■ SURFACE SOIL SAMPLE

SSRI-2 ■ EXCAVATED SURFACE SOIL SAMPLE

NOTES:

SAMPLES COLLECTED FEBRUARY 2008
ALL ORGANIC CONCENTRATIONS IN MICROGRAMS PER KILOGRAM (UG/KG).
ALL INORGANIC CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG).
VOCS – VOLATILE ORGANIC COMPOUNDS.
SVOCS – SEMI-VOLATILE ORGANIC COMPOUNDS.
PEST/PCB – PESTICIDES/POLYCHLORINATED BIPHENYLS.
6 NYCRR PART 375 – SOIL CLEANUP OBJECTIVES.
DEPTH IN FEET BELOW GRADE.

D&B ENGINEERS AND ARCHITECTS, P.C.

SYRACUSE HOUSING AUTHORITY
McKINNEY PROPERTY SITE

PART 375-6 UNRESTRICTED USE SCO EXCEEDANCES IN SHALLOW SOIL

FIGURE 1-2

F:\2576\2576-12-12-11\2576-FIG1-6 12-12-11.dwg, 12/10/2015 1:53:19 PM, kalleius

The following site-contaminants were detected at concentrations above CU-SCOs in the subsurface soil samples that were collected from the Site:

VOCs	SVOCs	Pesticides	PCBs	Metals
No Exceedances	No Exceedances	No Exceedances	No Exceedances	Barium Cadmium Copper Mercury

Site-contaminants were not detected at concentrations above IU-SCOs in the subsurface soil samples that were collected from the Site.

In addition, a total of fourteen documentation samples (SL1 through SL14) were collected from the three excavation areas (Excavation Area 1, Excavation Area 2, and Excavation Area 3) completed as part of the 2014 IRM. Excavation endpoint samples were collected from depths ranging from approximately 2.2 feet bgs to 10.7 feet bgs. All samples were analyzed for TCL VOCs, SVOCs, PCBs, and TAL metals. The following site-contaminants were detected at concentrations above UU-SCOs in the excavation endpoint soil samples that were collected from the Site:

VOCs	SVOCs	Pesticides	PCBs	Metals
Acetone Trichloroethene	Benzo (a) anthracene Chrysene Benzo (b) fluoranthene Benzo (k) fluoranthene Benzo (a) pyrene Indeno (1,2,3-cd) pyrene	Not Analyzed	Aroclor-1248	Chromium Copper Lead Mercury Nickel Selenium Silver Zinc

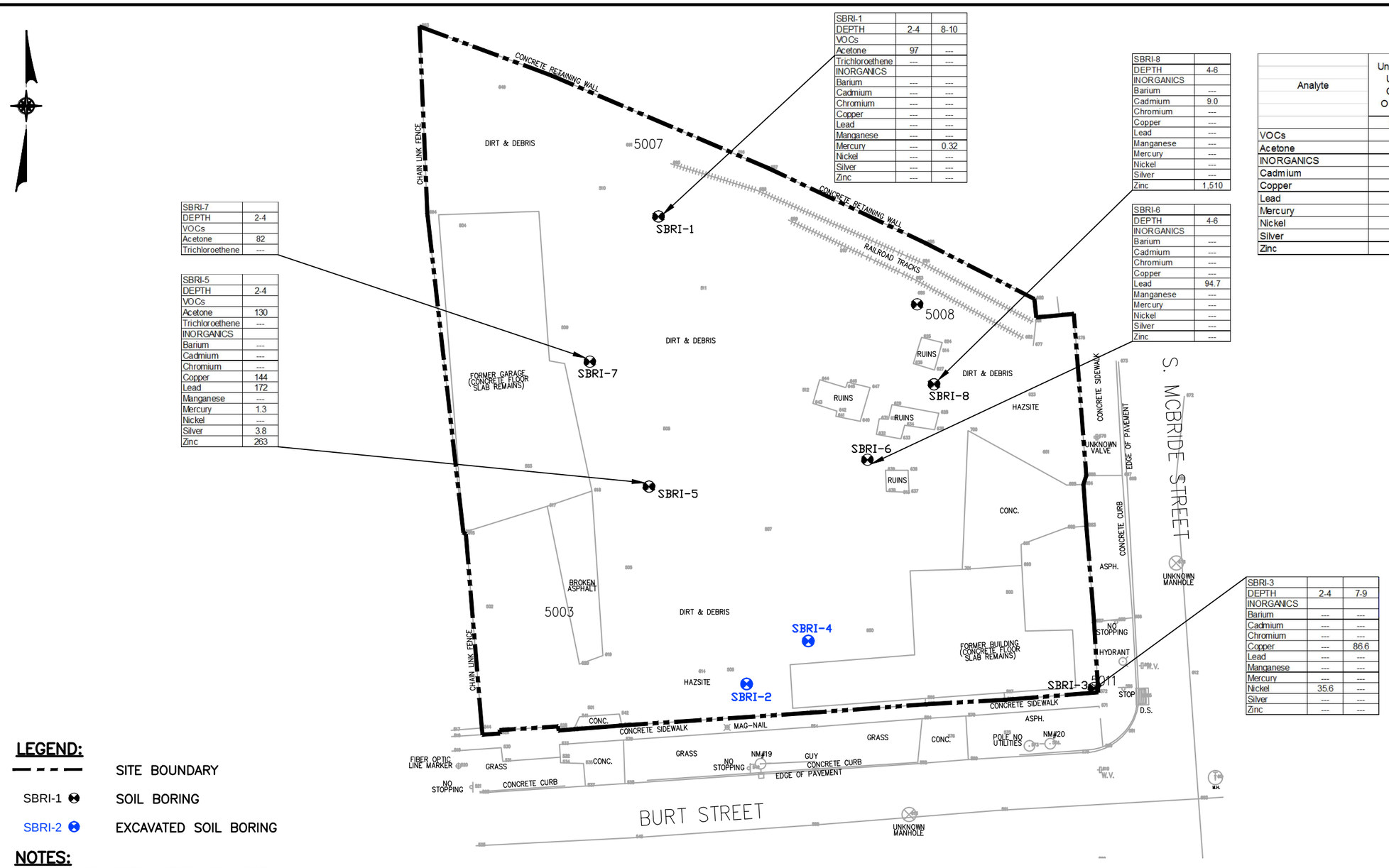
Benzo (a) pyrene was the only site-contaminant detected at a concentration above CU-SCOs in the excavation endpoint soil samples that were collected from the Site. Benzo (a) pyrene was also the only site-contaminant detected at a concentration above IU-SCOs in the excavation endpoint soil samples.

Table 2 in Appendix D and Figure 1-3 summarize the results of all site investigation subsurface soil sample locations remaining at the Site that exceed UU-SCOs after completion of IRM. Tables 3, 4 and 5 in Appendix D summarize the results of all documentation samples remaining at the Site that exceed UU-SCOs after completion of the IRM. The as-built drawings in Appendix B present the documentation sample locations.

1.4.3 Groundwater

Three rounds of groundwater sampling were completed during the 2008/2010 site investigation. Six groundwater samples were collected from six monitoring wells (MW-1, MW-2, MW-4, MW-5, MW-6, and MW-7) during the March 2008 groundwater sampling event. One groundwater sample was collected from one off-site monitoring well (MW-8) during the March 2010 groundwater sampling event. After decommissioning and replacing three on-site monitoring wells (MW-1, MW-2, and MW-3), eight groundwater samples were collected from eight monitoring wells (MW-1A, MW-2A, MW-3A, MW-4, MW-5, MW-6, MW-7, and MW-8) during the October 2010 groundwater sampling event. All of the samples were analyzed for TCL VOCs, SVOCs, pesticides, PCBs and TAL inorganics and cyanide. The following site-contaminants were detected at concentrations above Class GA Groundwater Standards and Guidance Values in the groundwater samples that were collected from the Site:

VOCs	**SVOCs**	**Pesticides**	**PCBs**	**Metals**
Benzene	Naphthalene	No Exceedances	No Exceedances	Antimony
Methyl tert-Butyl Ether	Acenaphthene			Cadmium
Chloroform				Iron
Trichloroethene				Lead
Chlorobenzene				Magnesium
Xylene (Total)				Manganese
1,2-Dichlorobenzene				Selenium
				Sodium



SBRI-1		
DEPTH	2-4	8-10
VOCs		
Acetone	97	---
Trichloroethene	---	---
INORGANICS		
Barium	---	---
Cadmium	---	---
Chromium	---	---
Copper	---	---
Lead	---	---
Manganese	---	---
Mercury	---	0.32
Nickel	---	---
Silver	---	---
Zinc	---	---

SBRI-8	
DEPTH	4-6
INORGANICS	
Barium	---
Cadmium	9.0
Chromium	---
Copper	---
Lead	---
Manganese	---
Mercury	---
Nickel	---
Silver	---
Zinc	1,510

SBRI-6	
DEPTH	4-6
INORGANICS	
Barium	---
Cadmium	---
Chromium	---
Copper	---
Lead	94.7
Manganese	---
Mercury	---
Nickel	---
Silver	---
Zinc	---

SBRI-7	
DEPTH	2-4
VOCs	
Acetone	82
Trichloroethene	---

SBRI-5	
DEPTH	2-4
VOCs	
Acetone	130
Trichloroethene	---
INORGANICS	
Barium	---
Cadmium	---
Chromium	---
Copper	144
Lead	172
Manganese	---
Mercury	1.3
Nickel	---
Silver	3.8
Zinc	263

SBRI-3		
DEPTH	2-4	7-9
INORGANICS		
Barium	---	---
Cadmium	---	---
Chromium	---	---
Copper	---	86.6
Lead	---	---
Manganese	---	---
Mercury	---	---
Nickel	35.6	---
Silver	---	---
Zinc	---	---

Analyte	Unrestricted Use Soil Cleanup Objectives	Restricted Use Soil Cleanup Objectives	
		Protection of Public Health	
		Commercial	Industrial
	(ug/kg)	(ug/kg)	(ug/kg)
VOCs			
Acetone	50	500,000	1,000,000
INORGANICS			
Cadmium	2.5	9.3	60
Copper	50	270	10,000
Lead	63	1,000	3,900
Mercury	0.18	3	5.7
Nickel	30	310	10,000
Silver	2	1,500	6,800
Zinc	109	10,000	10,000

LEGEND:

- SITE BOUNDARY
- SBRI-1 SOIL BORING
- SBRI-2 EXCAVATED SOIL BORING

NOTES:

SAMPLES COLLECTED FEBRUARY 2008
ALL ORGANIC CONCENTRATIONS IN MICROGRAMS PER KILOGRAM (UG/KG)
ALL INORGANIC CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG).
VOCS – VOLATILE ORGANIC COMPOUNDS.
SVOCS – SEMI–VOLATILE ORGANIC COMPOUNDS.
PEST/PCB – PESTICIDES/POLYCHLORINATED BIPHENYLS.
6 NYCRR PART 375 – SOIL CLEANUP OBJECTIVES.
DEPTH IN FEET BELOW GRADE.

0 30
SCALE: 1"=30'

D&B ENGINEERS AND ARCHITECTS, P.C.

SYRACUSE HOUSING AUTHORITY
McKINNEY PROPERTY SITE

PART 375-6 UNRESTRICTED USE SCO EXCEEDANCES IN SUBSURFACE SOIL

FIGURE 1-3

Table 6 in Appendix D and Figure 1-4 summarize the analytical results of all groundwater samples collected at the Site. It should be noted that, monitoring wells MW-3A and MW-4 were abandoned as part of the 2014 IRM and no longer exist at the Site.

Replacement wells were installed on November 2, 2015. The wells were installed such that the well screens were located at the same elevation as the wells which they were replacing. Further information on the replacement wells is included in Section 4.2.1, Appendix F and Figure 4-5.

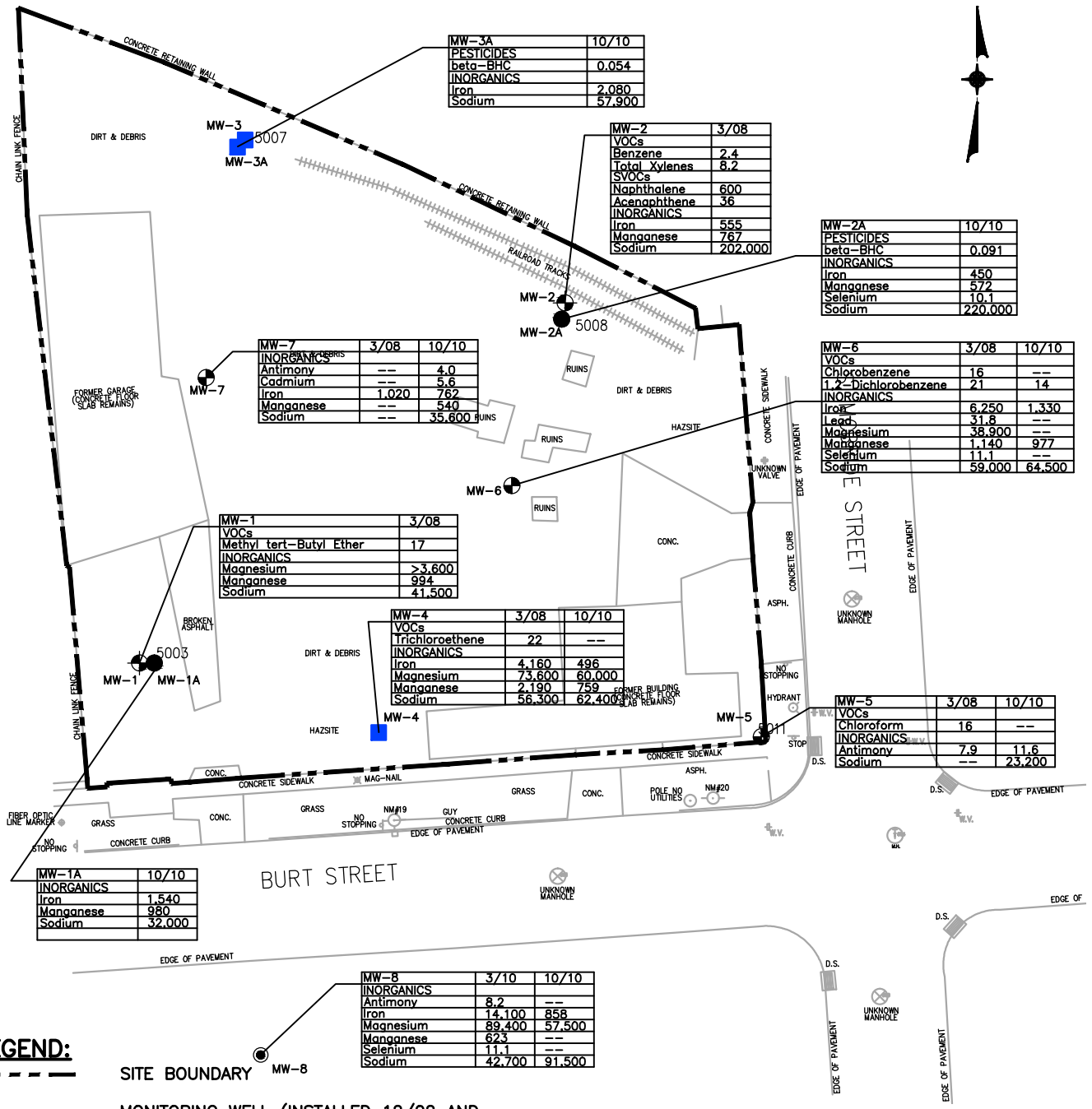
1.4.4 Demarcation Layer

The demarcation layer is present at approximately one foot below grade across the Site. The same type of fabric utilized for the demarcation layer was also placed at the extents of the excavations; however, the Site was re-graded after completion of the excavations. After re-grading, the demarcation layer was placed across the entire Site, including the excavated areas, prior to installing the cover system.

1.5 Site Use

The Site is currently vacant and is surrounded by a chain link fence to prevent unauthorized access to the Site. However, the Site is proposed to be utilized as a future parking lot for SHA employees. The Site shall be subject to institutional and engineering controls to mitigate exposure to remaining contamination. The IC, in the form of the Environmental Easement, will restrict usage of the Site to commercial and industrial usage, as defined in 6 NYCRR 375-1.8(g).

The procedures for conducting earthwork needed during Site maintenance or future ground intrusive activities are described in Section 3.0 of this SMP. These procedures specify how the residual soil will be handled, sampled, reused and transported off-site. The following sections of this SMP provide more guidance and details regarding the elements of the institutional and engineering controls applicable to the Site.



LEGEND:

- SITE BOUNDARY
- MW-1 — MONITORING WELL (INSTALLED 12/02 AND DECOMMISSIONED 10/10)
- MW-4 — MONITORING WELL (INSTALLED 02/08)
- MW-8 — MONITORING WELL (INSTALLED 03/10)
- MW-1A — MONITORING WELL (INSTALLED 10/10)
- MW-4 — MONITORING WELL (DECOMMISSIONED 08/14)

Analyte	SCG
Benzene	1
Methyl tert-Butyl Ether	10
Chloroform	7
Trichloroethene	5
Chlorobenzene	16
Total Xylenes	5
1,2-Dichlorobenzene	3
Naphthalene	10
Acenaphthene	20
Antimony	3
Cadmium	5
Iron	300
Lead	25
Magnesium	35,000
Manganese	300
Selenium	10
Sodium	20,000

0 40

SCALE IN FEET

NOTES:

ALL CONCENTRATIONS IN MICROGRAMS PER LITER (UG/L).
VOCS – VOLATILE ORGANIC COMPOUNDS.
SVOCS – SEMI-VOLATILE ORGANIC COMPOUNDS.
SCG – TECHNICAL AND OPERATIONAL GUIDANCE SERIES 1.1.1, AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES.

D&B ENGINEERS AND ARCHITECTS, P.C.

SYRACUSE HOUSING AUTHORITY
McKINNEY PROPERTY SITE
CLASS GA GROUNDWATER STANDARD AND GUIDANCE VALUE EXCEEDANCES IN GROUNDWATER

FIGURE 1-4

F:\2576\2576-FIG-1.dwg, 12/10/2015 9:52:30 AM, kalesius

2.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

The Institutional and Engineering Control Plan details the steps necessary to manage and implement the institutional and engineering controls for the Site, consistent with the requirements of the IRM and NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (DER-10), dated May 2010. The Institutional and Engineering Control Plan also identifies requirements to be placed on future Site development activities, if or when they occur. These requirements are necessary so that any future activities at the Site do not result in unacceptable exposures to contamination.

2.1 Description of Institutional Controls

An Institutional Control (IC) is any non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to the potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of the remedial program or with the effectiveness and/or integrity of operation, maintenance or monitoring activities at or pertaining to the Site. Types of ICs include, but are not necessarily limited to, environmental easements, deed restrictions, discharge permits, Site security (other than fencing), local permits, consent orders/decrees, zoning restrictions, hazardous waste site registry, deed notice, groundwater use restrictions, condemnation of property, and public health advisories. The Environmental Easement is an institutional control that requires compliance with the SMP so that:

- All Engineering Controls as specified in this SMP are operated and maintained;
- All Engineering Controls on the Site are inspected and certified at a frequency and in a manner defined in the SMP; and
- On-site environmental monitoring devices, including but not limited to soil vapor mitigation systems and groundwater monitoring wells, will be protected and replaced if necessary to ensure the devices function in the manner specified in this SMP.

In addition, the Environmental Easement will ensure that:

- The use of groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- Raising livestock or producing animal products for human consumption is prohibited;
- Vegetable gardens and farming are prohibited on site;
- All future activities on the property that will disturb remaining contaminated material are prohibited unless they are conducted in accordance with this SMP;
- The potential for vapor intrusion is evaluated for any buildings developed on-Site, and any potential impacts that are identified are monitored or mitigated. Alternatively, vapor intrusion mitigation measures will be incorporated into any potential building construction on the Site prior to evaluation;
- The property may be used for commercial use, which also allows for industrial use, provided that the long-term Engineering and Institutional Controls included in this SMP are employed;
- The property may not be used for a higher use level , such as unrestricted, residential or restricted-residential without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC; and
- The Site owner submits to NYSDEC a written statement that certifies that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a failure to comply with the SMP. This certification shall be submitted annually, unless otherwise approved by NYSDEC.

Adherence to these Institutional Controls is required by the Environmental Easement. The Institutional Controls will not be discontinued without an amendment to or extinguishment of the Environmental Easement. Until such time, access to the Controlled Property must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the Institutional Controls.

2.2 Description of Engineering Controls

An Engineering Control (EC) is any physical barrier or method employed to actively or passively contain, stabilize or monitor contamination, restrict the movement of contamination to provide for long-term effectiveness of the remedial program, or eliminate potential exposure pathways to contamination. Engineering controls include, but are not limited to, pavement, caps, covers, subsurface barriers, vapor barriers, slurry walls, building ventilation systems, fences, access controls, treatment and filtrations systems, and alternate water supplies. The following sections describe the engineering controls in place for the McKinney Property Site.

2.2.1 Cover System

Exposure to remaining contamination at the Site is prevented by the cover system. The existing cover system is comprised of 12-inches of crushed stone and/or clean soil with a demarcation barrier separating the cover system from soil exceeding NYSDEC CU SCOs, and therefore also separating the cover system from soil exceeding NYSDEC IU SCOs. The as-built drawings in Appendix B show the location of the cover system. The minimum requirements for the cover system state that it could be comprised of a minimum of 12 inches of clean stone and/or soil which meets the requirements of the Record of Decision (ROD) and requirements for soil covers and backfill defined in 6 NYCRR 375-6.7(d), asphalt pavement, concrete covered sidewalks, or concrete building slabs. The Soil Management Plan that appears in Section 3.0 outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying soil is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 4.0 of this SMP. The Monitoring Plan also addresses severe condition inspections in the event that a severe condition such as major storm events (25-year storm event or greater), fire, etc., which may affect controls at the Site, occurs. The cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

2.2.2 Soil Vapor Mitigation System

At this time there are no plans for the construction of structures on the property. However in the event that a structure is constructed on the property, implementation of engineering controls such as a soil vapor mitigation system (SVMS) will be required for all proposed structures. Plans and specifications for any SVMS to be installed at the Site shall require NYSDEC and New York State Department of Health (NYSDOH) review/approval prior to implementation. The SVMS shall be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York," or other more stringent applicable regulations/guidance documents. Measures to be employed to mitigate potential vapor intrusion (e.g., vapor barriers) shall also be evaluated, selected, designed, installed, and maintained based on the NYSDOH guidance, and construction details of the proposed on-site structures.

The purpose of the SVMS will be to mitigate the potential for subsurface soil vapors from entering the overlying structures. In general, the SVMS will consist of a series of perforated pipes installed within a bed of permeable gravel that is intended to create a negative pressure beneath the floor slab of the structures. Piping will be connected through a manifold that will ultimately be connected to an exhaust system. Impermeable barriers may also be installed on either the top and/or bottom of the floor slab as an added protective measure. The building floor slab will be installed above the piping. As described in Section 5.3, a site-specific and building-specific Operation, Maintenance and Monitoring plan shall be prepared in accordance with NYSDOH Soil Vapor Intrusion Guidance if a SVMS is installed at the Site. This plan shall describe minimum requirements for pre- and post-SVMS installation and monitoring. All SVMS shall be installed and monitored in accordance with NYSDOH Soil Vapor Intrusion Guidance. In the event that monitoring data collected as described in the OM&M plan indicates that the SVMS are no longer required, a proposal to discontinue the SVMS shall be submitted by the property owner to the NYSDEC and NYSDOH. The SVMS shall not be discontinued unless prior written approval is granted by the NYSDEC.

3.0 SOIL MANAGEMENT PLAN

Soil contamination exceeding UU-SCOs, CU-SCOs, and, in some areas, IU-SCOs will be encountered beneath the existing cover system during future intrusive work. Activities that may result in the exposure to this soil shall be addressed in accordance with this Soil Management Plan.

All future intrusive work that will penetrate, encounter or disturb the contaminated soil, and any modifications or repairs to the existing or future cover system will be performed in compliance with this Soil Management Plan. Intrusive construction work must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site by the Owner's Contractor. The HASP that will be prepared by the Owner's Contractor is described in Section 8.0 of this SMP.

A CAMP, which is currently acceptable for intrusive activities, is attached as Appendix E. The CAMP will be reviewed and updated, as necessary, prior to intrusive activities. The Owner's Contractor shall be responsible for performing air monitoring for volatile organic compounds and particulates at both upwind and downwind locations to document real time levels of contamination which might be moving off-site in accordance with the NYSDOH CAMP. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers. The HASP and CAMP will be updated and resubmitted with the notification of any ground intrusive activities.

In addition, any intrusive construction work will be performed in compliance with the SMP and will be included in the periodic inspection and certification reports submitted under the reporting (see Section 6.0).

3.1 Excavation of Soil

As discussed above, contaminated soil will be encountered during any future intrusive work below the demarcation layer. Because soil exceeding SCOs will be encountered, any soil

earthwork or excavation must be conducted appropriately and the NYSDEC notified a minimum of 15 days prior to those earthwork or excavation activities. A work plan will be developed by the Owner's Contractor prior to initiating any earthwork or excavation activities at the Site. The work plan, at a minimum, will be consistent with the requirements specified below for excavating, screening, handling, storing, sampling, transporting, and disposing of soil. The work plan will also specify that any fill material used on-site will meet the requirements specified in Section 3.1.4. The work plan will identify the procedures for testing and certifying the fill material which must comply with the minimum requirements specified in Section 3.1.4. Reuse of on-site soil from below the cover system as cover material (e.g., placement within the top 1-foot of the final grade) would require the same performance testing and certification as off-site fill material. Prior sampling results (from the investigation and interim remedial measure) must be considered in determining if soil may be reused as part of the cover system. Soil currently present immediately below the cover system (up to approximately two feet below the cover system) may not be reused as part of the cover system. Soil/stone currently used as cover material may be reused as cover without testing and certification.

3.1.1 Earthwork and Excavation

Earthwork and excavation during construction or as part of future intrusive activities into areas subject to engineering controls will require a soil assessment. As-built drawings from the remedial activities identifying the location of the engineering controls are provided in Appendix B. A description of contamination remaining at the Site is presented in Section 1.4.

Soil generated as part of earthwork, excavation or other intrusive activities will be subject to certain handing procedures as outlined herein. For activities that will encounter soil below the demarcation barrier, the soil will either:

1. Remain in place and rely on an engineering control, in the form of a demarcation barrier and cover system comprised of a soil cover, building, concrete pad, and/or asphalt pavement, which complies with the requirements of the ROD and requirements of 6 NYCRR 375-6.7(d) for soil covers and backfill for commercial use sites;

2. Be excavated, stockpiled on a minimum ten (10) mil thick polyethylene sheeting and covered with a minimum ten (10) mil thick polyethylene sheeting until the soil is placed beneath an engineering control. The engineering control shall be as specified in Item 1 above; or

3. Be excavated and removed from the Site for proper off-site disposal. Excavated soil could be directly loaded into trucks for hauling to the disposal facility or stockpiled as described above and subsequently removed from the Site for proper off-site disposal consistent with the requirements set forth within this SMP.

If the existing soil cover in a given area changes, a revised site plan clearly depicting the modifications to the cover system will be submitted to the NYSDEC upon restoration of the cover. Additionally, soil cover modifications will also be summarized in the subsequent PRR for the Site.

At a minimum, the following requirements apply to all excavations performed at the Site:

1. The maximum size bucket to be used for excavation shall be 5 cubic yards.

2. Each bucket shall be screened by the Qualified Environmental Professional (QEP) for staining, discoloration, odors and screened for the presence of VOCs using a Photoionization Detector (PID).

3. Excavated materials shall be transported to a designated staging area for subsequent testing and analysis for off-site disposal or on-site reuse upon NYSDEC approval.

4. Excavated materials must be staged on top of and covered with polyethylene sheeting. Ten (10) mil thick sheeting shall be used to cover the top of stockpiles. Forty (40) mil thick sheeting shall be placed beneath potentially or known contaminated material to prevent contact with undisturbed soils. Stockpiles must be constructed to isolate the contaminated material from the environment.

5. Diversion measures must be employed to prevent storm water run-on and run-off to the stock piles. These measures will include at a minimum:

   a) Continuously encircling stockpiles with a berm and/or silt fence; and

   b) Utilizing hay bales as needed near catch basins, surface waters and other discharge points.

6. Roll-off or equivalent units used to store contaminated material must be water tight.

7. Individual stockpiles shall not exceed a volume of 500 cubic yards.

8. Excavated soil shall not be used as part of the on-site cover system unless results of sample analysis have been reviewed by NYSDEC and reuse of the material on-site has been approved. Excavated soil derived from immediately below the cover system (up to approximately two feet below grade) may not be reused as part of the cover system.

9. Excavation shall be performed in a manner that will prevent spills.

10. Excavation shall be accomplished by methods which preserve the undisturbed state of subsurface soils whenever possible.

11. Mobilization of the excavated soil shall be prevented through the use of polyethylene sheeting to cover any soil stockpiles or by using appropriate soil erosion control methods established prior to the start of intrusive activities.

3.1.2 Documentation Sampling

Documentation sampling will be performed in all excavations in compliance with NYSDEC DER-10. If any areas in the excavation contain grossly contaminated material (i.e., soils exhibiting staining, product, and petroleum odors) or residual source material is encountered, the impacted soil will be excavated to the extent practicable by the Owner's Contractor, stockpiled and NYSDEC will be notified. If the impacted soil is not readily accessible, NYSDEC will be notified and a decision to either leave the soil in place or excavate it for off-site disposal will be made upon evaluation of available monitoring data.

3.1.3 Waste Transportation and Disposal

The following requirements apply to the transportation and disposal of material excavated from the Site:

1. All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this Site will not occur without formal NYSDEC approval.
2. Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does

not meet UU-SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

3. Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

    a. Disposal characterization sampling frequency, analysis methods, and analytical laboratory must meet the disposal facility requirements and be approved by the NYSDEC prior to removal of any material from the Site.

    b. Letters of commitment must be obtained from disposal facilities to be used during the project. The letters should state that the disposal facility is permitted to accept and has the available capacity to receive the waste that will be shipped from the Site.

    c. Materials removed from the Site must be transported directly to the disposal facility.

4. All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Waste haulers will be appropriately licensed and trucks properly placarded. Trucks used for the transport of materials from the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

    a. All vehicles must be properly decontaminated on an appropriate and approved decontamination pad before leaving the Site. All waste materials generated during the decontamination procedures must be containerized, characterized and disposed of properly.

    b. Truck transport routes are as follows: Head North on South McBride Street; Turn right onto East Adams Street; Turn left onto Almond Street; and, Take ramp left and follow signs for I-81 North. All trucks loaded with site materials will exit the vicinity of the Site using only this approved truck route. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the Site; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

    c. Trucks will be prohibited from stopping and idling in the neighborhood outside the Site.

    d. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during site remediation and development.

e. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

f. A log of trucks leaving the Site must be maintained by the Owner or QEP which includes the following at a minimum: (a) name of waste hauler; (b) type of truck; (c) license plate number; (d) waste hauler's truck number; (e) type and amount of waste; (f) disposal facility name and address; (g) manifest number and USEPA ID number; (h) approval number; and, (i) time and date of departure. The log must be submitted to NYSDEC upon completion of the work activities and included in the subsequent PRR.

3.1.4 Fill Material

The fill material used must meet the NYSDEC DER-10 requirements for documentation and testing. The following minimum requirements apply to the fill material used to restore the Site after excavation has been completed:

Off-Site Fill Material

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases. Additionally imported soils will:

1. Comply with the requirements of the ROD;
2. Be free of extraneous debris or solid waste;
3. Be sampled in accordance with DER-10 and at a frequency specified in Table 3-1 or at a reduced frequency with approval by NYSDEC;

Table 3-1

Recommended Number of Soil Samples for Chemical Analysis

Contaminant	**VOCs**	**SVOCs, Inorganics & PCBs/Pesticides**	
Soil Quantity (cubic yards)	**Discrete Samples**	**Composite**	**Discrete Samples/Composite**
0-50	1	1	3-5 discrete samples from different locations in the fill being provided
50-100	2	1	

Table 3-1			
Recommended Number of Soil Samples for Chemical Analysis			
Contaminant	**VOCs**	**SVOCs, Inorganics & PCBs/Pesticides**	
Soil Quantity (cubic yards)	**Discrete Samples**	**Composite**	**Discrete Samples/Composite**
100-200	3	1	will comprise a composite sample for analysis
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1000	7	2	
> 1000	Add an additional 2 VOC and 1 composite for each additional1000 Cubic yards or consult with NYSDEC		

The following material may be imported without chemical testing, to be used as fill beneath pavement, buildings or as part of the final site cover, provided that it contains less than 10% by weight material which would pass through a size 80 sieve and consists of:

1. Gravel, rock or stone, consisting of virgin material from a permitted mine or quarry; or

2. Recycled concrete or brick from a NYSDEC registered construction and demolition debris processing facility if the material conforms to the requirements of Section 304 of the New York State Department of Transportation Standard Specifications Construction and Materials Volume 1 (2002).

Documentation of the quality of the off-site fill must be provided by a certification stating that it is clean material from a commercial or noncommercial source. If documentation of the quality of the fill material cannot be provided, a backfill evaluation proposal which identifies material characterization protocols shall be submitted to and approved by the NYSDEC prior to the use of any backfill material.

On-Site Fill Material

A qualified environmental professional will ensure that procedures defined for materials reuse in this Soil Management Plan are followed and that unacceptable material does not remain

on-site. Contaminated on-site material, including historic fill, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused as part of the cover system, within landscaping berms or as fill for subsurface utility lines.

Any demolition debris proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-site. Additionally:

1. On-site fill material that originated below the demarcation barrier will be covered with a demarcation layer and one foot of clean soil meeting the requirements for off-site fill material described above or other acceptable cover system, such as asphalt paving, concrete building slabs or sidewalks.
2. Material presently used as cover may be re-used as cover.
3. Material below the demarcation barrier may only be reused below the demarcation barrier. Any gross contamination encountered below the demarcation barrier must be excavated and properly disposed off-site as directed by the NYSDEC.

3.1.5 Storm Water Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall

be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

3.1.6 Dust Control Plan

Prior to the start of intrusive activities, a dust suppression plan shall be developed, which addresses the following best management practices at a minimum:

1. Application of potable water on haul roads, excavation faces, equipment and stockpiles during construction activities;
2. Application of potable water during soil excavation, handling, and loading;
3. Restriction of vehicle speed on-site;
4. Constructed of haul roads with materials that limit the generation of dust;
5. Limiting the size and number of excavations and/or de-vegetated areas;
6. Covering excavations and material stockpiles when not in use;
7. Temporary soil stabilization measures during re-vegetation; and,
8. Hauling material in properly lined and covered vehicles.

3.2 Dewatering

Any dewatering activities required at the Site must be handled appropriately and the NYSDEC will be notified prior to those activities. The Owner or Owner's Contractor will obtain all necessary permits for dewatering. The application shall be submitted after the Contractor submits the following information:

- The proposed starting date of the dewatering operation
- The name of the licensed well driller, if applicable
- The details of the dewatering system to be installed
- The size, number and spacing of wells, well points, etc., if applicable

- The pump capacity, pumping rate and expected volume of water to be withdrawn
- The amount of water table drawdown
- Water quality information and proposed treatment required
- The final disposition of the water
- The expected duration of the operation
- All other requirements for a complete dewatering system

The Owner's Contractor shall be required to obtain all necessary permits including (if necessary) a NYSDEC State Pollutant Discharge Elimination System (SPDES) permit and any necessary permit/approval from the City of Syracuse and/or Onondaga County for discharges to the sanitary sewer.

3.3 Cover System Restoration

After the completion of soil removal and any other invasive activities, the cover system will be restored in a manner that complies with the Record of Decision. The cover system must be comprised of a minimum of 12 inches of clean soil, asphalt pavement, concrete covered sidewalks or concrete building slabs, etc. The demarcation layer, which must consist of orange snow fencing material, geotextile, or an equivalent material, will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

4.0 MONITORING PLAN

As part of this SMP, the monitoring program will include periodic inspections of the cover system to observe the integrity of the cover system as well as overall general Site conditions, sampling and analysis of groundwater samples collected from the existing monitoring well network and inspection/operation and maintenance activities related to any installed SVMS that may be installed at the Site. This Monitoring Plan may only be revised with the approval of the NYSDEC.

4.1 Site Inspections

4.1.1 Site Cover

Cover inspections will be performed by a QEP at the Site biannually and after major storm events (25-year storm event or greater) or at a frequency revised as approved by NYSDEC. If portions of the Site are redeveloped, the periodic Site cover inspections will also include observations of the condition of the newly installed components of the cover system by a QEP. Visual evidence of any erosion, deposition, differential subsidence, pothole development, or other adverse conditions that would compromise the integrity of the cover system will be photographed and noted in the field notebook. These inspections will be performed monthly by a QEP once any phase of redevelopment has been completed and will be reduced in frequency to biannually once the new cover has been established. Additionally, any reconstructive engineering efforts (i.e., site cover modifications) that are performed will require a Professional Engineer licensed to practice in New York State to certify that such efforts were performed consistent with the requirements set forth in this SMP. Inspections will also be performed after significant weather events. Observations will be recorded in a field notebook dedicated to the project. Photographs will also be taken to document pertinent observations. If conditions are observed that require immediate action, the NYSDEC will be contacted by the Owner.

4.1.2 Soil Vapor Mitigation System

Routine inspections of any installed SVMS shall be performed by a QEP to ensure proper operation consistent with all approved plans. A visual inspection of the SVMS components will be conducted during each monitoring event. The SVMS components to be monitored include, but are not limited to, the following:

- Condition of existing floor slab and vapor barrier (if applicable);
- Vacuum blower;
- General system piping;
- Manometer(s); and
- Area(s) immediately adjacent to the system discharge stack for the presence of fresh air intakes.

Other soil vapor mitigation measures shall be operated, inspected and maintained in accordance with manufacturer's recommendations or appropriate guidance, standards or regulations. A complete list of components to be checked will be provided in an Inspection Checklist which will be prepared by the Owner and appended to this document once the systems are installed. Generally, if any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan will be performed. Once repairs or maintenance have been performed the system will be restarted. Operational problems will be noted in the subsequent Periodic Review Report.

4.1.3 Groundwater Monitoring Wells

Inspections of the monitoring wells will continue, as discussed above, as part of the overall inspection of general Site conditions. Inspections of monitoring wells during the Site inspections and/or sampling events will focus on the following areas:

- Concrete surface seal;
- Protective outer casing and lid;
- Locks and locking well caps; and
- Excessive silt in the well.

The integrity of the concrete surface seal will be visually assessed at each well location, and any loss of integrity, such as cracks or heaving, will be noted in the field notebook. At each well, the protective outer casing and lid will be checked for damage. Any pooling of water or evidence of pooling of water adjacent to, or within the protective casing will be recorded in the field notebook. The wells will be checked to verify that they are locked and the integrity of the locking cap will be assessed. Any cracks in the locking caps or broken or missing locking caps will also be noted.

Excessive silt collected in the bottom of a well may affect the ability to collect a representative groundwater sample. Each sampling event will include an evaluation of the amount of silt collected in the bottom of the wells from which groundwater samples are collected. Measurements of the total well depth will be taken prior to sampling, at the same time that groundwater level measurements are made. The measured total well depth will be compared to the construction log to determine the amount of silt in the well.

Monitoring wells will be considered excessively silted if the depth of the silt in the well equals or exceeds 10 percent of the screened length. For example, a well that contains 1 foot of silt with a well screen 10 feet in length would be calculated to have exactly 10 percent silt in the well and would require redevelopment according to the procedures provided in Section 5.4.

Any problems noted during the inspection of the monitoring wells will be reported to NYSDEC as soon as possible. If repairs are required, a work plan will be developed and submitted to the NYSDEC for approval prior to implementation. If repairs will be completed in accordance with Section 5.4, the work plan will consist of a letter describing the repairs to be completed and stating that the procedures in Section 5.4 of this SMP will be followed.

4.2 Groundwater Monitoring

The objective of effectiveness monitoring as stated in NYSDEC DER-10 is to periodically monitor the chemical and physical characteristics of media of concern, and to determine and/or confirm that the objectives of the remedy are being achieved when compared to data obtained from other phases of the investigation and remediation. Effectiveness monitoring activities applicable to the Site include sampling and analysis of site-wide groundwater.

4.2.1 Monitoring Well Network

Groundwater monitoring will be performed every 15 months to assess the groundwater quality at the Site. The existing groundwater monitoring well network consists of seven (7) onsite monitoring wells (MW-1A, MW-2A, MW-3AR, MW-4R, MW-5, MW-6, and MW-7) and one (1) offsite monitoring well (MW-8). As part of the site-specific groundwater monitoring program, samples will be collected from all monitoring wells to routinely monitor site-specific groundwater quality and flow information at the Site. Additionally, all the monitoring wells will be gauged as part of each routine sampling event to determine groundwater elevation and the presence or absence of light non-aqueous phase liquid (LNAPL) at the Site. A figure showing the location of the monitoring wells is provided as Figure 4-1. Monitoring well construction logs, including total depth and screened intervals, are included in Appendix F.

4.2.2 Monitoring Well Purging and Sampling

All monitoring well sampling activities will be recorded in a field book. Other observations (e.g., well integrity, etc.) will also be noted. All sampling equipment shall be decontaminated prior to use in the first well and then following sampling of each well. If possible, the collection of groundwater level measurements and samples shall be biased to collect samples first from wells containing the lowest levels of contaminants to the highest levels of contaminants.

LEGEND:

	SITE BOUNDARY
MW-7	MONITORING WELL (INSTALLED 02/08)
MW-8	MONITORING WELL (INSTALLED 03/10)
MW-1A	MONITORING WELL (INSTALLED 10/10)
MW-4R	MONITORING WELL (INSTALLED 11/15)

0 40

SCALE IN FEET

D&B ENGINEERS AND ARCHITECTS, P.C.

SYRACUSE HOUSING AUTHORITY
McKINNEY PROPERTY SITE

MONITORING WELL LOCATION MAP

FIGURE 4-1

F:\2576\2576-FIG-4-1.dwg, 12/10/2015 9:59:53 AM, kalesius

Prior to initiating monitoring well purging and sampling activities, groundwater level gauging will be performed in order to evaluate the groundwater flow direction at the Site. Prior to the withdrawal of any water, water levels will be obtained from the entire set of monitoring wells using a hand-held electronic water level indicator. The indicator probe will be gradually lowered into the well until the point at which the indicator light or audible alarm indicates that the probe has reached water. The water level will then be obtained by measuring the depth from this point to the top of the well's inner casing or surveyed reference mark. The water level measurement will be recorded to the nearest 0.01 foot. Total depth of the well will then be measured from the top of the well's inner casing or surveyed reference mark to the bottom of the well. The total well depth measurements will be to the nearest 0.1 foot.

Well purging or evacuation will be conducted using adjustable rate submersible pumps which are constructed of stainless steel or Teflon® in accordance with low flow sampling techniques. The pump will be lowered slowly into the well to minimize disturbance and the pump inlet will be positioned at the mid-point of the screened interval. All evacuated water will be containerized and the total volume will be recorded. All containerized water will be characterized and disposed of off-site in accordance with all laws, rules and regulations. The pump will be started at low speed and slowly increased until discharge occurs. Groundwater level measurements will continue to be monitored to minimize drawdown to a maximum of 0.3 feet while maintaining a consistent water level in the well. If the minimal drawdown that can be achieved exceeds 0.3 feet, but remains stable, purging will continue.

After the water level has stabilized field measurements including pH, conductivity, dissolved oxygen, temperature, oxidation reduction potential (ORP) and turbidity will be measured periodically until they stabilize. The monitoring instruments will be calibrated prior to sampling and the calibration documented in the field book. The criteria for stabilization will be based on three successive readings where pH has stabilized to within +/- 0.1 pH units, specific conductance has stabilized to within +/- three (3) percent, turbidity has stabilized to within +/- ten (10) percent, dissolved oxygen has stabilized to within +/- 0.3 mg/L, temperature has stabilized to within +/- three (3) percent and ORP has stabilized to within +/- 10 millivolts.

After the water level and field measurements have stabilized the minimal purge volume will be calculated by adding the stabilized drawdown volume to the pump's tubing volume. Water levels and field measurements will continue to be monitored until the minimum purge volume has been evacuated at which time the sample may be collected.

The sample tubing shall be removed from the inlet of the flow cell and the groundwater samples will be transferred directly from the tubing to the appropriate laboratory supplied sample container(s). The sample containers for VOC analysis will be collected first followed by containers for analysis of, SVOCs, PCBs, and metals, respectively. Sample containers will be properly labeled at the time of sample collection and contain the appropriate preservative or be unpreserved, as required by analytical methods. All samples collected from the groundwater monitoring well network are collected every fifteen months and are analyzed for VOCs via USEPA Method 8260, SVOCs via USEPA Method 8270, PCBs via USEPA Method 8082 and TAL Metals via USEPA Methods 6010b/7470a (including filtered and unfiltered samples). One duplicate sample and one matrix spike/matrix spike duplicate will be collected and analyzed for each round of sampling based upon 6 groundwater samples. One trip blank will accompany each shipment of aqueous samples requiring VOC analysis.

The sampling frequency and which wells are to be sampled may be modified with the approval of the NYSDEC and the SMP will be modified to reflect the approved modifications. Quality assurance and analytical procedures are discussed in Section 7.0 of this SMP. All samples will be placed in an ice-filled cooler from the time of sample collection and are to be shipped within 24 hours under appropriate Chain of Custody (COC) procedures to the analytical laboratory. All groundwater monitoring results shall be reported on a periodic basis in the Periodic Review Report in accordance with section 6.0 of this SMP.

5.0 OPERATION AND MAINTENANCE PLAN

The Operation and Maintenance (O&M) of the Site will be performed as defined in this Site Management Plan by the Site Owner and QEP, unless modified pursuant to NYSDEC approval.

5.1 Cover System

The Site cover system, which currently consists of at least 12 inches of clean, imported stone over most of the Site and at least 12 inches of clean soil over portions of the Site, will be inspected by a QEP on a regular basis as described above in Section 4.0. If, in the future, portions of the Site are redeveloped, although inspection of the cover system will continue, it will include inspection of the soil cover as well as any new components of the cover system including the asphalt pavement, concrete sidewalks, foundations or other structural coverings.

There is the potential for existing or future soil cover system at the Site to be damaged. This damage could occur through non-intrusive activities such as erosion, differential settling, or intrusive activities including landscaping, tree planting or underground structure installation. Areas that have been damaged will be repaired by replacing the appropriate cover material, such as approved clean fill material to ensure maintenance of the cover, or asphalt pavement, concrete sidewalks, foundations, or other impervious material. During repair of sections of the cover system which consist of clean soil with a vegetative cover, clean fill will be placed to within 0.5 feet bgs, followed by placing topsoil to a level matching surrounding grade. The topsoil should then be seeded or the area landscaped to reestablish the previous cover over the repaired area.

If erosion persists after repairs have been made, alternate repair methods will be evaluated. Placement of coarse rip-rap stone or other similar erosion controls measures may be required in persistent areas. A plan detailing the corrective measures to repair the damaged areas will be developed and submitted to NYSDEC for approval, prior to implementation of the repair.

5.2 Soil Vapor Mitigation Systems

As described above, if buildings are constructed on-site and SVMS are installed, the Operation, Maintenance and Monitoring (OM&M) manual for these systems will be prepared by the QEP and Owner and included as an appendix to this SMP. The OM&M for the SVMS will be prepared in accordance with the requirements of New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance, and shall be operated, inspected and maintained in accordance with manufacturer's recommendations or appropriate guidance, standards or regulations. Some anticipated routine maintenance activities associated with the SVMS include the following:

- Inspection of the concrete slabs and cleanouts linking the sub-slab drainage pipe to the footing drains to ensure they are removing any water that may accumulate below the slab.
- Performance of a pressure field extension test after system is installed to verify there is a pressure differential created across the slab via ports installed through the slab in representative areas within the building.
- Measure the vacuum/pressure head and flow rate at the blower.
- Inspect the SVMS visually for any damage.
- Test for presence of leaks with smoke detector tubes and fix any seal and leaks identified.
- The SVMS exhaust/discharge point should be located a minimum of 10 feet away from any window, intake or otherwise occupied space of the structure.

Non-routine maintenance activities associated with the SVMS may include the following:

- Replace the blowers and other parts, as needed, based on their life expectancy.

5.3 Groundwater Monitoring Wells

If a monitoring well is determined to be excessively silted, it will need to be redeveloped by surging and pumping or other sufficient means. All water removed during development will

be containerized, characterized and disposed of off-site in accordance with all laws, rules and regulations. The monitoring wells will be developed until a turbidity of 50 nephelometric turbidity units (NTUs) is achieved or until field parameters, such as pH, specific conductance, turbidity, and dissolved oxygen, have stabilized. The criteria for stabilization will be based on three successive readings where pH has stabilized to within +/- 0.1 pH units, specific conductance has stabilized to within +/- three (3) percent, turbidity has stabilized to within +/- ten (10) percent, and dissolved oxygen has stabilized to within +/- 0.3 mg/L.

If a monitoring well has been damaged, but deemed repairable, an action plan detailing the corrective measures to rectify the problem will be developed and submitted to NYSDEC for approval prior to implementation of the remedy. Typically, surface freeze and thaw cycles tend to damage wellheads and eventually require repair or replacement. Less often, wellheads are damaged due to impacts by vehicular traffic or construction equipment. Repairs/replacements will be limited to surficial features of the well, since subsurface damage to monitoring wells (i.e., cracking of casing or screen due to rupture from bridging and differential stress of subsurface materials) requires well replacement.

Damaged wellheads will be replaced with in-kind materials consisting of an appropriately-sized flush-mount steel curb box set in a concrete seal formed 2 feet in diameter extending to a depth of approximately 1 foot bgs or approved equal. The top outer edge of the concrete pad will be flush with the ground. An internal grout collar will be placed in the annular space between the inner casing and the outer protective casing.

Damaged monitoring wells rendered to be unusable based on the results of inspections will be abandoned and replaced in accordance with the methods described in the NYSDEC Division of Hazardous Waste Remediation “Groundwater Monitoring Well Decommissioning Policy”, dated November 2009. Accordingly, as necessary, the wells will be abandoned by puncturing the bottom of the well or utilizing a casing cutter to cut away the screen. Next the well will be grouted with a standard grout mixture consisting of one 94-pound bag of Type I Portland cement, 3.9 pounds of powdered bentonite and 7.8 gallons of potable water. The grout will be placed from the bottom up by means of a tremie pipe. The protective curb box will then

be removed and the casing will be pulled. Additional grout will be added as the casing is withdrawn to bring the level of the grout to within five (5) feet of the surrounding grade. The uppermost five (5) feet of the borehole will be backfilled with clean soil and/or stone which meets the requirements for soil covers and backfill defined in 6 NYCRR 375-6.7(d).

In the event that a monitoring well must be replaced, it will be reinstalled in the nearest available location unless otherwise approved by the NYSDEC. Monitoring wells to be replaced will be installed using 4 1/4-inch ID hollow stem augers. Split spoon samples will be collected and evaluated for each well. Wells will be constructed using 2-inch ID Schedule 40 PVC 0.010-inch slot screens, placed to screen the same interval as the well it is replacing and 2-inch ID Schedule 40 PVC riser pipe. During construction of the wells, the augers will be removed during the installation of the sand. A sand pack, consisting of No. 1 sand will be placed in the annulus between the borehole wall and the well screen extending from the well bottom to at least one-foot above the top of the screen and at least one-foot of bentonite seal will be placed above the sand pack. Expansion caps will be installed on the well riser pipes and a lockable protective steel casing will be installed in the concrete surface pad. Detailed well specifications will be provided to NYSDEC for approval prior to installation of replacement monitoring wells.

6.0 REPORT PREPARATION AND NOTIFICATIONS

6.1 Periodic Review Reports

A Periodic Review Report will be prepared and submitted to the NYSDEC on an annual basis beginning 15 months after the Certificate of Completion is issued. The report will be submitted within 30 days of the end of each certification period. In the event that the Site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the Site described Appendix A Property Survey (Metes and Bounds). The Periodic Review Report will be prepared in accordance with NYSDEC DER-10 "Technical Guidance for Site Investigation and Remediation" requirements. The frequency of submittal of the Periodic Review Report may be modified with the approval of the NYSDEC. The Periodic Review Report will include the following:

1. Evaluation and assessment of the institutional and engineering controls required for the Site.
2. An evaluation of the Engineering and Institutional Control Plan and the Monitoring Plan for adequacy in meeting remedial goals.
3. Results of the required biannual Site inspections and severe condition inspections, if any.
4. Results of the cover inspections, groundwater monitoring events and SVMS inspections.
5. All applicable inspection forms and other records generated for the Site during the reporting period.
6. Data summary tables and graphical representations of contaminants of concern by media, which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted.
7. Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format.
8. A performance summary for the SVMS at the Site during the calendar year, including information such as:

- The number of days the system was run for the reporting period;
- A description of breakdowns and/or repairs along with an explanation for any significant downtime;
- A description of the resolution of performance problems; and
- Comments, conclusions, and recommendations based on data evaluation.

9. A site evaluation, which will address:
   - Compliance of the remedy with the RAOs and SMP;
   - Performance and effectiveness of the remedy;
   - Identification of any needed repair or modification;
   - Conclusions or observations regarding the Site; and
   - Recommendations regarding necessary changes to the remedy and/or monitoring plan.
10. Certification of the engineering and institutional controls.
11. A summary of the activities conducted pursuant to any notification made under the reasons listed in Section 6.4.

6.2 Certification of Engineering and Institutional Controls

After the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;

- The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;

- Nothing has occurred that would impair the ability of the control to protect the public health and environment;

- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;

- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;

- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;

- Use of the site is compliant with the environmental easement;

- The engineering control systems are performing as designed and are effective;

- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and

- The information presented in this report is accurate and complete.

- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative] for the site.

The signed certification will be included in the Periodic Review Report described above.

6.3 Corrective Measures Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless

an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

6.4 Notifications

Notifications will be submitted by the property owner to NYSDEC as needed for the following reasons:

- 60-day advance notice of any change of use as defined in 6 NYCRR 375-4.2(b). Such a notice will include the necessary information required by 6 NYCRR 375-1.11(d).
- 15-day advance notice of any proposed ground-intrusive activities that would encounter residual contaminants pursuant to the Soil Management Plan.
- Notice within 48-hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of other Engineering Controls and likewise any action to be taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the engineering controls.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser or transferee or responsible party has been provided with a copy of all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the Site or responsibility, the new responsible party's name, contact representative, and contact information will be confirmed in writing.

7.0 QUALITY ASSURANCE

Environmental sample analysis conducted at the Site, will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP), latest revision. All data will be reported in accordance with the NYSDEC Division of Environmental Remediation EQuIS data reporting requirements and conform to ASP Category B deliverables format. Prior to commencement of any Site work, the Owner's Contractor shall be required to prepare a site-specific Quality Assurance/Quality Control (QA/QC) Plan pertaining to sampling and analysis of media that will be either removed from the Site or brought there to be used on-site. This section will provide the basis for the sampling and analysis required to be performed.

7.1 Data Quality Requirements and Assessments

Data quality requirements and assessments are provided in the NYSDEC ASP, which includes the detection limit for each analyte and sample matrix. Note that the quantification limits, estimated accuracy, accuracy protocol, estimated precision and precision protocol are determined by the laboratory and will be in conformance with the requirements of the NYSDEC ASP (latest revision) and/or USEPA SOW for organics and inorganics (latest revision), where applicable.

In addition to meeting the requirements provided in the NYSDEC ASP, the data must also be useful in evaluating the quality of media sampled. Data obtained during the sampling will be compared to SCGs. The SCGs to be used include:

Matrix	SCG
Soil	NYSDEC Part 375 and CP-51 Commercial-Use Soil Cleanup Objectives and SCOs for the Protection of Groundwater
Groundwater	6 NYCRR Part 703 and NYSDEC Division of Water – Technical and Operational Guidance Series (TOGS) (1.1.1); Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, dated June 1998 and updated January 1999, April 2000, and June 2004.

The methods of analysis will be in accordance with the NYSDEC ASP and EPA SW-846 for analysis of VOCs via EPA method 8260, SVOCs via EPA method 8270, Pesticides via EPA method 8081, PCBs via EPA method 8082, metals via EPA methods 6010, mercury via EPA method 7471 and cyanide via EPA method 901x. Specific analytical procedures and laboratory QA/QC descriptions are not included in this SMP, but will be available upon request from the laboratory selected to perform the analysis. The laboratory will be New York Department of Health (NYSDOH) Environmental Laboratory Approved Program (ELAP) certified for the analyses performed.

7.1.1 Data Representativeness

Samples may be collected from various media. Collection of representative data is necessary to ensure the data obtained is usable. Examples of methods for collection of representative samples are as follows:

- Soil – Samples will be obtained from the excavation floors, excavation sidewalls, stockpiles, etc. Samples will be collected using a dedicated polyethylene scoop.
- Groundwater (Monitoring Well) – Samples will be obtained from the existing monitoring well network in accordance with the procedures specified in Section 4.2.2.
- Equipment Calibration – Field equipment will be calibrated daily before use according to the manufacturer's procedures.
- Equipment Decontamination – Sampling equipment will be decontaminated prior to use at each location according to the NYSDEC approved procedures described in Section 7.3.

The site-specific QA/QC Plan prepared by the Owner's Contractor prior to site work will include a more detailed description of data representativeness.

7.1.2 Data Comparability

All data will be presented in the units designated by the methods specified by a NYSDOH ELAP certified laboratory and the NYSDEC ASP. In addition, sample locations,

collection procedures and analytical methods from earlier studies will be evaluated for comparability with current procedures/methods.

7.1.3 Data Completeness

The acceptability of 100% of the data is desired as a goal for the project. The acceptability of less than 100% complete data, meeting all QA/QC protocols/standards, will be evaluated on a case-by-case basis.

7.2 Detailed Sampling Procedures

Environmental samples may be collected from different locations as part of the continued long-term operations, maintenance and monitoring. It is anticipated that soil samples may be collected and may consist of samples collected from soil stockpiles, excavation floors and sidewalls. Additionally, groundwater samples will be collected on a routine basis from the existing network of monitoring wells. Sampling procedures and equipment are described in this section.

The materials involved in aqueous sample collection are critical to the collection of high quality monitoring information, particularly where the analysis of volatile, pH sensitive or reduced chemical constituents are of interest. Disposable sampling equipment will be utilized for this project to the extent practicable. There will be several steps taken after the transfer of the sample into the sample container that are necessary to properly complete collection activities. Once the sample is transferred into the appropriate container, the container will be capped and, if necessary, the outside of the container will be wiped with a clean paper towel to remove excess sampling material. The container will not be submerged in water in an effort to clean it. Rather, if necessary, a clean paper towel moistened with distilled/deionized water will be used.

The sample container will then be properly labeled. Information such as sample number, location, collection time and sample description will be recorded in the field logbook. Associated forms (e.g., Chain of Custody forms) will then be completed and will stay with the sample. The

samples will be packaged in a manner that will allow the appropriate storage temperature (4°C) to be maintained during shipment to the laboratory.

7.2.1 Sample Identification

Each sample container will have a label of durable material affixed to it, which specifies the following sample information:

- Sample location;
- Sample type;
- Sample identification number (including well designation);
- Name(s) of sampler(s);
- Date and time of sample collection;
- Container number for that sample, if more than one container is used (e.g., #1 of 4); and
- Laboratory analyte.

All samples collected will be labeled with a sample identification code that is compatible with the NYSDEC EQuIS format. The code will identify the site, sample location, sample matrix, series numbers for sample locations with more than one sample, and QA/QC requirements.

7.2.2 Sample Preservation, Handling and Shipment

All analytical samples will be placed in the appropriate sample containers supplied by the laboratory as specified in the NYSDEC ASP. The holding time criteria identified for the individual methods of the ASP will be followed.

Prior to packaging any sample for shipment, the sample containers will be checked for proper identification and compared to the field logbook for accuracy. The samples will then be wrapped with a cushioning material. Sample containers will be placed in a cooler with ice

immediately after sample collection and maintained at 4°C throughout the duration of the sampling event and subsequent shipment to and storage at the analytical laboratory until analysis.

All necessary documentation required to accompany the sample during shipment will be placed in a sealed plastic bag and taped to the underside of the cooler lid. The cooler will then be sealed with packaging tape and custody seals will be placed in such a manner that any opening of the cooler prior to arrival at the laboratory can be detected.

All samples will be shipped for laboratory receipt within 48 hours of sample collection in accordance with NYSDEC requirements. The laboratory will be notified prior to the shipment of the samples.

7.2.3 Soil

1. Be certain that the sample location is noted in the field log book.
2. If a dedicated sampling device is not used, be certain that the sampling equipment has been decontaminated utilizing the procedures outlined in Section 7.3.
3. Remove laboratory pre-cleaned sample container from sample cooler, label container with an indelible marker, and fill out Sample Information Record and Chain of Custody Form.
4. At the sample location, clear surface debris (e.g., vegetation, rocks, twigs, etc.). Collect an adequate amount of soil using a decontaminated or disposable scoop and/or sterile wooden tongue depressor. Transfer the sample directly into the sample container.
5. Return the sample container to the cooler.
6. If reusable, decontaminate the sampling equipment according to the procedures described in Section 7.3.

7.2.4 Groundwater

1. Be certain that the sample location is noted in the field logbook.

2. Measure the depth of water and total depth using a decontaminated water level indicator and compute the volume of standing water in the well. Identify the measuring point in logbook.

3. Collect sample in accordance with the procedures described in Section 4.2.2.

4. Remove the laboratory pre-cleaned sample containers from sample cooler, label container with an indelible marker, fill out Sample Information Record and Chain of Custody Form.

5. Gently pour the sample into the sample container taking care not to spill on outside of bottle or overfill container and replace cover on the sample container. Samples for volatile organic analyses will have no air space in the sample vial prior to sealing. This is done by filling the vial such that there is a meniscus on top. Carefully, slide the septum, Teflon® side down, onto the top of the vial and cap the vial. Check for bubbles by turning the vial upside down and tapping it lightly. If bubbles appear, reopen the vial, remove the septum and add more sample (or resample). Replace the septum, recap and check for bubbles. Continue until vial is bubble-free.

6. Return sample container to sample cooler.

7.3 Decontamination Procedures

All field sampling equipment should be sterile and dedicated to a particular sampling point. In instances where this is not possible, a field cleaning (decontamination) procedure will be used in order to reduce the chances of cross-contamination between sample locations. A decontamination station will be established for all field activities.

7.3.1 Field Decontamination Procedures

All non-disposable equipment will be decontaminated at appropriate intervals (e.g., prior to initial use, prior to moving to a new sampling location and prior to leaving the Site). Different decontamination procedures are used for various types of equipment that perform the field activities as discussed below. When using field decontamination, it is advisable to start sampling in the area of the Site with the lowest contaminant probability and proceed through to the areas of highest suspected contamination.

7.3.2 Decontamination Procedures for Sampling Equipment

Teflon, PVC, polyethylene, polystyrene and stainless steel sampling equipment decontamination procedures will be the following:

- Wash thoroughly with non-residual nonionic anionic detergent (such as Alconox) and clean potable tap water using a brush to remove particulate matter or surface film.
- Rinse thoroughly with tap water.
- Rinse thoroughly with distilled water.
- Rinse in a well ventilated area with methanol (pesticide grade) and air dry.
- Rinse thoroughly with distilled water and air dry.
- Wrap completely in clean aluminum foil with dull side against the equipment. For small sampling items, such as scoops, decontamination will take place over a drum specifically used for this purpose.

The first step, a soap and water wash, is to remove all visible particulate matter and residual oils and grease. This is followed by a tap water rinse and a distilled/deionized water rinse to remove the detergent. Next, a high purity solvent rinse is designated for trace organics removal. Methanol has been chosen because it is not an analyte of concern in the Target Compound List (TCL). The solvent must be allowed to evaporate and then a final distilled/deionized water rinse is performed. This rinse removes any residual traces of the solvent. The aluminum wrap protects the equipment and keeps it clean until it is used at another sampling location.

7.4 Laboratory Sample Custody Procedures

A NYSDOH ELAP laboratory meeting the requirements for sample custody procedures, including cleaning and handling sample containers and analytical equipment will be used. The laboratory's standard operating procedures will be available upon request.

7.5 Field Management Documentation

Proper management and documentation of field activities is essential for necessary work to be conducted in an efficient and high quality manner. Field management procedures include following proper Chain of Custody procedures to track a sample from collection through analysis, noting when and how samples are to be composited (if required), preparing a Location Sketch, completing Sample Information Record Forms, Chain of Custody Forms, maintaining a daily Field Log Book, preparing Daily Field Activity Reports, completing Field Change Forms and filling out a Daily Air Monitoring Form. Proper completion of these forms and the field log book are necessary to support the consequent actions that may result from the sample analysis. This documentation will support that the samples were gathered and handled properly.

7.5.1 Location Sketch

Each sampling point shall have its own location sketch with permanent references, to the maximum extent practicable.

7.5.2 Sample Information Record

At each sampling location, the Sample Information Record Form is filled out and maintained including, but not limited to, the following information:

- Site name
- Sample crew
- Sample location
- Field sample identification number
- Date
- Time of sample collection
- Weather conditions

- Temperature
- Sample matrix
- Method of sample collection and any factor that may affect its quality adversely
- Field test results
- Constituents sampled
- Remarks (Sample Compositing Information)

7.5.3 Chain of Custody

The Chain of Custody (COC) is initiated at the laboratory with bottle preparation and shipment to the Site. The COC remains with the sample at all times and bears the name of the person assuming responsibility for the samples. This person is tasked with ensuring secure and appropriate handling of the bottles and samples. When the form is complete, it should indicate that there were no lapses in sample accountability.

A sample is considered to be in an individual's custody if any of the following conditions are met:

- It is in the individual's physical possession, or
- It is in the individual's view after being in his or her physical possession, or
- It is secured by the individual so that no one can tamper with it, or
- The individual puts it in a designated and identified secure area.

In general, Chain of Custody Forms are provided by the laboratory contracted to perform the analytical services. At a minimum, the following information shall be provided on these forms:

- Project name and address
- Project number

- Sample identification number
- Date
- Time
- Sample location
- Sample type
- Analysis requested
- Number of containers and volume taken
- Remarks
- Type of waste
- Sampler(s) name(s) and signature(s)
- Spaces for relinquished by/received by signature and date/time.

Chain of Custody Forms provided by the laboratory will be utilized.

The Chain of Custody Form is filled out and signed by the person performing the sampling. The original of the form travels with the sample and is signed and dated each time the sample is relinquished to another party, until it reaches the laboratory or analysis is completed. The field sampler keeps one copy and a copy is retained for the project file. The sample container must also be labeled with an indelible marker with a minimum of the following information:

- Project name/site
- Sample number
- Analysis to be performed
- Date of collection
- Compositing information

A copy of the completed form is returned by the laboratory with the analytical results.

7.5.4 Split Samples

Whenever samples are being split with another party, a Receipt for Samples Form must be completed and signed. A copy of the COC Form will accompany this form.

7.5.5 Field Log Book

Field log books must be bound and should have consecutively numbered water resistant pages. All pertinent information regarding the Site and sampling procedures must be documented. Notations should be made in log book fashion, noting the time and date of all entries. Information recorded in this notebook should include, but not be limited to, the following:

The first page of the log contains the following information:

- Project name and address
- Name, address and phone number of field contact
- Owner and address, if different from above
- Suspected contamination, including concentrations

Daily entries are made for the following information:

- Purpose of sampling
- Location of sampling point
- Number(s) and volume(s) of sample(s) taken
- Description of sampling point and sampling methodology
- Date and time of collection, arrival and departure
- Collector's sample identification number(s)
- Sample distribution and method of storage and transportation

- References, such as sketches of the sampling Site or photographs of sample collection
- Field observations, including results of field analyses (e.g., pH, temperature, specific conductance), water levels, drilling logs, and organic vapor and dust readings
- Signature of personnel responsible for completing log entries.

7.5.6 Daily Field Activity Report

At the end of each day of field work, the Field Operations Manager, or designee, completes this form noting personnel on-site and summarizing the work performed that day, equipment, materials and supplies used, results of field analyses, problems and resolutions. This form is then signed and is subject to review.

7.5.7 Field Changes and Corrective Actions

Whenever there is a required or recommended investigation/sampling change or correction, a Field Change Form must be completed.

7.6 Calibration Procedures and Preventative Maintenance

The following information regarding equipment will be maintained for the project:

1. Equipment calibration and operating procedures that will include provisions for documentation of frequency, conditions, standards and records reflecting the calibration procedures, methods of usage and repair history of the measurement system. Calibration of field equipment will be done daily at the sampling Site so that any background contamination can be taken into consideration and the instrument calibrated accordingly.
2. Critical spare parts, necessary tools and manuals will be on hand to facilitate equipment maintenance and repair.

Calibration procedures and preventive maintenance, in accordance with the NYSDEC ASP, for laboratory equipment is contained in the laboratory's standard operating procedures and is available upon request.

7.7 Performance of Field Audits

During field activities, the QA/QC officer may accompany sampling personnel into the field to verify that the Site sampling program is being properly implemented and to detect and define problems so that corrective action can be taken. All findings will be documented and provided to the Field Operations Manager.

7.8 Control and Disposal of Contaminated Material

In general, soiled personal protective equipment (PPE) and disposable sampling equipment (i.e., bailers, tongue depressors, scoops) will be considered solid waste and contained and disposed off-site. If hazardous waste contamination of PPE or disposable equipment is suspected, due to elevated measurements of screening instruments, visual observations, odors or other means, PPE and equipment will be drummed and secured on-site until a hazardous waste determination can be made. Once a determination has been made, an approved disposal method will be employed.

7.9 Documentation, Data Reduction and Reporting

A NYSDOH ELAP laboratory meeting requirements for documentation, data reduction and reporting will be used. All data will be cataloged according to sampling locations and sample identification nomenclature.

NYSDEC "Sample Identification and Analytical Requirement Summary" and "Sample Preparation and Analysis Summary" forms (for VOA Analysis, B/N-A Analysis, Pesticides/PCB Analysis and Inorganic Analysis) will be completed and included with each data package. The sample tracking forms are required and supplied by the NYSDEC ASP.

7.10 Data Validation

Data validation will be performed in order to define and document analytical data quality in accordance with NYSDEC requirements that investigation data must be of known and acceptable

quality. The analytical and validation processes will be conducted in conformance with the NYSDEC ASP (latest revision) and/or USEPA SOWs (latest revision).

Because the NYSDEC ASP is based on the USEPA CLP, the USEPA Functional Guidelines for Evaluating Organics Analyses for the Contract Laboratory Program (CLP) will assist in formulating standard operating procedures (SOPs) for the data validation process. The data validation process aims to make sure that all analytical requirements specific to the QA/QC plan are followed. Procedures will address validation of Routine Analytical Services (RAS) results based on the NYSDEC ASP Target Compound List and Target Analyte List for standard sample matrices.

The data validation process will provide an informed assessment of the laboratory's performance based upon contractual requirements and applicable analytical criteria. The report generated as a result of the data validation process will provide a base upon which the usefulness of the data can be evaluated by the end user of the analytical results. The overall level of effort and specific data validation procedure to be used will be equivalent to a "100% validation" of all data in any given data package.

"Qualified" analytical results for any one field sample will be established and presented based on the results of specific QC samples and procedures associated with its sample analysis group or batch. Precision Accuracy criteria (i.e., QC acceptance limits) will be used in determining the need for qualifying data. Where test data have been reduced by the laboratory, the method of reduction will be discussed in the report. Reduction of laboratory measurements and laboratory reporting of analytical parameters will be verified in accordance with the procedures specified in the NYSDEC and USEPA program documents for each analytical method (i.e., recreate laboratory calculations and data reporting in accordance with the method specific procedure).

The standard operating guideline manuals for any specific analytical methodology required will specify documentation needs and technical criteria and will be taken into consideration in the validation process. Copies of the complete data package and the data validation report, including laboratory result data report sheets, with any qualifiers deemed appropriate by the data reviewer, and supplementary field QC sample result summary statement, will be provided.

The following is a description of the two-phased approach to data validation which will be used for this investigation. The first phase is called checklisting and the second phase is the analytical quality review, with the former being a subset of the latter.

- Checklisting – The data package will be checked for correct submission of the contract required deliverables, correct transcription from the raw data to the required deliverable summary forms and proper calculation of a number of parameters.

- Analytical Data Review – The data package will be closely examined to recreate the analytical process and verify that proper and acceptable analytical techniques have been performed. Additionally, overall data quality and laboratory performance will be evaluated by applying the appropriate data quality criteria to the data to reflect conformance with the specified, accepted QA/QC standards and contractual requirements.

At the completion of the data validation, a Data Usability Summary Report (DUSR) will be prepared.

7.11 Performance and System Audits

A NYSDOH ELAP laboratory which has satisfactorily completed performance audits and performance evaluation samples shall be used.

7.12 Corrective Action

A NYSDOH ELAP laboratory shall meet the requirements for corrective action protocols, including sample "cleanup" to attempt to eliminate/mitigate "matrix interference."

The NYSDEC ASP protocols include both mandatory and optional sample cleanup and extraction methods. GPC cleanup is required for soil samples by the NYSDEC ASP for semivolatile and pesticide/PCB analyses in order to meet contract required detection limits. Florisil column cleanup is required for the pesticide/PCB fraction of both soil and water samples. There are several optional cleanup and extraction methods noted in the NYSDEC ASP protocol. These

include: Silica gel column cleanup, acid-base partition, steam distillation and sulfuric acid cleanup for PCB analysis.

It should be noted, that if these optional cleanup and extraction methods are requested by NYSDEC, holding time requirements should not be exceeded due to negligence of the laboratory.

7.13 Trip Blanks (Travel Blanks)

The primary purpose of this type of blank is to detect additional sources of contamination that might potentially influence contaminant values reported in actual samples both quantitatively and qualitatively. The following have been identified as potential sources of contamination:

- Laboratory reagent water
- Sample containers
- Cross contamination in shipment
- Ambient air or contact with analytical instrumentation during preparation and analysis at the laboratory
- Laboratory reagents used in analytical procedures

A trip blank consists of a set of 40 ml sample vials filled at the laboratory with laboratory demonstrated analyte free water. Trip blanks should be handled, transported and analyzed in the same manner as the samples acquired that day, except that the sample containers themselves are not opened in the field. Rather, they just travel with the sample cooler. Trip blanks must accompany samples at a rate of one per shipment. The temperature of the trip blanks must be maintained at 4°C while on-site and during shipment. Trip blanks must return to the laboratory with the same set of bottles they accompanied in the field.

The purpose of a trip blank is to control sample container preparation and blank water quality as well as sample handling. Thus, the trip blank travels to the Site with the empty sample container, and back from the Site with the collected samples, in an effort to simulate sample

handling conditions. Contaminated trip blanks may indicate inadequate bottle cleaning or blank water of questionable quality. Trip blanks are implemented only when collecting water samples, and analyzed for VOCs only.

7.14 Matrix Spikes/Matrix Spike Duplicates and Spiked Blanks

Matrix spike samples and blanks are quality control procedures, consistent with NYSDEC ASP specifications, used by the laboratory as part of its internal Quality Assurance/Quality Control program. The matrix and matrix spike duplicates are aliquots of a designated sample (water or soil) which are spiked with known quantities of specified compounds. They are used to evaluate the matrix effect of the sample upon the analytical methodology as well as to determine the precision of the analytical method used. A matrix spike blank is an aliquot of analyte-free water, prepared in the laboratory, and spiked with the same solution used to spike the MS and MSD. The MSB is subjected to the same analytical procedure as the MS/MSD and used to indicate the appropriateness of the spiking solution by calculating the spike compound recoveries. The procedure and frequency regarding the MS, MSD and MSB are defined in the NYSDEC ASP.

7.15 Method Blanks

A method blank is an aliquot of laboratory water or soil which is spiked with the same internal and surrogate compounds as the samples. Its purpose is to define and determine the level of laboratory background contamination. Frequency, procedure and maximum laboratory containment concentration limits are specified in the NYSDEC ASP as follows:

The laboratory shall prepare and analyze one laboratory reagent blank (method blank) for each group of samples of a similar matrix (for water or soil samples), extracted by a similar method (separatory funnel, continuous liquid extraction or sonication) and a similar concentration level (for volatile and semivolatile soil samples only) for the following, whichever is most frequent:

- Each case of field samples received; or
- Each 20 samples in a case, including matrix spikes and reanalyses; or

- Each 7 calendar day period during which field samples in a case were received (said period beginning with the receipt of the first sample in that sample delivery group); or
- Whenever samples are extracted.

Volatile analysis requires one method blank for each 12-hour time period when volatile target compounds are analyzed.

Semivolatile and pesticide method blanks shall be carried through the entire analytical process from extraction to final GC/MS or GC/EC analysis, including all protocol performance/ delivery requirements.

.

8.0 HEALTH AND SAFETY

A site-specific Health and Safety Plan (HASP) for any intrusive work will be prepared by the Owner's Contractor. A sample HASP is attached as Appendix G to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Prior to the commencement of any intrusive work the Site specific Health and Safety Plan will replace the sample HASP that is attached as Appendix G to this SMP. The Health and Safety Plan will be followed during any ground intrusive activities that may encounter contaminated soil at the Site. During intrusive activities, the Contractor shall be required to monitor the health and safety conditions during all phases of the Work and fully enforce the HASP. The work to be performed will result in possible chemical exposures. Therefore, the Owner's Contractor shall be responsible to perform all work in accordance with the applicable regulatory requirements/recommendations of the NYSDEC, USEPA and OSHA.

All necessary and appropriate Owner's Contractor on-site personnel shall have completed OSHA training and medical monitoring requirements for work on hazardous waste Sites.

8.1 Contingency Plan

The HASP will also include a contingency plan to address emergencies such as injury to personnel, fire or explosion, environmental release, or serious weather conditions. In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list (see Table 8-1).

Since soil exceeding unrestricted use criteria remains at the Site, assurance of the health and safety of on-site personnel and future occupants of the property is imperative. It is all the more important since soil exists which exceeds commercial use criteria, as well as soil which exceeds industrial use criteria. Any ground intrusive activities will require implementation of health and safety procedures to protect the health and safety of Owner's contractors performing

the work, as well as the adjacent receptors simultaneously. These procedures will be included in the HASP prepared by the Owner's Contractor.

Table 8-1	
Emergency Contact Numbers	
Medical, Fire, and Police:	911
One Call Center:	(800) 962-7962 (3-day notice required for utility mark-out)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

9.0 CERTIFICATION

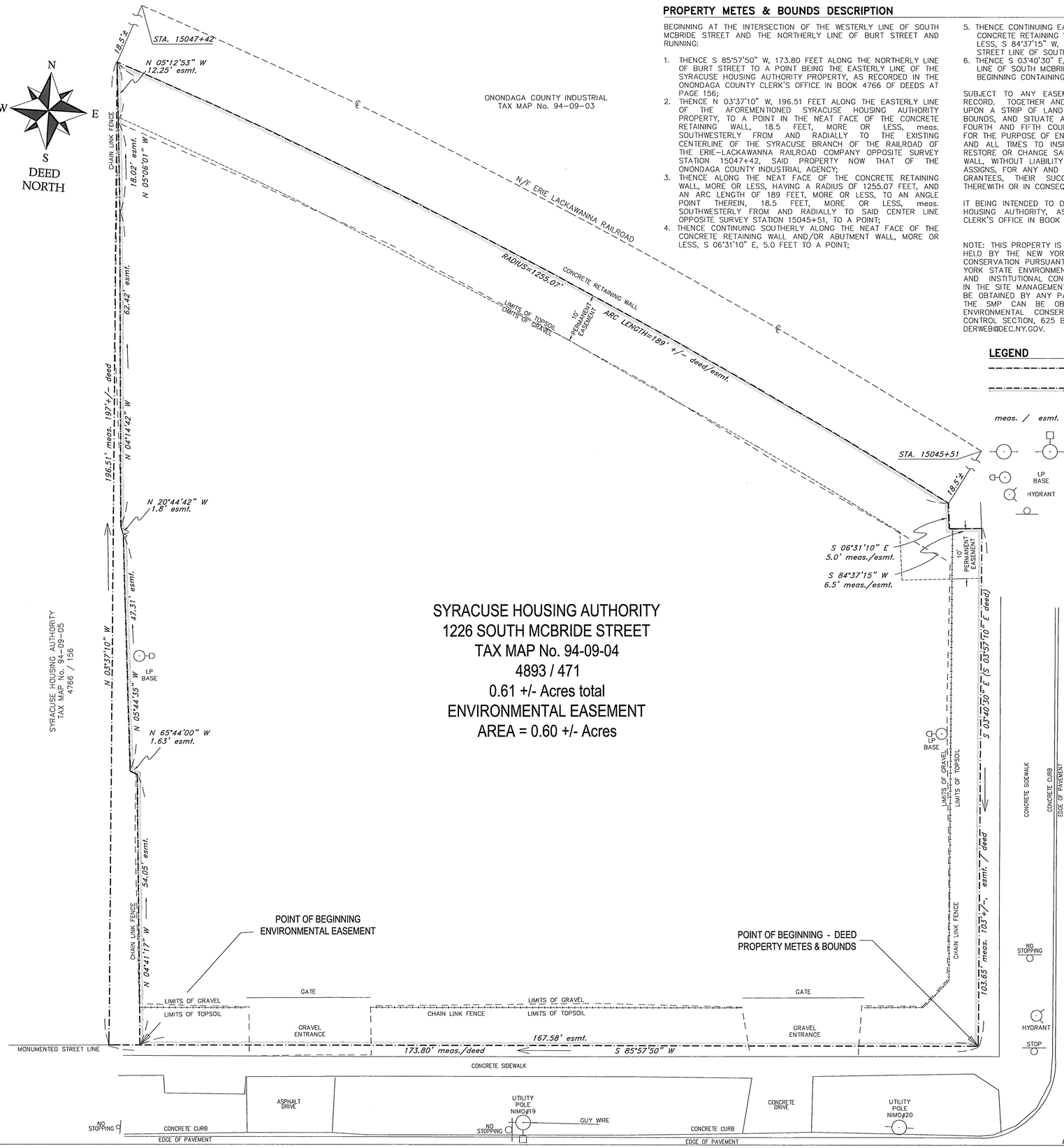
I, Brian Veith, P.E., certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

May 19, 2016 (Date)

Brian Veith (Signature)

APPENDIX A

PROPERTY SURVEY (Metes and Bounds)



PROPERTY METES & BOUNDS DESCRIPTION

BEGINNING AT THE INTERSECTION OF THE WESTERLY LINE OF SOUTH MCBRIDE STREET AND THE NORTHERLY LINE OF BURT STREET AND RUNNING:

1. THENCE S 85°57'50" W, 173.80 FEET ALONG THE NORTHERLY LINE OF BURT STREET TO A POINT BEING THE EASTERLY LINE OF THE SYRACUSE HOUSING AUTHORITY PROPERTY, AS RECORDED IN THE ONONDAGA COUNTY CLERK'S OFFICE IN BOOK 4766 OF DEEDS AT PAGE 156;
2. THENCE N 03°37'10" W, 196.51 FEET ALONG THE EASTERLY LINE OF THE AFOREMENTIONED SYRACUSE HOUSING AUTHORITY PROPERTY, TO A POINT IN THE NEAT FACE OF THE CONCRETE RETAINING WALL, 18.5 FEET, MORE OR LESS, meas. SOUTHWESTERLY FROM AND RADIALLY TO THE EXISTING CENTERLINE OF THE SYRACUSE BRANCH OF THE RAILROAD OF THE ERIE–LACKAWANNA RAILROAD COMPANY OPPOSITE SURVEY STATION 15047+42, SAID PROPERTY NOW THAT OF THE ONONDAGA COUNTY INDUSTRIAL AGENCY;
3. THENCE ALONG THE NEAT FACE OF THE CONCRETE RETAINING WALL, MORE OR LESS, HAVING A RADIUS OF 1255.07 FEET, AND AN ARC LENGTH OF 189 FEET, MORE OR LESS, TO AN ANGLE POINT THEREIN, 18.5 FEET, MORE OR LESS, meas. SOUTHWESTERLY FROM AND RADIALLY TO SAID CENTER LINE OPPOSITE SURVEY STATION 15045+51, TO A POINT;
4. THENCE CONTINUING SOUTHERLY ALONG THE NEAT FACE OF THE CONCRETE RETAINING WALL AND/OR ABUTMENT WALL, MORE OR LESS, S 06°31'10" E, 5.0 FEET TO A POINT;
5. THENCE CONTINUING EASTERLY ALONG THE NEAT FACE OF THE CONCRETE RETAINING WALL AND/OR ABUTMENT WALL, MORE OR LESS, S 84°37'15" W, 6.5 FEET TO A POINT IN THE WESTERLY STREET LINE OF SOUTH MCBRIDE STREET;
6. THENCE S 03°40'30" E, 103.65 FEET ALONG THE WESTERLY STREET LINE OF SOUTH MCBRIDE STREET TO THE POINT AND PLACE OF BEGINNING CONTAINING 0.61 ACRES, PLUS OR MINUS.

SUBJECT TO ANY EASEMENTS, RESTRICTIONS AND COVENANTS OF RECORD. TOGETHER AND WITH A PERMANENT EASEMENT OVER AND UPON A STRIP OF LAND 10 FEET IN WIDTH CONTAINED WITHIN THE BOUNDS, AND SITUATE ALONG THE ENTIRE LENGTHS OF THE THIRD, FOURTH AND FIFTH COURSES OF THE ABOVE DESCRIBED PREMISES FOR THE PURPOSE OF ENTERING UPON SAID EASEMENT AREA AT ANY AND ALL TIMES TO INSPECT, MAINTAIN, REPAIR, RENEW, REPLACE, RESTORE OR CHANGE SAID CONCRETE RETAINING AND/OR ABUTMENT WALL, WITHOUT LIABILITY ON THE RAILROAD, ITS SUCCESSORS AND ASSIGNS, FOR ANY AND ALL DAMAGES THAT MAY BE SUSTAINED BY GRANTEES, THEIR SUCCESSORS AND ASSIGNS, IN CONNECTION THEREWITH OR IN CONSEQUENCE THEREOF.

IT BEING INTENDED TO DESCRIBE THE PROPERTY OF THE SYRACUSE HOUSING AUTHORITY, AS RECORDED IN THE ONONDAGA COUNTY CLERK'S OFFICE IN BOOK 4893 OF DEEDS.

NOTE: THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM THE NYS DEPARMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY,NEW YORK 12233 OR AT DERWEB@DEC.NY.GOV.

LEGEND

- DEED BOUNDARY
- ENVIRONMENTAL EASEMENT
- *meas. / esmt.* MEASURED / EASEMENT
- UTILITY POLE / UTILITY POLE WITH LIGHT
- LP BASE — LIGHT POLE CONCRETE BASE
- HYDRANT — FIRE HYDRANT
- STREET SIGN

DEED LEGAL DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE CITY OF SYRACUSE, COUNTY OF ONONDAGA AND STATE OF NEW YORK, BEING PART OF LOT NOS. 98 AND 99 OF BLOCK NO. 258 IN SAID CITY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF SAID BLOCK NO. 258, ALSO BEING THE INTERSECTION OF THE WESTERLY LINE OF SOUTH MCBRIDE STREET AND THE NORTHERLY LINE OF BURT STREET;

1. THENCE N 03° 40' 30" W, A DISTANCE OF 103.00 FEET TO A POINT;
2. THENCE S 88° 45' 21" W, A DISTANCE OF 6.50 FEET TO A POINT;
3. THENCE N 02° 03' 37" W, A DISTANCE OF 5.00 FEET TO A POINT;
4. THENCE NORTHWESTERLY ON CURVE TO THE LEFT, A RADIUS OF 1,255.07+/– FEET, AN ARC DISTANCE OF 189.00 +/– FEET TO A POINT;
5. THENCE S 03° 37' 10" E, A DISTANCE OF 197.00 FEET TO A POINT IN THE NORTHERLY LINE OF BURT STREET;
6. THENCE N 85° 57' 30" E, ALONG SAID LINE OF BURT STREET, A DISTANCE OF 173.80 FEET TO THE POINT AND PLACE OF BEGINNING.

ENVIRONMENTAL EASEMENT METES & BOUNDS DESCRIPTION

BEGINNING AT A POINT IN THE NORTHERLY LINE OF BURT STREET LOCATED S 85°57'50" W, 167.58 FEET FROM THE INTERSECTION OF THE WESTERLY LINE OF SOUTH MCBRIDE STREET AND THE NORTHERLY LINE OF BURT STREET AND RUNNING:

1. THENCE N 04°41'17" W, 54.05 FEET TO A POINT;
2. THENCE N 65°44'00" W, 1.63 FEET TO A POINT;
3. THENCE N 05°44'35" W, 47.31 FEET TO A POINT;
4. THENCE N 20°44'42" W, 1.8 FEET TO A POINT;
5. THENCE N 04°41'42" W, 62.42 FEET TO A POINT;
6. THENCE N 05°06'01" W, 18.02 FEET TO A POINT;
7. THENCE N 05°12'53" W, 12.25 FEET TO A POINT IN THE NEAT FACE OF THE CONCRETE RETAINING WALL, 18.5 FEET, MORE OR LESS, meas. SOUTHWESTERLY FROM AND RADIALLY TO THE EXISTING CENTERLINE OF THE SYRACUSE BRANCH OF THE RAILROAD OF THE ERIE–LACKAWANNA RAILROAD COMPANY OPPOSITE SURVEY STATION 15047+42, SAID PROPERTY NOW THAT OF THE ONONDAGA COUNTY INDUSTRIAL AGENCY;
8. THENCE ALONG THE NEAT FACE OF THE CONCRETE RETAINING WALL, MORE OR LESS, HAVING A RADIUS OF 1255.07 FEET, AND AN ARC LENGTH OF 189 FEET, MORE OR LESS, TO AN ANGLE POINT THEREIN, 18.5 FEET, MORE OR LESS, meas. SOUTHWESTERLY FROM AND RADIALLY TO SAID CENTER LINE OPPOSITE SURVEY STATION 15045+51, TO A POINT;
9. THENCE CONTINUING SOUTHERLY ALONG THE NEAT FACE OF THE CONCRETE RETAINING WALL AND/OR ABUTMENT WALL, MORE OR LESS, S 06°31'10" E, 5.0 FEET TO A POINT;
10. THENCE CONTINUING EASTERLY ALONG THE NEAT FACE OF THE CONCRETE RETAINING WALL AND/OR ABUTMENT WALL, MORE OR LESS, S 84°37'15" W, 6.5 FEET TO A POINT IN THE WESTERLY STREET LINE OF SOUTH MCBRIDE STREET;
11. THENCE S 03°40'30" E, 103.65 FEET ALONG THE WESTERLY STREET LINE OF SOUTH MCBRIDE STREET TO THE INTERSECTION OF THE NORTHERLY LINE OF BURT STREET;
12. THENCE S 85°57'50" W, 167.58 FEET ALONG THE NORTHERLY LINE OF BURT STREET TO THE POINT AND PLACE OF BEGINNING CONTAINING 0.60 ACRES, PLUS OR MINUS.

SUBJECT TO A 10' EASEMENT SHOWN IN THE PROPERTY METES & BOUNDS DESCRIPTION.

NOTES

ONLY COPIES OF THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S SEAL AND SIGNATURE IN RED SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

THE LOCATION OF UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS ARE NOT ALWAYS KNOWN AND OFTEN MUST BE ESTIMATED. IF ANY UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS EXIST OR ARE SHOWN, THE IMPROVEMENTS OR ENCROACHMENTS ARE NOT COVERED BY THIS CERTIFICATE.IT IS THE LANDOWNER'S RESPONSIBILITY TO CONTACT U.F.P.O.AT 811 BEFORE ANY EXCAVATION OCCURS FOR LOCATION VERIFICATION.

THE CERTIFICATIONS INDICATED HEREON SIGNIFY THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. SAID CERTIFICATIONS SHALL RUN ONLY TO THE PERSONS FOR WHOM THE SURVEY IS PREPARED, AND ON HIS/HER BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY,AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

SURVEY COMPLETED WITHOUT BENEFIT OF ABSTRACT OF TITLE.

UNAUTHORIZED ALTERATION OR ADDITION TO A BOUNDARY SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

THE SETTING OF PROPERTY CORNER MARKERS IS NOT INCLUDED IN A BOUNDARY LOCATION SURVEY UNLESS THEY ARE SPECIFICALLY REQUESTED. A REASONABLE ADDITIONAL FEE WILL BE CHARGED FOR ADDITIONAL WORK.

THE UNDERSIGNED SURVEYOR HEREBY CERTIFIES THAT THIS MAP IS MADE FROM AN ACTUAL SURVEY OF THE PROPERTY SHOWN HEREON COMPLETED JANUARY 15, 2015.

Heather D. Warren — January 15, 2015
LICENSED LAND SURVEYOR — DATED
No. 50279

STATE OF NEW YORK · HEATHER DAWN WARREN · 050279 · LICENSED LAND SURVEYOR

0 1 2 3 4 5 6 7 8 9 10
METERS
0 10 20 30
FEET

WARREN LAKE SURVEYING
WBE Certified
8437 COLLAMER ROAD
EAST SYRACUSE, NEW YORK, 13057
PH. (315) 446-8855 FAX (315) 884-3978
warrenlake.com

REVISIONS:

A PARCEL OF LAND
CITY OF SYRACUSE
ONONDAGA COUNTY
STATE OF NEW YORK

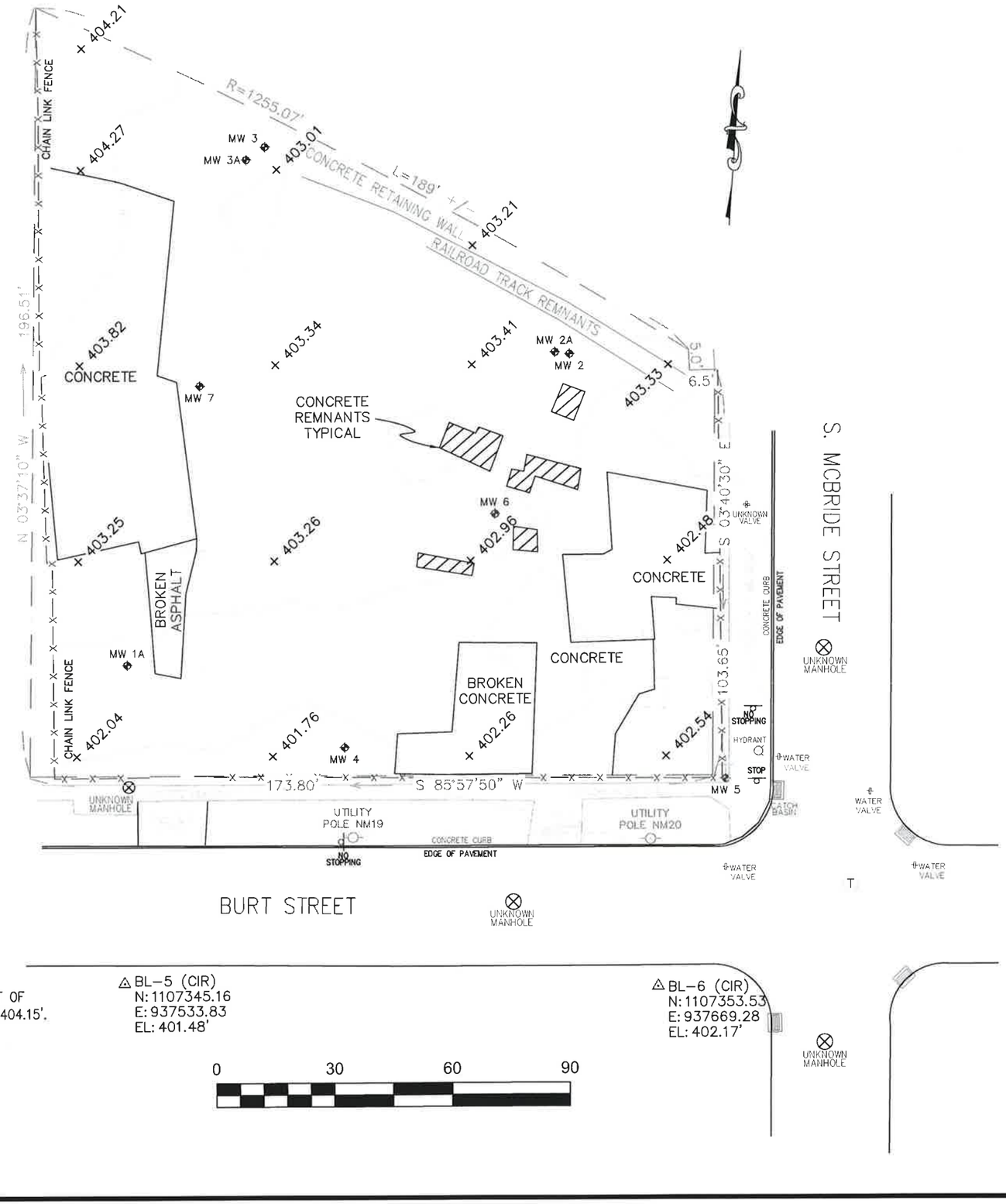
BOUNDARY SURVEY
OF
1226 SOUTH McBRIDE STREET
FOR
SYRACUSE HOUSING AUTHORITY 4893/471

DATED:	01-20-15	SCALE:	1"=10'
REVISED:	06-24-15	CHECKED BY:	HDW
JOB No.:	14005	DRAWN BY:	HDW
FILE NAME:	14005pabound ary.dwg		

SHEET: 1 of 1

APPENDIX B

AS-BUILT DRAWINGS



N O T E S

1) © 2014 WARREN RAMIE SURVEYING ALL RIGHTS RESERVED.
2) UNAUTHORIZED ALTERATIONS OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
3) THE CERTIFICATIONS HEREON ARE NOT TRANSFERABLE.
4) UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
5) HORIZONTAL DATUM IS NAD83 BASED ON CORS NETWORK – NEW YORK CENTRAL ZONE – 3102.
6) VERTICAL DATUM IS NAVD88 BASED ON CORS NETWORK.
7) FIELD SURVEY WAS COMPLETED JULY 22 & 23 OF 2014.
8) BOUNDARY SURVEY COMPLETED ON JANUARY 15, 2015.

R E F E R E N C E S

CONTRACT DRAWINGS & CAD FILE PROVIDED BY DVIRKA AND BARTILUCCI CONSULTING ENGINEERS DATED: AUGUST 2013.

"McKINNEY PROPERTY SITE NYSDEC ERP SITE NO. E734086 D&B NO. 2013-001-001.

SURVEY CONTROL SOURCE: POPLI DESIGN GROUP OCT. 11, 2010.

× 403.13 GROUND SURFACE ELEVATION

MW 6 MONITORING WELL w/ DESIGNATOR

STATE OF NEW YORK
HEATHER DAVIN WARREN
050279
LICENSED LAND SURVEYOR

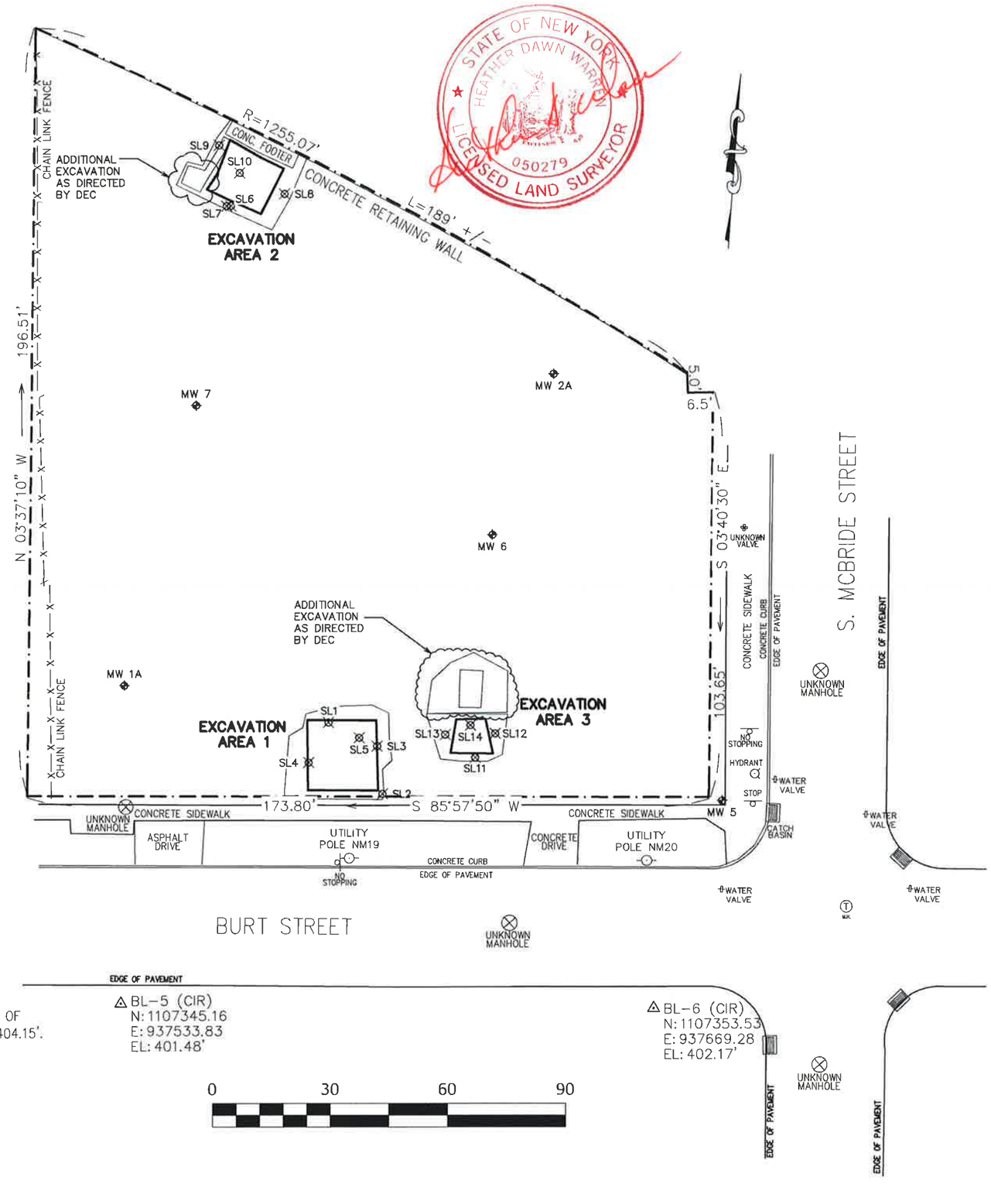
WARREN RAMIE SURVEYING
WBE Certified
6437 COLLAMER ROAD
EAST SYRACUSE, NEW YORK 13057
Ph. (315) 458-8979 / Fax (315) 458-8978
warrenramie.com

CITY OF SYRACUSE
ONONDAGA COUNTY
STATE OF NEW YORK

INITIAL SITE SURVEY
OF
1226 SOUTH McBRIDE STREET
FOR
OP-TECH ENVIRONMENTAL SERVICES

SCALE:	1"=30'
CHECKED BY:	JTG
DRAWN BY:	JTG
DATED:	07-23-14
REVISED:	02-27-15
JOB No.:	14005
FILE NAME:	INITIAL_SURVEY.dwg

SHEET: 1 of 1



STATE OF NEW YORK
HEATHER DAWN WARREN
050279
LICENSED LAND SURVEYOR

NOTES

1) © 2014 WARREN RAMIE SURVEYING ALL RIGHTS RESERVED.
2) UNAUTHORIZED ALTERATIONS OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
3) THE CERTIFICATIONS HEREON ARE NOT TRANSFERABLE.
4) UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
5) HORIZONTAL DATUM IS NAD83 BASED ON CORS NETWORK - NEW YORK CENTRAL ZONE - 3102.
6) VERTICAL DATUM IS NAVD88 BASED ON CORS NETWORK.
7) FIELD SURVEY WAS COMPLETED OCTOBER 07, 2014.
8) BOUNDARY SURVEY COMPLETED ON JANUARY 15, 2015.

REFERENCES

CONTRACT DRAWINGS & CAD FILE PROVIDED BY DVIRKA AND BARTILUCCI CONSULTING ENGINEERS DATED: AUGUST 2013.

"McKINNEY PROPERTY SITE NYSDEC ERP SITE NO. E734086 D&B NO. 2013-001-001.

SURVEY CONTROL SOURCE: POPLI DESIGN GROUP OCT. 11, 2010.

EXCAVATION AREA VOLUMES

**NOTE: (AREA SQUARE FEET*AVR. DEPTH FEET)/27=CUBIC YARDS

AREA 1 VOLUME: (562.6*7.9038)/27= 164.7 CY ON 08/19/14

- SL1 (EX1-SW-N) ELEV. 394.28
- SL2 (EX1-SW-S) ELEV. 393.71
- SL3 (EX1-SW-E) ELEV. 394.27
- SL4 (EX1-SW-W) ELEV. 393.73
- SL5 (EX1-EP) ELEV. 391.05

AREA 2 VOLUME: (501.7*4.4309)/27= 82.3 CY ON 08/26/14

- SL6 (EX2-SW-S) ELEV. 399.48
- SL7 (EX2-SW-TAR) ELEV. 400.94
- SL8 (EX2-SW-E) ELEV. 398.95
- SL9 (EX2-SW-W) ELEV. 399.28
- SL10 (EX2-EP-5.5) ELEV. 397.73

AREA 3 VOLUME: (468.6*5.8148)/27= 100.9 CY ON 09/10/14

- SL11 (EX3-SW-S) ELEV. 395.62
- SL12 (EX3-SW-E) ELEV. 395.13
- SL13 (EX3-SW-W) ELEV. 394.45
- SL14 (EX3-EP-10) ELEV. 392.87

MW 6 MONITORING WELL w/ DESIGNATOR

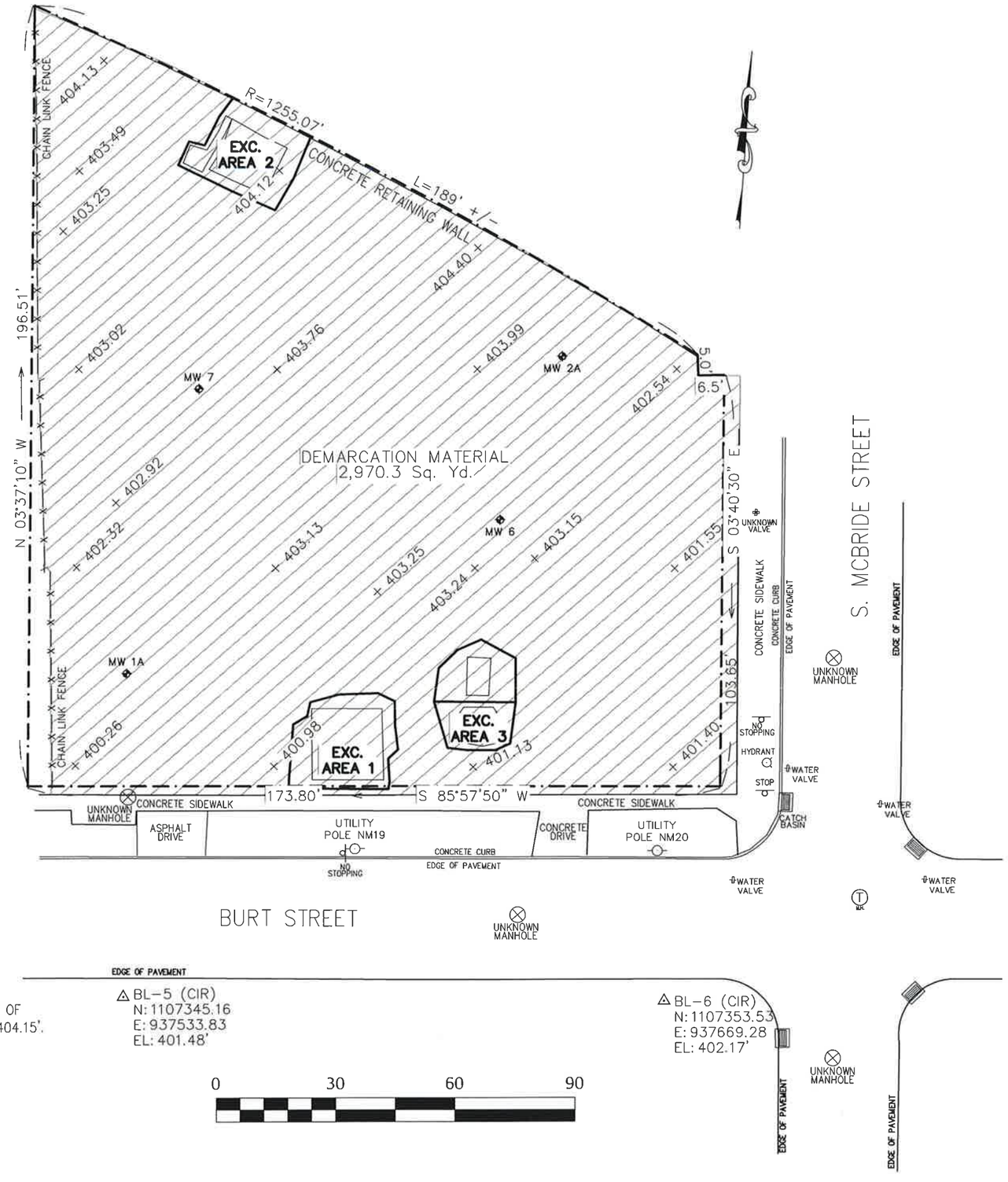
WARREN RAMIE SURVEYING
WBE Certified
6437 COLLAMER ROAD
EAST SYRACUSE, NEW YORK, 13057
Ph. (315) 458-8979 / Fax (315) 458-8978
warrenramie.com

CITY OF SYRACUSE
ONONDAGA COUNTY
STATE OF NEW YORK

INTERMEDIATE SITE SURVEY
OF
1226 SOUTH McBRIDE STREET
FOR
OP-TECH ENVIRONMENTAL SERVICES

SCALE:	1"=30'	CHECKED BY:	JTG
DATED:	10-07-14	DRAWN BY:	JTG
REVISED:	02-27-15	JOB No.:	14005
		FILE NAME:	INTERMEDIATE.dwg

SHEET: 1 of 1



NOTES

1) © 2014 WARREN RAMIE SURVEYING ALL RIGHTS RESERVED.
2) UNAUTHORIZED ALTERATIONS OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
3) THE CERTIFICATIONS HEREON ARE NOT TRANSFERABLE.
4) UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
5) HORIZONTAL DATUM IS NAD83 BASED ON CORS NETWORK – NEW YORK CENTRAL ZONE – 3102.
6) VERTICAL DATUM IS NAVD88 BASED ON CORS NETWORK.
7) FIELD SURVEY WAS COMPLETED FEBRUARY 26, 2015
8) BOUNDARY SURVEY COMPLETED ON JANUARY 15, 2015.

REFERENCES

CONTRACT DRAWINGS & CAD FILE PROVIDED BY DVIRKA AND BARTILUCCI CONSULTING ENGINEERS DATED: AUGUST 2013.

"McKINNEY PROPERTY SITE NYSDEC ERP SITE NO. E734086 D&B NO. 2013-001-001.

SURVEY CONTROL SOURCE: POPLI DESIGN GROUP OCT. 11, 2010.

SUMMARY OF VOLUMES

**NOTE: (AREA SQUARE FEET*AVERAGE DEPTH)/27=CUBIC YARDS

AREA 1 VOLUME: (562.6*7.9038)/27= 164.7 CY ON 08/19/14

AREA 2 VOLUME: (501.7*4.4309)/27= 82.3 CY ON 08/26/14

AREA 3 VOLUME: (468.6*5.8148)/27= 100.9 CY ON 09/10/14

GRAVEL VOLUME: (22647.4*0.9600)/27=805.2 CY ON 02/26/15

TOPSOIL VOLUME: (4085.0*0.9598)/27=145.2 CY ON 02/26/15

SITE CAP MATERIAL VOLUME: (26732.4*0.9599)/27=950.4 CY ON 02/26/15

STATE OF NEW YORK
HEATHER DAWN WARREN
050279
LICENSED LAND SURVEYOR

+ 403.13 GROUND SURFACE ELEVATION

MW 6 MONITORING WELL w/ DESIGNATOR

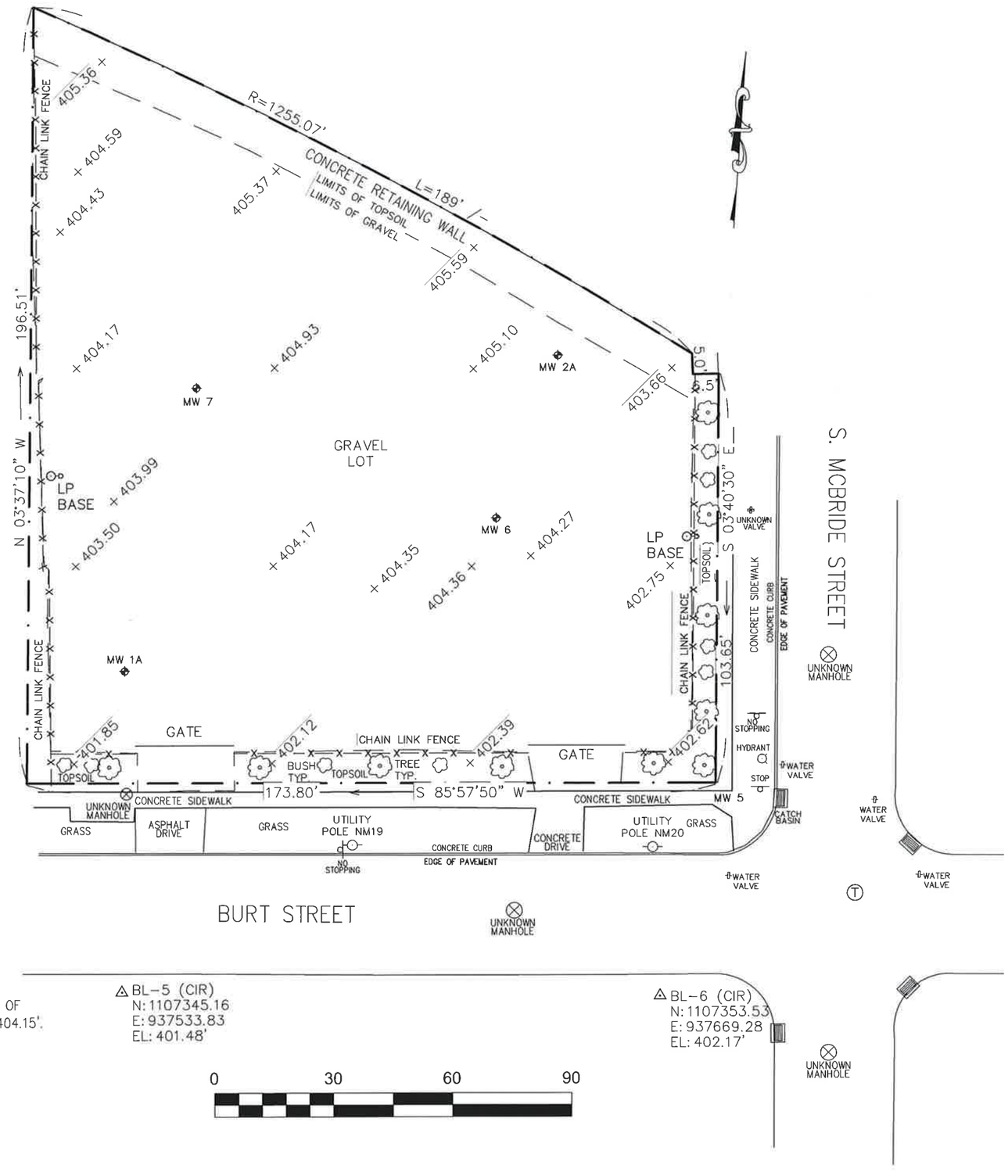
WARREN RAMIE SURVEYING
WBE Certified
6437 COLLAMER ROAD
EAST SYRACUSE, NEW YORK, 13057
Ph. (315) 458-8979 / Fax (315) 458-8978
warrenramie.com

CITY OF SYRACUSE
ONONDAGA COUNTY
STATE OF NEW YORK

DEMARCATION MATERIAL SURVEY
OF
1226 SOUTH McBRIDE STREET
FOR
OP-TECH ENVIRONMENTAL SERVICES

DATED:	08-07-14	SCALE:	1"=30'
REVISED:	02-27-15	CHECKED BY:	JTG
		DRAWN BY:	JTG
		JOB No.:	14005
		FILE NAME:	DEMARCATION_SURVEY.dwg

SHEET: 1 of 1



NOTES

1) © 2014 WARREN RAMIE SURVEYING ALL RIGHTS RESERVED.
2) UNAUTHORIZED ALTERATIONS OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
3) THE CERTIFICATIONS HEREON ARE NOT TRANSFERABLE.
4) UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
5) HORIZONTAL DATUM IS NAD83 BASED ON CORS NETWORK – NEW YORK CENTRAL ZONE – 3102.
6) VERTICAL DATUM IS NAVD88 BASED ON CORS NETWORK.
7) FIELD SURVEY WAS COMPLETED FEBRUARY 26, 2015.
8) BOUNDARY SURVEY COMPLETED ON JANUARY 15, 2015.

REFERENCES

CONTRACT DRAWINGS & CAD FILE PROVIDED BY DVIRKA AND BARTILUCCI CONSULTING ENGINEERS DATED: AUGUST 2013.

"McKINNEY PROPERTY SITE NYSDEC ERP SITE NO. E734086 D&B NO. 2013-001-001.

SURVEY CONTROL SOURCE: POPLI DESIGN GROUP OCT. 11, 2010.

SUMMARY OF VOLUMES

**NOTE: (AREA SQUARE FEET*AVERAGE DEPTH)/27=CUBIC YARDS

GRAVEL VOLUME: (22647.4*0.9600)/27=805.2 CY ON 02/26/15

TOPSOIL VOLUME: (4085.0*0.9598)/27=145.2 CY ON 02/26/15

SITE CAP MATERIAL VOLUME: (26732.4*0.9599)/27=950.4 CY ON 02/26/15

+ 404.17 GROUND SURFACE ELEVATION

MW 6 MONITORING WELL w/ DESIGNATOR

WARREN RAMIE SURVEYING
WBE Certified
6437 COLLAMER ROAD
EAST SYRACUSE, NEW YORK, 13057
Ph. (315) 458-8979 / Fax (315) 458-8978
warrenramie.com

CITY OF SYRACUSE
ONONDAGA COUNTY
STATE OF NEW YORK

ASBUILT SITE SURVEY
OF
1226 SOUTH McBRIDE STREET
FOR
OP-TECH ENVIRONMENTAL SERVICES

SCALE:	1"=30'		
DATED:	12-16-14	CHECKED BY:	JTG
REVISED:	02-27-15	DRAWN BY:	JTG
JOB No.:	14005	FILE NAME:	ASBUILT_SURVEY.dwg

SHEET: 1 of 1

APPENDIX C

ENVIRONMENTAL EASEMENT

ONONDAGA COUNTY CLERK'S OFFICE
JACKIE NORFOLK - ACTING COUNTY CLERK
401 Montgomery St - Room 200 Phone: 315-435-2226
Syracuse, NY 13202 Fax: 315-435-3455

Doc Type:	EASMT	Receipt:	1243727 BH
Grantor:	SYRACUSE HOUSING AUTHORITY PEOPLE OF THE STATE OF NY	Book/Page: 05344/0902 Inst: 36054 Date Filed: 10/12/2015 at 2:43PM	
Grantee:	PEOPLE OF THE STATE OF NY DEPARTMENT OF ENVIORNMENTAL	Updated: 10/13/2015 MO Record and Return To:	
Legal Desc:	SYR L98&99 B258 S E	PHILLIPS LYTLE LLP ONE CANALSIDE 125 MAIN ST BUFFALO NY 14203-2887	
Prop Address:	1226 MCBRIDE ST	Submitted by: PHILLIPS LYTLE	

Recording Fees			Miscellaneous Fees	
Addl pages:	9 x 5.00 =	$ 0.00	RMI:	$ 0.00
Addl Names:	0 x 0.50 =	$ 0.00	TP 584:	$ 0.00
Addl Refs:	0 x 0.50 =	$ 0.00	RP5217:	$ 0.00
Misc:		0.00	AFFTS:	$ 0.00
Basic		$0.00		
		==========		==========
TOTAL:		$0.00	TOTAL:	$ 0.00

MORTGAGE TAX		DEED TRANSFER TAX	
Mortgage:		Consideration	$0.00
Basic:	$0.00	Transfer Tax:	$0.00
Ins Fund:	$0.00	SWIS:	3115
Net Add:	$0.00	Map #:	
Misc:	$0.00		==========
	==========	Total Paid	$ 0.00
TOTAL	$0.00	Control no	2791

WARNING - This sheet constitutes the Clerk's endorsement, required by Section 319 of the Real Property Law of the State of New York. Do not detach. Taxes imposed on this instrument at time of recording were paid. Certain information contained in this document is not verified by this office.

JACKIE NORFOLK
Onondaga County Clerk (Acting)

Book/Page 05344 / 0902 Instrument no.: 36054

a

CITY OF SYRACUSE
3115

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 1ST day of SEPTEMBER, 2015, between Owner(s) Syracuse Housing Authority, having an office at 516 Burt Street, Syracuse, New York 13202, County of Onondaga, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 1226 S. McBride Street in the City of Syracuse, County of Onondaga and State of New York, known and designated on the tax map of the County Clerk of Onondaga as tax map parcel numbers: Section 94 Block 09 Lot 04, being the same as that property conveyed to Grantor by deed dated July 12, 2005 and recorded in the Onondaga County Clerk's Office in Liber and Page 4893/471. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.60 +/- acres, and is hereinafter more fully described in the Land Title Survey dated January 20, 2015 prepared by Heather Dawn Warren, NYSPLS, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

REAL ESTATE
Oct 12, 2015
TRANSFER TAX
ONONDAGA
COUNTY
2791

4 98+99 4258 SE

14:58 10/12/15 2605415 BK DB-5344P-502

extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of State Assistance Contract Number: C302977, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Onondaga County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against

the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: E734086
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Syracuse Housing Authority:

By: _____

Print Name: William J. Simmons

Title: Executive Director Date: 4/17/15

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Onondaga)

On the 17th day of April, in the year 2015, before me, the undersigned, personally appeared William J. Simmons, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Theresa Marzullo
Notary Public - State of New York

THERESA MARZULLO
Notary Public, State of New York
No. 01MA5087501
Qualified in Onondaga County
Commission Expires 11/3/2017

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 1st day of September, in the year 2015, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

Beginning at a point in the northerly line of Burt Street, said point being located S 85°57'50" W, 167.58 feet from the intersection of the westerly line of South McBride Street and the northerly line of Burt Street and running:

1) Thence N 04°41'17" W, 54.05 feet to a point;
2) Thence N 65°44'00" W, 1.63 feet to a point;
3) Thence N 05°44'35" W, 47.31 feet to a point;
4) Thence N 20°44'42" W, 1.8 feet to a point;
5) Thence N 04°14'42" W, 62.42 feet to a point;
6) Thence N 05°06'01"W, 18.02 feet to a point;
7) Thence N 05°12'53" W, 12.25 feet to a point in the neat face of the concrete retaining wall 18.5 feet, more or less, measured southwesterly from and radially to the existing centerline of the Syracuse Branch of the Railroad of the Erie-Lackawanna Railroad Company opposite survey station 15047+42, said property now that of the Onondaga County Industrial Agency;
8) Thence along the neat face of the concrete retaining wall, more or less, having a radius of 1255.07 feet, and an arc length of 189 feet, more or less, to an angle point therein, 18.5 feet, more or less, measured southwesterly from and radially to said centerline opposite survey station 15045+51, to a point;
9) Thence S 06°31'10" E, 5.0 feet along the neat face of the concrete retaining wall, more or less, to a point;
10) Thence N 84°37'15" E, 6.5 feet along the neat face of the concrete retaining wall, more or less, to a point in the westerly street line of South McBride Street;
11) Thence S 03°40'30" E, 103.65 feet along the westerly street line of South McBride Street to the intersection of the northerly line of Burt Street;
12) Thence S 85°57'50" W, 167.58 feet along the northerly line of Burt Street to the point and place of beginning containing 0.60 acres, plus or minus.

Subject to any easements, covenants and restrictions of record. Together and with a permanent easement over and upon a strip of land 10 in width contained within the bounds and situate along the entire lengths of the seventh, eighth, ninth and tenth courses of the above described premises for the purpose of entering upon said easement area at any and all times to inspect, maintain, repair, renew, replace, restore or change said concrete retaining and/or abutment wall, without liability on the Railroad, its successors and/or assigns, for any and all damages that may be sustained by grantees, their successors and/or assigns, in connection therewith or in consequence thereof.

APPENDIX D

ANALYTICAL RESULTS

TABLE 1a.
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (1.5-2.0)**	~~**SSRI-2 (1.5-2.0)**~~	~~**SSRI-3 (1.5-2.0)**~~	**SSRI-4 (1.5-2.0)**	**SSRI-5 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	~~1.5-2.0~~	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	23	~~22~~	~~17~~	30	27							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dichlorodifluoromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Chloromethane	5 J	~~13 J~~	~~U~~	U	U	10	----	----	----	----	----	----
Vinyl Chloride	4 J	~~U~~	~~U~~	U	U	10	20	210	900	13,000	27,000	20
Bromomethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Chloroethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Trichlorofluoromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,1-Dichloroethene	U	~~U~~	~~U~~	U	U	10	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	330
1,1,2-Trichloro-1,2,2-triflu.	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Acetone	17	~~88~~	~~15~~	U	49	10	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	50
Carbon Disulfide	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Methyl Acetate	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Methylene Chloride	U	~~U~~	~~U~~	U	U	10	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
trans-1,2-Dichloroethene	U	~~U~~	~~U~~	U	U	10	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
Methyl tert-Butyl Ether	U	~~U~~	~~U~~	U	U	10	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
1,1-Dichloroethane	4 J	~~8 J~~	~~U~~	U	U	10	270	19,000	26,000	240,000	480,000	270
cis-1,2-Dichloroethene	4 J	~~3 J~~	~~U~~	U	U	10	250	59,000	100,000[a]	500,000[b]	1,000,000[C]	250
2-Butanone	U	~~U~~	~~U~~	U	10 J	10	120	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	120
Chloroform	U	~~U~~	~~U~~	U	U	10	370	10,000	49,000	350,000	700,000	370
1,1,1-Trichloroethane	U	~~U~~	~~U~~	U	U	10	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	680
Cyclohexane	U	~~2200 D~~	~~4 J~~	U	130	10	----	----	----	----	----	----
Carbon Tetrachloride	U	~~U~~	~~U~~	U	U	10	760	1,400	2,400	22,000	44,000	760
Benzene	U	~~U~~	~~U~~	U	32	10	60	2,900	4,800	44,000	89,000	60
1,2-Dichloroethane	U	~~U~~	~~U~~	U	U	10	20[c]	2,300	3,100	30,000	60,000	20[f]
Trichloroethene	U	~~U~~	~~U~~	U	U	10	470	10,000	21,000	200,000	400,000	470
Methylcyclohexane	U	~~5500 D~~	~~8 J~~	U	74	10	----	----	----	----	----	----
1,2-Dichloropropane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Bromodichloromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
cis-1,3-Dichloropropene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
4-Methyl-2-Pentanone	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Toluene	6 J	~~16~~	~~4 J~~	U	16	10	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
Trans-1,3-Dichloropropene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,1,2-Trichloroethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Tetrachloroethene	U	~~U~~	~~U~~	U	U	10	1,300	5,500	19,000	150,000	300,000	1,300
2-Hexanone	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Dibromochloromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,2-Dibromoethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----

TABLE 1a. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (1.5-2.0)**	~~**SSRI-2 (1.5-2.0)**~~	~~**SSRI-3 (1.5-2.0)**~~	**SSRI-4 (1.5-2.0)**	**SSRI-5 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	~~02/05/08~~	~~02/05/08~~	02/05/08	02/05/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	~~1.5-2.0~~	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	23	~~22~~	~~17~~	30	27							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chlorobenzene	U	~~U~~	~~U~~	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
Ethylbenzene	U	~~130~~	~~U~~	U	33	10	1,000	30,000	41,000	390,000	780,000	1,000
Xylenes (total)	U	~~700 DJ~~	~~U~~	U	140	10	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,600
Styrene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Bromoform	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Isopropylbenzene	U	~~150~~	~~U~~	U	4 J	10	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,3-Dichlorobenzene	U	~~U~~	~~U~~	U	U	10	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	~~U~~	~~U~~	U	U	10	1,800	9,800	13,000	130,000	250,000	1,800
1,2-Dichlorobenzene	U	~~U~~	~~U~~	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
1,2-Dibromo-3-chloropropane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,2,4-Trichlorobenzene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Total VOCs	40	~~8,808~~	~~31~~	0	488							
Total VOC TICs	483	~~26,620~~	~~384~~	0	1,403							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

TABLE 1a (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-6 (1.5-2.0)**	**SSRI-7 (1.5-2.0)**	**SSRI-8 (1.5-2.0)**	**SSRI-9 (1.5-2.0)**	**SSRI-10 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
								Protection of Public Health				Protection of Groundwater
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Residential	Restricted-Residential	Commercial	Industrial	
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0							
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	10	15	26	22	25							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dichlorodifluoromethane	U	U	U	U	U	10	----	----	----	----	----	----
Chloromethane	U	U	8 J	U	U	10	----	----	----	----	----	----
Vinyl Chloride	U	U	U	U	U	10	20	210	900	13,000	27,000	20
Bromomethane	U	U	U	U	U	10	----	----	----	----	----	----
Chloroethane	U	U	U	U	U	10	----	----	----	----	----	----
Trichlorofluoromethane	U	U	U	U	U	10	----	----	----	----	----	----
1,1-Dichloroethene	U	U	U	U	U	10	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	330
1,1,2-Trichloro-1,2,2-triflu.	U	U	U	U	U	10	----	----	----	----	----	----
Acetone	13	17	12 J	U	170	10	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	50
Carbon Disulfide	U	U	U	U	U	10	----	----	----	----	----	----
Methyl Acetate	U	U	U	U	U	10	----	----	----	----	----	----
Methylene Chloride	U	U	U	U	39 B	10	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
trans-1,2-Dichloroethene	U	U	7 J	U	U	10	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
Methyl tert-Butyl Ether	U	U	U	U	U	10	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
1,1-Dichloroethane	U	U	U	U	U	10	270	19,000	26,000	240,000	480,000	270
cis-1,2-Dichloroethene	U	U	3 J	U	U	10	250	59,000	100,000[a]	500,000[b]	1,000,000[C]	250
2-Butanone	U	U	U	U	U	10	----	----	----	----	----	----
Chloroform	U	U	U	U	U	10	370	10,000	49,000	350,000	700,000	370
1,1,1-Trichloroethane	U	U	U	U	U	10	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	680
Cyclohexane	U	U	3 J	U	U	10	----	----	----	----	----	----
Carbon Tetrachloride	U	U	U	U	U	10	760	1,400	2,400	22,000	44,000	760
Benzene	U	U	U	U	U	10	60	2,900	4,800	44,000	89,000	60
1,2-Dichloroethane	U	U	U	U	U	10	20[c]	2,300	3,100	30,000	60,000	20[f]
Trichloroethene	U	U	17	U	U	10	470	10,000	21,000	200,000	400,000	470
Methylcyclohexane	U	U	U	U	U	10	----	----	----	----	----	----
1,2-Dichloropropane	U	U	U	U	U	10	----	----	----	----	----	----
Bromodichloromethane	U	U	U	U	U	10	----	----	----	----	----	----
cis-1,3-Dichloropropene	U	U	U	U	U	10	----	----	----	----	----	----
4-Methyl-2-Pentanone	U	U	U	U	U	10	----	----	----	----	----	----
Toluene	U	6 J	7 J	4 J	51	10	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
Trans-1,3-Dichloropropene	U	U	U	U	U	10	----	----	----	----	----	----
1,1,2-Trichloroethane	U	U	U	U	U	10	----	----	----	----	----	----
Tetrachloroethene	U	U	190	U	U	10	1,300	5,500	19,000	150,000	300,000	1,300
2-Hexanone	U	U	U	U	U	10	----	----	----	----	----	----
Dibromochloromethane	U	U	U	U	U	10	----	----	----	----	----	----
1,2-Dibromoethane	U	U	U	U	U	10	----	----	----	----	----	----

TABLE 1a. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-6 (1.5-2.0)**	**SSRI-7 (1.5-2.0)**	**SSRI-8 (1.5-2.0)**	**SSRI-9 (1.5-2.0)**	**SSRI-10 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	02/05/08	02/06/08	02/06/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	10	15	26	22	25							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chlorobenzene	U	U	U	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
Ethylbenzene	U	U	U	U	U	10	1,000	30,000	41,000	390,000	780,000	1,000
Xylenes (total)	U	U	U	U	U	10	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,600
Styrene	U	U	U	U	U	10	----	----	----	----	----	----
Bromoform	U	U	U	U	U	10	----	----	----	----	----	----
Isopropylbenzene	U	U	U	U	U	10	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	U	U	U	U	U	10	----	----	----	----	----	----
1,3-Dichlorobenzene	U	U	U	U	U	10	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	U	U	U	10	1,800	9,800	13,000	130,000	250,000	1,800
1,2-Dichlorobenzene	U	U	U	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
1,2-Dibromo-3-chloropropane	U	U	U	U	U	10	----	----	----	----	----	----
1,2,4-Trichlorobenzene	U	U	U	U	U	10	----	----	----	----	----	----
Total VOCs	13	23	247	4	260							
Total VOC TICs	0	0	0	0	372							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1a (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-11 (1.5-2.0)**	**SSRI-12 (1.5-2.0)**	**SSRI-13 (1.5-2.0)**	**SSRI-14 (1.5-2.0)**	**SSRI-15 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
								Protection of Public Health				Protection of Groundwater
Date of Collection	2/22/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Residential	Restricted-Residential	Commercial	Industrial	
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0							
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	15	27	8	20	18							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dichlorodifluoromethane	U	U	U	U	U	10	----	----	----	----	----	----
Chloromethane	U	U	8 J	U	3 J	10	----	----	----	----	----	----
Vinyl Chloride	U	U	U	U	U	10	20	210	900	13,000	27,000	20
Bromomethane	U	U	U	U	U	10	----	----	----	----	----	----
Chloroethane	U	U	U	U	U	10	----	----	----	----	----	----
Trichlorofluoromethane	U	U	U	U	U	10	----	----	----	----	----	----
1,1-Dichloroethene	U	U	U	U	U	10	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	330
1,1,2-Trichloro-1,2,2-triflu.	U	U	U	U	U	10	----	----	----	----	----	----
Acetone	97	11 J	15	U	42	10	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	50
Carbon Disulfide	3 J	U	U	U	U	10	----	----	----	----	----	----
Methyl Acetate	U	U	U	U	U	10	----	----	----	----	----	----
Methylene Chloride	U	U	U	U	U	10	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
trans-1,2-Dichloroethene	U	U	U	U	U	10	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
Methyl tert-Butyl Ether	U	U	U	U	U	10	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
1,1-Dichloroethane	U	U	U	U	U	10	270	19,000	26,000	240,000	480,000	270
cis-1,2-Dichloroethene	U	U	U	U	U	10	250	59,000	100,000[a]	500,000[b]	1,000,000[C]	250
2-Butanone	14	U	U	U	8 J	10	----	----	----	----	----	----
Chloroform	U	U	U	U	U	10	370	10,000	49,000	350,000	700,000	370
1,1,1-Trichloroethane	U	U	U	U	U	10	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	680
Cyclohexane	6 J	U	U	U	13	10	----	----	----	----	----	----
Carbon Tetrachloride	U	U	U	U	U	10	760	1,400	2,400	22,000	44,000	760
Benzene	U	U	U	U	51	10	60	2,900	4,800	44,000	89,000	60
1,2-Dichloroethane	U	U	U	U	U	10	20[c]	2,300	3,100	30,000	60,000	20[f]
Trichloroethene	U	5 J	U	U	U	10	470	10,000	21,000	200,000	400,000	470
Methylcyclohexane	4 J	U	15	U	16	10	----	----	----	----	----	----
1,2-Dichloropropane	U	U	U	U	U	10	----	----	----	----	----	----
Bromodichloromethane	U	U	U	U	U	10	----	----	----	----	----	----
cis-1,3-Dichloropropene	U	U	U	U	U	10	----	----	----	----	----	----
4-Methyl-2-Pentanone	U	U	U	U	U	10	----	----	----	----	----	----
Toluene	14	U	U	U	1600 D	10	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
Trans-1,3-Dichloropropene	U	U	U	U	U	10	----	----	----	----	----	----
1,1,2-Trichloroethane	U	U	U	U	U	10	----	----	----	----	----	----
Tetrachloroethene	U	U	U	U	U	10	1,300	5,500	19,000	150,000	300,000	1,300
2-Hexanone	U	U	U	U	U	10	----	----	----	----	----	----
Dibromochloromethane	U	U	U	U	U	10	----	----	----	----	----	----
1,2-Dibromoethane	U	U	U	U	U	10	----	----	----	----	----	----

TABLE 1a. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-11 (1.5-2.0)**	**SSRI-12 (1.5-2.0)**	**SSRI-13 (1.5-2.0)**	**SSRI-14 (1.5-2.0)**	**SSRI-15 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/22/08	02/06/08	02/06/08	02/06/08	02/06/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	15	27	8	20	18							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chlorobenzene	U	U	U	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
Ethylbenzene	U	U	U	U	1400 D	10	1,000	30,000	41,000	390,000	780,000	1,000
Xylenes (total)	U	U	4 J	U	5800 D	10	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,600
Styrene	U	U	U	U	U	10	----	----	----	----	----	----
Bromoform	U	U	U	U	U	10	----	----	----	----	----	----
Isopropylbenzene	U	U	U	U	31	10	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	U	U	U	U	U	10	----	----	----	----	----	----
1,3-Dichlorobenzene	U	U	U	U	U	10	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	U	U	U	10	1,800	9,800	13,000	130,000	250,000	1,800
1,2-Dichlorobenzene	U	U	U	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
1,2-Dibromo-3-chloropropane	U	U	U	U	U	10	----	----	----	----	----	----
1,2,4-Trichlorobenzene	U	U	U	U	U	10	----	----	----	----	----	----
Total VOCs	138	16	42	0	8,964							
Total VOC TICs	79	0	1,174	18	8,389							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1a (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-16 (1.5-2.0)**	**SSRI-17 (1.5-2.0)**	**~~SSRI-18 (1.5-2.0)~~**	**SSRI-19 (1.5-2.0)**	**SSRI-20 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	10.0	1.0	~~5.0~~	1.0	1.0							
Percent Moisture	13	17	~~14~~	17	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dichlorodifluoromethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Chloromethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Vinyl Chloride	U	U	~~U~~	U	U	10	20	210	900	13,000	27,000	20
Bromomethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Chloroethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Trichlorofluoromethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
1,1-Dichloroethene	U	U	~~U~~	U	U	10	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	330
1,1,2-Trichloro-1,2,2-triflu.	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Acetone	150 D	93	~~130 D~~	190	U	10	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	50
Carbon Disulfide	18	4 J	~~12~~	U	U	10	----	----	----	----	----	----
Methyl Acetate	4 J	17	~~U~~	6 J	3 J	10	----	----	----	----	----	----
Methylene Chloride	5 J	4 JB	~~7 JB~~	5 JB	5 JB	10	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
trans-1,2-Dichloroethene	U	U	~~U~~	U	U	10	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
Methyl tert-Butyl Ether	U	U	~~U~~	U	U	10	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
1,1-Dichloroethane	U	U	~~U~~	U	U	10	270	19,000	26,000	240,000	480,000	270
cis-1,2-Dichloroethene	U	U	~~3 J~~	U	U	10	250	59,000	100,000[a]	500,000[b]	1,000,000[C]	250
2-Butanone	46	81	~~66~~	21	U	10	----	----	----	----	----	----
Chloroform	U	2 J	~~U~~	U	U	10	370	10,000	49,000	350,000	700,000	370
1,1,1-Trichloroethane	U	U	~~U~~	U	U	10	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	680
Cyclohexane	49	23	~~42~~	U	6 J	10	----	----	----	----	----	----
Carbon Tetrachloride	U	U	~~U~~	U	U	10	760	1,400	2,400	22,000	44,000	760
Benzene	3 J	9 J	~~170~~	U	U	10	60	2,900	4,800	44,000	89,000	60
1,2-Dichloroethane	U	U	~~U~~	U	U	10	20[c]	2,300	3,100	30,000	60,000	20[f]
Trichloroethene	U	U	~~U~~	U	U	10	470	10,000	21,000	200,000	400,000	470
Methylcyclohexane	57	12	~~20~~	U	U	10	----	----	----	----	----	----
1,2-Dichloropropane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Bromodichloromethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
cis-1,3-Dichloropropene	U	U	~~U~~	U	U	10	----	----	----	----	----	----
4-Methyl-2-Pentanone	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Toluene	79	89	~~160 D~~	11 J	50	10	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
Trans-1,3-Dichloropropene	U	U	~~U~~	U	U	10	----	----	----	----	----	----
1,1,2-Trichloroethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Tetrachloroethene	5 J	U	~~U~~	U	U	10	1,300	5,500	19,000	150,000	300,000	1,300
2-Hexanone	170	U	~~U~~	U	U	10	----	----	----	----	----	----
Dibromochloromethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
1,2-Dibromoethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----

TABLE 1a. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-16 (1.5-2.0)**	**SSRI-17 (1.5-2.0)**	**~~SSRI-18 (1.5-2.0)~~**	**SSRI-19 (1.5-2.0)**	**SSRI-20 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/22/08	02/22/08	~~02/22/08~~	02/22/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	10.0	1.0	~~5.0~~	1.0	1.0							
Percent Moisture	13	17	~~14~~	17	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chlorobenzene	U	U	~~U~~	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
Ethylbenzene	15	23	~~160 D~~	U	U	10	1,000	30,000	41,000	390,000	780,000	1,000
Xylenes (total)	160	190	~~1200 D~~	7 J	U	10	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,600
Styrene	5 J	U	~~140~~	U	U	10	----	----	----	----	----	----
Bromoform	U	U	~~U~~	U	U	10	----	----	----	----	----	----
Isopropylbenzene	36	35	~~65~~	U	U	10	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
1,3-Dichlorobenzene	U	U	~~U~~	U	U	10	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	~~U~~	U	U	10	1,800	9,800	13,000	130,000	250,000	1,800
1,2-Dichlorobenzene	3 J	U	~~4 J~~	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
1,2-Dibromo-3-chloropropane	U	U	~~U~~	U	U	10	----	----	----	----	----	----
1,2,4-Trichlorobenzene	U	U	~~3 J~~	3 J	U	10	----	----	----	----	----	----
Total VOCs	805	582	~~2,182~~	243	64							
Total VOC TICs	24,040	10,019	~~15,210~~	1,234	17							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b.
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (0-0.1)**	~~**SSRI-2 (0-0.1)**~~	~~**SSRI-3 (0-0.1)**~~	**SSRI-4 (0-0.1)**	**SSRI-5 (0-0.1)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				
Sample Depth	0-0.1	~~0-0.1~~	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	~~2.0~~	~~4.0~~	1.0	2.0							
Percent Moisture	12	~~34~~	~~32~~	39	15							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	59 JB	~~390 JB~~	~~330 JB~~	U	U	550	----	----	----	----	----	----
Phenol	U	~~U~~	~~U~~	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	~~U~~	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acetophenone	U	~~120 J~~	~~79 J~~	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	~~U~~	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	~~U~~	~~U~~	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Naphthalene	U	~~110 J~~	~~210 J~~	U	U	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Caprolactam	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	U	~~81 J~~	~~84 J~~	U	43 J	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acenaphthylene	97 J	~~600~~	~~210 J~~	230 J	81 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Acenaphthene	46 J	~~95 J~~	~~200 J~~	U	120 J	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	U	~~82 J~~	~~150 J~~	U	74 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Fluorene	54 J	~~140 J~~	~~260 J~~	U	140 J	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (0-0.1)**	~~**SSRI-2 (0-0.1)**~~	~~**SSRI-3 (0-0.1)**~~	**SSRI-4 (0-0.1)**	**SSRI-5 (0-0.1)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	~~02/05/08~~	~~02/05/08~~	02/05/08	02/05/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0-0.1	~~0-0.1~~	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~2.0~~	~~4.0~~	1.0	2.0							
Percent Moisture	12	~~34~~	~~32~~	39	15							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	~~U~~	~~U~~	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	~~U~~	~~U~~	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	930	~~2100~~	~~2600~~	1400 J	2200	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	220 J	~~1000~~	~~710~~	340 J	370 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	110 J	~~310 J~~	~~520~~	200 J	360 J	550	----	----	----	----	----	----
Di-n-butylphthalate	47 J	~~1900~~	~~650~~	U	U	550	----	----	----	----	----	----
Fluoranthene	2300	~~6600 D~~	~~3700~~	3300	4600 D	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	1300	~~3800~~	~~4200 D~~	2200	2500	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	66 J	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	900	~~3300~~	~~2700~~	1500 J	1600	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	1100	~~3400~~	~~3700~~	1600 J	2000	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	1800	~~2400~~	~~1300~~	760 J	140 J	550	----	----	----	----	----	----
Di-n-octylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	1200	~~3100~~	~~2700~~	1900	2300	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	670	~~1600~~	~~2500~~	730 J	930	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	930	~~***3000***~~	~~***2500***~~	***1400 J***	***1700***	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	710	~~2400~~	~~2100~~	800 J	1200	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	200 J	~~**760**~~	~~**730**~~	260 J	350 J	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	830	~~1700~~	~~2400~~	670 J	1100	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	11,487	~~33,786~~	~~31,504~~	16,330	21,234							
Total Carcinogen PAHs	5,710	~~17,560~~	~~16,930~~	8,190	10,080							
Total SVOCs	13,569	~~38,988~~	~~34,533~~	17,290	21,808							
Total SVOC TICs	300	~~17,410~~	~~1,618~~	13,110	1,810							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-6 (0-0.1)	SSRI-7 (0-0.1)	SSRI-8 (0-0.1)	SSRI-9 (0-0.1)	SSRI-10 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	2.0	4.0	1.0	1.0	5.0							
Percent Moisture	30	23	14	26	28							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	120 JB	85 JB	100 JB	190 JB	U	550	----	----	----	----	----	----
Phenol	U	U	U	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	U	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	U	U	U	550	----	----	----	----	----	----
Acetophenone	U	46 J	U	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	U	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	U	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	U	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	51 J	U	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	U	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
Naphthalene	90 J	140 J	39 J	54 J	59 J	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	U	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	U	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	81 J	110 J	U	69 J	61 J	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	U	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	U	U	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	U	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Acenaphthylene	220 J	340 J	51 J	92 J	80 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
Acenaphthene	220 J	330 J	53 J	49 J	250 J	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	130 J	160 J	U	U	150 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Fluorene	230 J	320 J	55 J	55 J	260 J	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-6 (0-0.1)	SSRI-7 (0-0.1)	SSRI-8 (0-0.1)	SSRI-9 (0-0.1)	SSRI-10 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	02/05/08	02/06/08	02/06/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	2.0	4.0	1.0	1.0	5.0							
Percent Moisture	30	23	14	26	28							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	U	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	U	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	U	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	U	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	2500	3300	640	770	2700 D	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	650	1100	170 J	200 J	810	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	310 J	480	92 J	100 J	340 J	550	----	----	----	----	----	----
Di-n-butylphthalate	190 J	55 J	U	U	140 J	550	----	----	----	----	----	----
Fluoranthene	5300 D	7600 D	1300	1300	5600 D	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	3100	5300 D	1400	1100	3200	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	U	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	2100	3000	990	580	2000	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	2300	3300	1000	740	2200	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	560	320 J	270 J	170 J	220 J	550	----	----	----	----	----	----
Di-n-octylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	2900	4700 D	1500	810	2900	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	1400	1500	550	380 J	1100	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	***2200***	***3000***	1000	570	***1900***	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	2000	2200	650	360 J	770	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	**590**	**690**	180 J	98 J	230 J	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	2200	2400	700	320 J	460	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	28,081	39,330	10,278	7,547	24,580							
Total Carcinogen PAHs	13,490	18,390	5,870	3,538	11,100							
Total SVOCs	29,391	40,527	9,390	8,007	25,430							
Total SVOC TICs	98	7,218	110	1,130	300							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-11 (0-0.1)	SSRI-12 (0-0.1)	SSRI-13 (0-0.1)	SSRI-14 (0-0.1)	SSRI-15 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/6/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	1.0	1.0	5.0							
Percent Moisture	21	24	49	32	29							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	260 JB	260 JB	110 JB	190 JB	U	550	----	----	----	----	----	----
Phenol	U	U	U	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[p1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	U	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	U	U	U	550	----	----	----	----	----	----
Acetophenone	94 J	52 J	U	58 J	U	550	----	----	----	----	----	----
4-Methylphenol	U	44 J	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	U	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	U	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	U	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	U	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	U	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
Naphthalene	380 J	260 J	U	120 J	430 J	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	U	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	U	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	190 J	230 J	U	84 J	240 J	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	U	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	45 J	54 J	U	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	U	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Acenaphthylene	350 J	480	U	290 J	890 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
Acenaphthene	270 J	240 J	U	82 J	400 J	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	210 J	200 J	U	94 J	310 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Fluorene	300 J	260 J	U	120 J	470 J	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-11 (0-0.1)	SSRI-12 (0-0.1)	SSRI-13 (0-0.1)	SSRI-14 (0-0.1)	SSRI-15 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/06/08	02/06/08	02/06/08	02/06/08	02/06/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	5.0							
Percent Moisture	21	24	49	32	29							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	U	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	U	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	U	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	U	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	2100	2000	290 J	1500	5400	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	950	940	94 J	490	2000 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	460	390 J	U	230 J	890 J	550	----	----	----	----	----	----
Di-n-butylphthalate	110 J	220 J	U	2100	U	550	----	----	----	----	----	----
Fluoranthene	2700	2700	810	2200	8800	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	2900	3200	610 J	2100	8200	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	250 J	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	U	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	2200	2200	350 J	1500	**6100**	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	2400	2400	460 J	1600	6900	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	400 J	350 J	120 J	180 J	U	550	----	----	----	----	----	----
Di-n-octylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	2400	2500	570 J	1700	**8300**	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	1400	1400	220 J	1000	3100	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	***2000***	***2000***	370 J	***1400***	***6100***	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	1300	1400	250 J	890	4000	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	400 J	400 J	U	250 J	***1200 J***	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	1300	1500	240 J	950	2800	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	23,540	24,110	4,264	16,276	65,330							
Total Carcinogen PAHs	12,100	12,300	2,220	8,340	35,700							
Total SVOCs	25,119	25,680	4,744	18,938	65,640							
Total SVOC TICs	1,796	2,650	3,900	380	3,360							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-16 (0-0.1)**	**SSRI-17 (0-0.1)**	~~**SSRI-18 (0-0.1)**~~	**SSRI-19 (0-0.1)**	**SSRI-20 (0-0.1)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				
Sample Depth	0-0.1	0-0.1	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	4.0	1.0	~~1.0~~	1.0	1.0							
Percent Moisture	41	19	~~39~~	34	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	U	48 J	~~U~~	U	U	550	----	----	----	----	----	----
Phenol	U	U	~~U~~	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Acetophenone	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	U	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	~~U~~	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Naphthalene	160 J	U	~~56 J~~	U	U	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	110 J	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Acenaphthylene	290 J	56 J	~~130 J~~	U	58 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
Acenaphthene	330 J	U	~~79 J~~	U	U	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	200 J	U	~~U~~	U	U	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Fluorene	310 J	U	~~73 J~~	U	U	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-16 (0-0.1)**	**SSRI-17 (0-0.1)**	**~~SSRI-18 (0-0.1)~~**	**SSRI-19 (0-0.1)**	**SSRI-20 (0-0.1)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	2/22/2008	02/22/08	~~02/22/08~~	02/22/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0-0.1	0-0.1	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	4.0	1.0	~~1.0~~	1.0	1.0							
Percent Moisture	41	19	~~39~~	34	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	~~U~~	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	~~U~~	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	4200	320 J	~~1200~~	230 J	220 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	1000	110 J	~~300 J~~	73 J	84 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	550 J	47 J	~~170 J~~	U	U	550	----	----	----	----	----	----
Di-n-butylphthalate	210 J	U	~~180 J~~	120 J	840	550	----	----	----	----	----	----
Fluoranthene	11000 D	700	~~3700~~	790	840	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	3900	500	~~1500~~	350 J	430 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	100 J	U	~~210 J~~	1100	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	3200	350 J	~~1200~~	230 J	350 J	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	3000	390 J	~~1300~~	260 J	350 J	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	150 J	65 J	~~180 J~~	100 J	180 J	550	----	----	----	----	----	----
Di-n-octylphthalate	130 J	U	~~U~~	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	4200 D	520	~~2000~~	360 J	440 J	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	1800	190 J	~~640~~	150 J	190 J	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	***2500***	360 J	~~***1200***~~	270 J	320 J	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	1300	290 J	~~670~~	170 J	200 J	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	U	94 J	~~U~~	U	64 J	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	150 J	300 J	~~700~~	210 J	150 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	37,450	4,180	~~14,748~~	3,093	3,696							
Total Carcinogen PAHs	16,000	2,194	~~7,010~~	1,440	1,914							
Total SVOCs	38,790	4,340	~~15,488~~	4,413	4,316							
Total SVOC TICs	520	0	~~0~~	0	5,500							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (0.5-1.0)**	~~**SSRI-2 (0.5-1.0)**~~	~~**SSRI-3 (0.5-1.0)**~~	**SSRI-4 (0.5-1.0)**	**SSRI-5 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	~~0.5-1.0~~	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	10.0	~~1.0~~	~~4.0~~	1.0	1.0							
Percent Moisture	18	~~24~~	~~15~~	15	15							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	140 JB	~~210 JB~~	~~U~~	47 JB	U	550	----	----	----	----	----	----
Phenol	U	~~U~~	~~U~~	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	~~U~~	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acetophenone	53 J	~~100 J~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Methylphenol	56 J	~~U~~	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	~~U~~	~~U~~	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Naphthalene	490	~~86 J~~	~~U~~	U	42 J	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Caprolactam	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	560	~~62 J~~	~~U~~	U	82 J	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	210 J	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acenaphthylene	1600	~~300 J~~	~~160 J~~	U	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Acenaphthene	1900	~~U~~	~~U~~	U	U	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	2400	~~96 J~~	~~U~~	U	U	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Fluorene	4600 D	~~170 J~~	~~U~~	U	U	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (0.5-1.0)**	~~**SSRI-2 (0.5-1.0)**~~	~~**SSRI-3 (0.5-1.0)**~~	**SSRI-4 (0.5-1.0)**	**SSRI-5 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	~~02/05/08~~	~~02/05/08~~	02/05/08	02/05/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	~~0.5-1.0~~	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	10.0	~~1.0~~	~~4.0~~	1.0	1.0							
Percent Moisture	18	~~24~~	~~15~~	15	15							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	~~U~~	~~U~~	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	~~U~~	~~U~~	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	23000 D	~~1300~~	~~420 J~~	U	270 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	6400 D	~~320 J~~	~~U~~	U	88 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	1900	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Di-n-butylphthalate	U	~~630~~	~~U~~	U	61 J	550	----	----	----	----	----	----
Fluoranthene	26000 D	~~1200~~	~~590 J~~	U	1100	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	15000 D	~~1900~~	~~490 J~~	U	640	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	**10000 D**	~~1100~~	~~270 J~~	U	440	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	8800 D	~~1400~~	~~750 J~~	U	480	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	U	~~1200~~	~~U~~	U	84 J	550	----	----	----	----	----	----
Di-n-octylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	**11000 D**	~~1100~~	~~610 J~~	U	660	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	2000	~~720~~	~~320 J~~	U	180 J	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	***8900 D***	~~**1100**~~	~~450 J~~	U	450	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	4400 D	~~1100~~	~~330 J~~	U	310 J	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	***1600***	~~320 J~~	~~U~~	U	84 J	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	4500 D	~~1200~~	~~370 J~~	U	300 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	130,750	~~13,378~~	~~4,760~~	0	5,126							
Total Carcinogen PAHs	46,700	~~6,840~~	~~2,730~~	0	2,604							
Total SVOCs	135,509	~~15,614~~	~~4,760~~	47	5,271							
Total SVOC TICs	16,110	~~6,329~~	~~25,690~~	170	3,353							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-6 (0.5-1.0)**	**SSRI-7 (0.5-1.0)**	**SSRI-8 (0.5-1.0)**	**SSRI-9 (0.5-1.0)**	**SSRI-10 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	2.0	4.0	5.0	1.0	4.0							
Percent Moisture	18	18	35	16	24							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	98 JB	U	U	79 JB	U	550	----	----	----	----	----	----
Phenol	U	U	U	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	U	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	U	U	U	550	----	----	----	----	----	----
Acetophenone	U	U	U	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	U	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	U	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	U	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	U	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	U	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
Naphthalene	280 J	700	260 J	U	U	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	U	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	U	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	260 J	3000	U	U	U	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	U	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	69 J	370 J	U	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	U	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Acenaphthylene	230 J	300 J	880 J	U	230 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
Acenaphthene	170 J	900	U	U	U	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	190 J	630	U	U	U	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Fluorene	320 J	1200	300 J	U	U	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-6 (0.5-1.0)**	**SSRI-7 (0.5-1.0)**	**SSRI-8 (0.5-1.0)**	**SSRI-9 (0.5-1.0)**	**SSRI-10 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	02/05/08	02/06/08	02/06/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	2.0	4.0	5.0	1.0	4.0							
Percent Moisture	18	18	35	16	24							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	U	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	U	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	U	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	U	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	2600	5600 D	8400	290 J	990 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	700	1400	780 J	81 J	300 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	290 J	250 J	1300 J	U	U	550	----	----	----	----	----	----
Di-n-butylphthalate	U	U	U	U	1900	550	----	----	----	----	----	----
Fluoranthene	5400 D	3100	13000	470	4200	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	3200	4200 D	14000	390 J	1400 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	U	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	2300	2100	4900	220 J	950 J	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	2900	2100	8200	220 J	1600 J	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	U	2200	U	U	1200 J	550	----	----	----	----	----	----
Di-n-octylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	2800	2000	**8300**	230 J	1400 J	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	1000	1100	2800	89 J	630 J	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	***2100***	**1700**	***5700***	180 J	950 J	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	1600	1400	5600	89 J	340 J	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	**570**	360 J	***1500 J***	U	U	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	1800	1300	5400	74 J	260 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	28,230	32,460	80,020	2,333	13,250							
Total Carcinogen PAHs	13,270	10,760	37,000	1,028	5,870							
Total SVOCs	28,779	35,910	81,320	2,412	16,350							
Total SVOC TICs	7,956	298,400	29,810	99	117,490							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-11 (0.5-1.0)**	**SSRI-12 (0.5-1.0)**	**SSRI-13 (0.5-1.0)**	**SSRI-14 (0.5-1.0)**	**SSRI-15 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	4.0	1.0	5.0	1.0	5.0							
Percent Moisture	13	21	15	21	12							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	350 J	150 JB	U	110 JB	U	550	----	----	----	----	----	----
Phenol	U	U	U	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	U	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	U	U	U	550	----	----	----	----	----	----
Acetophenone	54 J	55 J	U	U	U	550	----	----	----	----	----	----
4-Methylphenol	67 J	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	U	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	U	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	U	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	U	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	U	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
Naphthalene	2200	180 J	530 J	U	44000	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	U	U	U	550	----	----	----	----	----	----
Caprolactam	78 J	U	U	U	1400 J	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	670	100 J	U	U	9800	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	U	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	180 J	U	U	U	1900 J	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	U	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Acenaphthylene	220 J	370 J	770 J	63 J	2200 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
Acenaphthene	710	170 J	1100 J	U	4500 J	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	550	140 J	670 J	U	6300 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Fluorene	740	210 J	1200 J	U	8200	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-11 (0.5-1.0)	SSRI-12 (0.5-1.0)	SSRI-13 (0.5-1.0)	SSRI-14 (0.5-1.0)	SSRI-15 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/22/08	02/06/08	02/06/08	02/06/08	02/06/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	4.0	1.0	5.0	1.0	5.0							
Percent Moisture	13	21	15	21	12							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	U	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	U	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	U	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	U	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	3400 D	1800	4500	430	20000	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	510	820	1300 J	130 J	5000 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	150 J	280 J	250 J	48 J	U	550	----	----	----	----	----	----
Di-n-butylphthalate	U	210 J	U	95 J	U	550	----	----	----	----	----	----
Fluoranthene	7000 D	2500	4700	850	13000	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	2000	3200	9300	730	22000	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	U	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	1500	2300	2800	430	**7100 J**	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	1600	2600	3200	480	9600	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	160 J	U	U	73 J	3700 J	550	----	----	----	----	----	----
Di-n-octylphthalate	230 J	U	U	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	2400	3000	2200	580	**7000 J**	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	890	1400	990 J	260 J	2500 J	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	780	***2100***	***1600 J***	420	***5300 J***	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	210 J	1700	890 J	300 J	2200 J	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	84 J	560	250 J	92 J	U	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	U	1500	850 J	230 J	1500 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	24,914	24,510	36,180	4,995	163,900							
Total Carcinogen PAHs	7,464	13,660	11,930	2,562	33,700							
Total SVOCs	26,733	25,345	37,100	5,321	177,200							
Total SVOC TICs	19,070	7,458	42,550	99	103,200							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-16 (0.5-1.0)**	**SSRI-17 (0.5-1.0)**	**~~SSRI-18 (0.5-1.0)~~**	**SSRI-19 (0.5-1.0)**	**SSRI-20 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	4.0	1.0	~~1.0~~	1.0	2.0							
Percent Moisture	22	21	~~22~~	28	16							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	U	94 J	~~U~~	U	U	550	----	----	----	----	----	----
Phenol	U	U	~~U~~	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Acetophenone	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	U	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	~~U~~	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Naphthalene	270 J	120 J	~~88 J~~	200 J	160 J	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Caprolactam	700 J	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	240 J	54 J	~~U~~	230 J	71 J	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	110 J	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Acenaphthylene	330 J	120 J	~~130 J~~	160 J	80 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
Acenaphthene	170 J	120 J	~~67 J~~	U	440	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	190 J	80 J	~~57 J~~	83 J	160 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Fluorene	920	120 J	~~79 J~~	U	290 J	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-16 (0.5-1.0)**	**SSRI-17 (0.5-1.0)**	~~**SSRI-18 (0.5-1.0)**~~	**SSRI-19 (0.5-1.0)**	**SSRI-20 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/22/08	02/22/08	~~02/22/08~~	02/22/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	4.0	1.0	~~1.0~~	1.0	2.0							
Percent Moisture	22	21	~~22~~	28	16							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	~~U~~	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	~~U~~	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	2300	1300	~~710~~	430 J	2600	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	880	380 J	~~240 J~~	260 J	650	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	550 J	130 J	~~120 J~~	89 J	380 J	550	----	----	----	----	----	----
Di-n-butylphthalate	U	110 J	~~960~~	250 J	U	550	----	----	----	----	----	----
Fluoranthene	9000 D	2700	~~2500~~	2100	4200 D	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	3300	1100	~~930~~	470	2500	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	~~140 J~~	2600	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	1400	880	~~650~~	390 J	1500	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	1700	860	~~750~~	430 J	1400	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	720 J	75 J	~~3300~~	390 J	130 J	550	----	----	----	----	----	----
Di-n-octylphthalate	450 J	U	~~U~~	450 J	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	1600	1300	~~850~~	760	1700	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	620 J	440	~~420~~	280 J	570	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	**1100**	920	~~640~~	470	***1200***	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	420 J	420	~~380 J~~	160 J	690	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	U	140 J	~~U~~	U	200 J	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	350 J	420	~~400 J~~	200 J	450	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	24,600	11,394	~~8,834~~	6,540	18,701							
Total Carcinogen PAHs	6,840	4,960	~~3,690~~	2,490	7,260							
Total SVOCs	27,050	11,883	~~13,411~~	10,402	19,371							
Total SVOC TICs	42,370	390	~~1,420~~	2,250	1,875							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (1.5-2.0)**	~~**SSRI-2 (1.5-2.0)**~~	~~**SSRI-3 (1.5-2.0)**~~	**SSRI-4 (1.5-2.0)**	**SSRI-5 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	~~1.5-2.0~~	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	5.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	23	~~22~~	~~17~~	30	27							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Phenol	U	~~U~~	~~U~~	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	~~U~~	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acetophenone	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	~~U~~	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	~~U~~	~~U~~	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	~~U~~	~~U~~	U	67 J	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Naphthalene	U	~~200 J~~	~~U~~	U	280 J	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Caprolactam	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	U	~~U~~	~~U~~	U	190 J	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acenaphthylene	660 J	~~140 J~~	~~63 J~~	U	190 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Acenaphthene	U	~~120 J~~	~~46 J~~	U	83 J	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	600 J	~~120 J~~	~~44 J~~	U	88 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Fluorene	840 J	~~300 J~~	~~92 J~~	U	88 J	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-1 (1.5-2.0)**	~~**SSRI-2 (1.5-2.0)**~~	~~**SSRI-3 (1.5-2.0)**~~	**SSRI-4 (1.5-2.0)**	**SSRI-5 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	~~02/05/08~~	~~02/05/08~~	02/05/08	02/05/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	~~1.5-2.0~~	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	5.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	23	~~22~~	~~17~~	30	27							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	~~U~~	~~U~~	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	~~U~~	~~U~~	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	3800	~~1900~~	~~720~~	150 J	820	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	1800 J	~~590~~	~~290 J~~	U	620	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	540 J	~~98 J~~	~~U~~	U	U	550	----	----	----	----	----	----
Di-n-butylphthalate	U	~~160 J~~	~~U~~	U	630	550	----	----	----	----	----	----
Fluoranthene	8500	~~2200~~	~~280 J~~	320 J	1000	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	7200	~~1700~~	~~700~~	310 J	2000	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	4100	~~1000~~	~~280 J~~	180 J	1200	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	4300	~~1200~~	~~320 J~~	180 J	910	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	U	~~200 J~~	~~U~~	U	3000	550	----	----	----	----	----	----
Di-n-octylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	4800	~~1000~~	~~180 J~~	240 J	1400	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	2100 J	~~380 J~~	~~110 J~~	72 J	300 J	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	***4200***	~~810~~	~~170 J~~	170 J	780	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	2600	~~390 J~~	~~90 J~~	94 J	870	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	**740 J**	~~130 J~~	~~U~~	U	270 J	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	2500	~~430~~	~~67 J~~	100 J	940	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	48,140	~~12,490~~	~~3,408~~	1,816	11,941							
Total Carcinogen PAHs	22,840	~~4,910~~	~~1,150~~	936	5,730							
Total SVOCs	49,280	~~13,068~~	~~3,452~~	1,816	15,726							
Total SVOC TICs	6,690	~~825,000~~	~~8,014~~	180	19,100							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-6 (1.5-2.0)**	**SSRI-7 (1.5-2.0)**	**SSRI-8 (1.5-2.0)**	**SSRI-9 (1.5-2.0)**	**SSRI-10 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	2.0	4.0	20.0	10.0							
Percent Moisture	10	15	26	22	25							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	U	190 JB	U	U	260 J	550	----	----	----	----	----	----
Phenol	U	U	U	350 J	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	U	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	U	U	U	550	----	----	----	----	----	----
Acetophenone	U	U	U	U	61 J	550	----	----	----	----	----	----
4-Methylphenol	U	U	U	540 J	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	U	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	U	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	U	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	U	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	U	260 J	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
Naphthalene	U	180 J	U	3700	U	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	U	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	U	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	U	260 J	U	1600 J	U	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	U	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	47 J	U	540 J	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	U	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Acenaphthylene	U	190 J	480 J	5200	200 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
Acenaphthene	U	170 J	U	4500	U	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	U	130 J	U	4500	55 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Fluorene	U	230 J	U	7400	91 J	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-6 (1.5-2.0)**	**SSRI-7 (1.5-2.0)**	**SSRI-8 (1.5-2.0)**	**SSRI-9 (1.5-2.0)**	**SSRI-10 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/05/08	02/05/08	02/06/08	02/06/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	2.0	4.0	20.0	10.0							
Percent Moisture	10	15	26	22	25							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	U	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	U	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	U	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	U	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	170 J	2000	4300	49000 D	820	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	39 J	540	450 J	12000	400 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	U	200 J	650 J	5000	180 J	550	----	----	----	----	----	----
Di-n-butylphthalate	U	U	U	U	23000 D	550	----	----	----	----	----	----
Fluoranthene	290 J	3300 D	6800	57000 D	4200 DJ	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	220 J	2200	6400	50000 D	1300	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	U	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	140 J	1500	2600	***39000 D***	1000	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	170 J	1600	4400	39000 D	870	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	U	210 J	U	U	U	550	----	----	----	----	----	----
Di-n-octylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	190 J	1800	4300	***36000 D***	850	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	76 J	770	1600 J	7200	490	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	130 J	***1500***	***3000***	***31000 D***	650	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	86 J	990	2100	**10000**	250 J	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	U	310 J	**600 J**	***3900***	81 J	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	100 J	1100	1500 J	7700	140 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	1,611	18,640	38,530	364,200	11,342							
Total Carcinogen PAHs	792	8,470	18,600	166,100	4,191							
Total SVOCs	1,511	19,057	39,180	375,390	34,898							
Total SVOC TICs	7,655	6,740	8,990	109,780	8,281							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-11 (1.5-2.0)	SSRI-12 (1.5-2.0)	SSRI-13 (1.5-2.0)	SSRI-14 (1.5-2.0)	SSRI-15 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	5.0	1.0	60.0							
Percent Moisture	15	27	8	20	18							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	190 J	72 JB	U	79 JB	840 JB	550	----	----	----	----	----	----
Phenol	U	U	U	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	U	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	U	U	U	550	----	----	----	----	----	----
Acetophenone	U	U	U	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	U	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	U	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	U	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	U	190 J	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	U	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
Naphthalene	580	U	850 J	85 J	150000 D	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	U	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	U	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	310 J	U	280 J	55 J	21000	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	U	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	U	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	62 J	U	U	U	4400	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	U	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	U	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Acenaphthylene	110 J	U	U	120 J	4000 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
Acenaphthene	140 J	U	1000 J	43 J	16000	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	U	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	85 J	U	680 J	62 J	17000	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	U	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Fluorene	150 J	U	1300 J	90 J	21000	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	U	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-11 (1.5-2.0)	SSRI-12 (1.5-2.0)	SSRI-13 (1.5-2.0)	SSRI-14 (1.5-2.0)	SSRI-15 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/22/08	02/06/08	02/06/08	02/06/08	02/06/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	5.0	1.0	60.0							
Percent Moisture	15	27	8	20	18							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	U	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	U	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	U	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	U	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	1400	170 J	4100	890	71000 D	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	310 J	49 J	850 J	260 J	17000	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	56 J	U	U	84 J	9200	550	----	----	----	----	----	----
Di-n-butylphthalate	U	U	U	59 J	U	550	----	----	----	----	----	----
Fluoranthene	1900	270 J	3100	1500	17000	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	1700	210 J	5700	1200	32000	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	U	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	900	130 J	1900	700	***13000***	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	940	160 J	2600	830	12000	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	U	U	U	89 J	U	550	----	----	----	----	----	----
Di-n-octylphthalate	U	U	U	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	1000	200 J	2100	890	**8600**	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	300 J	68 J	580 J	380 J	3200 J	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	620	130 J	***1300 J***	620	***7000***	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	360 J	120 J	830 J	430	3800 J	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	130 J	U	240 J	130 J	***1200 J***	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	U	94 J	910 J	340 J	3000 J	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	10,850	1,601	27,640	8,563	400,800							
Total Carcinogen PAHs	4,250	808	9,550	3,980	48,800							
Total SVOCs	11,243	1,673	28,320	9,126	432,240							
Total SVOC TICs	5,189	0	40,050	2,560	216,300							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1b (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SSRI-16 (1.5-2.0)**	**SSRI-17 (1.5-2.0)**	~~**SSRI-18 (1.5-2.0)**~~	**SSRI-19 (1.5-2.0)**	**SSRI-20 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				
Sample Depth	1.5-2.0	1.5-2.0	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	8.0	10.0	~~30.0~~	4.0	8.0							
Percent Moisture	13	17	~~14~~	17	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	U	250 J	~~U~~	U	92 J	550	----	----	----	----	----	----
Phenol	U	U	~~U~~	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
2,2-Oxybis (1-Chloropropane)	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Acetophenone	U	U	~~U~~	110 J	58 J	550	----	----	----	----	----	----
4-Methylphenol	U	U	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330
N-Nitroso-di-n-propylamine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	~~U~~	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Naphthalene	6800	4000 D	~~70000 D~~	260 J	130 J	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	~~240 J~~	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	3200	400	~~11000~~	91 J	67 J	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	~~U~~	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	140 J	~~1400 J~~	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	~~U~~	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Acenaphthylene	1500 J	620	~~1700 J~~	160 J	150 J	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
Acenaphthene	2300 J	2500	~~5700~~	290 J	200 J	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	2300 J	2400	~~6100~~	170 J	130 J	550	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
2,4-Dinitrotoluene	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Fluorene	6000	4300 D	~~8800~~	300 J	220 J	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	~~U~~	U	U	1,400	----	----	----	----	----	----

TABLE 1b. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SSRI-16 (1.5-2.0)	SSRI-17 (1.5-2.0)	~~SSRI-18 (1.5-2.0)~~	SSRI-19 (1.5-2.0)	SSRI-20 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/22/08	02/22/08	~~02/22/08~~	02/22/08	02/22/08			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	8.0	10.0	~~30.0~~	4.0	8.0							
Percent Moisture	13	17	~~14~~	17	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	~~U~~	U	U	550	330	330	1,200	6,000	12,000	1400
Atrazine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	~~U~~	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	17000	12000 D	~~24000 D~~	730	6000 D	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	1600 J	2800 DJ	~~5500~~	340 J	1000	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	U	990	~~4500~~	130 J	820	550	----	----	----	----	----	----
Di-n-butylphthalate	U	U	~~U~~	U	160 J	550	----	----	----	----	----	----
Fluoranthene	20000	30000 D	~~26000 D~~	2500 D	8800 D	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	17000	6100 D	~~10000~~	1300	8100 D	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	~~U~~	290 J	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	~~U~~	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	**6600**	3500 DJ	~~4800~~	720	**6300 D**	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	13000	2600	~~5100~~	780	3500	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	U	U	~~660 J~~	150 J	250 J	550	----	----	----	----	----	----
Di-n-octylphthalate	2600 J	U	~~U~~	170 J	200 J	550	----	----	----	----	----	----
Benzo(b)fluoranthene	4800	1600	~~4500~~	750	**6900 D**	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	1500 J	1000	~~2300~~	390 J	2800	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	***2600 J***	***1900***	~~***3000***~~	580	***5600 D***	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	800 J	1100	~~1000 J~~	130 J	1500	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	U	330 J	~~340 J~~	45 J	480	550	330[p]	330[e]	330[e]	560	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	640 J	820	~~950 J~~	99 J	1200	550	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	105,340	75,570	~~184,690~~	9,465	52,947							
Total Carcinogen PAHs	29,300	12,030	~~21,040~~	3,395	27,080							
Total SVOCs	110,240	79,100	~~197,590~~	10,485	54,657							
Total SVOC TICs	261,100	40,810	~~82,070~~	14,200	10,681							

QUALIFIERS:
B: Compound found in the method blank as well as the sample
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c.
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-1 (0-0.1)	~~SSRI-2 (0-0.1)~~	~~SSRI-3 (0-0.1)~~	SSRI-4 (0-0.1)	SSRI-5 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				
Sample Depth	0-0.1	~~0-0.1~~	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	~~10.0~~	~~1.0~~	1.0	5.0							
Percent Moisture	12	~~34~~	~~32~~	39	15							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	~~6.2 P~~	~~U~~	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	~~U~~	~~U~~	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	~~U~~	~~U~~	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	~~U~~	~~U~~	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	~~1.4 JP~~	~~U~~	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	~~U~~	~~U~~	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	~~U~~	~~U~~	U	2.1 P	0.05	----	----	----	----	----	----
Endosulfan I	U	~~12 P~~	~~3.9 P~~	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	~~180 DP~~	~~U~~	U	9.5 P	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	4.8 P	~~160 DP~~	~~U~~	U	14 P	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	11 P	~~60 P~~	~~17~~	3.0 JP	21 P	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	~~U~~	~~8.7~~	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	~~U~~	~~U~~	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	9.5 P	~~150 DP~~	~~38~~	U	4.7 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	~~U~~	~~24 P~~	U	2.1 JP	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	~~56 P~~	~~48~~	33	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	~~16 P~~	~~12 P~~	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	7.9 P	~~34 P~~	~~17~~	U	4.2	0.10	----	----	----	----	----	----
alpha-Chlordane	U	~~U~~	~~U~~	U	15 P	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	16	~~140 DP~~	~~27 P~~	U	41 DP	0.05	----	----	----	----	----	----
Toxaphene	U	~~U~~	~~U~~	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	~~U~~	~~U~~	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	970 P	~~U~~	~~U~~	U	**4100 D**	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	390 P	**~~13000 DP~~**	~~U~~	U	520 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	49.2	~~815.6~~	~~195.6~~	36	113.6							
Total PCBs	1,360	~~13,000~~	~~0~~	0	4,620							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
NOTES:

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-6 (0-0.1)	SSRI-7 (0-0.1)	SSRI-8 (0-0.1)	SSRI-9 (0-0.1)	SSRI-10 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	5.0	4.0	1.0	1.0	1.0							
Percent Moisture	30	23	14	26	28							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	U	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	U	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	U	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	U	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	U	U	1.6 J	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	U	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	U	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	U	U	U	U	0.05	2,400	4,800[l]	24,000[l]	200,000[l]	920,000[l]	102,000
Dieldrin	U	U	U	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	23 P	14 P	10 P	4.1 JP	4.7 P	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	74 P	32 P	U	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	U	U	U	0.10	2,400	4,800[l]	24,000[l]	200,000[l]	920,000[l]	102,000
4,4'-DDD	U	U	3.1 J	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	28 P	20 P	10 P	6.2 P	18	0.10	2,400	4,800[l]	24,000[l]	200,000[l]	920,000[l]	1,000,000[c1]
4,4'-DDT	9.3 P	2.8 JP	U	6.4 P	4.8 P	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	62 P	18 JP	U	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	4.4 P	U	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	11 P	18 P	16 P	9.1 P	16	0.10	----	----	----	----	----	----
alpha-Chlordane	3.0 P	1.6 JP	U	1.6 JP	3.0 P	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	48 DP	41 D	5.3 P	2.5	3.0 P	0.05	----	----	----	----	----	----
Toxaphene	U	U	U	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	U	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	**3600 DP**	790	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	U	U	130 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	**1800 DP**	800 P	840	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	U	U	280 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	2,583	152	44.4	29.9	51.1							
Total PCBs	5,400	1,590	840	0	410							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-11 (0-0.1)	SSRI-12 (0-0.1)	SSRI-13 (0-0.1)	SSRI-14 (0-0.1)	SSRI-15 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/6/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	60.0	1.0	1.0	1.0							
Percent Moisture	21	24	49	32	29							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	U	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	U	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	U	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	U	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	U	1.7 JP	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	U	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	U	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	16 P	U	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	U	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	11 P	280 P	4.5 JP	7.8 P	17 P	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	U	U	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	U	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	U	U	8.9	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	17 P	120 P	6.3 JP	13 P	22 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	7.4 P	U	3.4 JP	8.5 P	12 P	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	U	U	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	U	U	U	3.0 JP	0.10	----	----	----	----	----	----
Endrin Aldehyde	13 P	190 P	6.6	11 P	U	0.10	----	----	----	----	----	----
alpha-Chlordane	1.5 J	U	5.9	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	9.3 P	150 P	2.1 JP	2.0 JP	5.7 P	0.05	----	----	----	----	----	----
Toxaphene	U	U	U	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	U	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	**1100**	***29000 D***	250	590	**1300**	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	59.2	756	28.8	52.9	59.7							
Total PCBs	1,100	29,000	250	590	1,300							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	**SSRI-16 (0-0.1)**	**SSRI-17 (0-0.1)**	~~**SSRI-18 (0-0.1)**~~	**SSRI-19 (0-0.1)**	**SSRI-20 (0-0.1)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				
Sample Depth	0-0.1	0-0.1	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	~~1.0~~	1.0	1.0							
Percent Moisture	41	19	~~39~~	34	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	2.6 JP	U	~~U~~	2.0 JP	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	3.5 P	U	~~U~~	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	~~U~~	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	~~U~~	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	~~U~~	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	~~U~~	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	2.9 P	U	~~U~~	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	1.7 JP	~~U~~	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	~~U~~	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	15 P	16 P	~~19 P~~	U	10 P	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	U	~~U~~	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	~~U~~	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	5.0 P	~~U~~	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	7.0 P	43 P	~~13 P~~	3.4 JP	16 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	6.8 P	~~U~~	U	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	14 JP	~~U~~	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	U	~~U~~	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	23 P	~~16 P~~	5.7 P	14 P	0.10	----	----	----	----	----	----
alpha-Chlordane	19 P	U	~~2.0 J~~	1.5 JP	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	18 P	7.0 P	~~9.0 P~~	1.5 JP	5.0 P	0.05	----	----	----	----	----	----
Toxaphene	U	U	~~U~~	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	~~U~~	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	310 P	320 P	~~500 P~~	U	180 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	330 P	**1400**	~~430~~	140 P	500 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	68	116.5	~~59~~	14.1	45							
Total PCBs	640	1,720	~~930~~	140	680							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	**SSRI-1 (0.5-1.0)**	~~**SSRI-2 (0.5-1.0)**~~	~~**SSRI-3 (0.5-1.0)**~~	**SSRI-4 (0.5-1.0)**	**SSRI-5 (0.5-1.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	~~0.5-1.0~~	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~5.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	18	~~24~~	~~15~~	15	15							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	~~U~~	~~U~~	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	~~U~~	~~U~~	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	~~U~~	~~U~~	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	~~U~~	~~U~~	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	1.3 JP	~~U~~	~~U~~	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	~~U~~	~~U~~	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	1.6 JP	~~U~~	~~U~~	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	~~U~~	~~U~~	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	~~U~~	~~U~~	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	4.8 P	~~15 P~~	~~U~~	U	U	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	2.2 JP	~~29~~	~~U~~	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	~~32 P~~	~~U~~	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	~~54 P~~	~~U~~	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	~~35 P~~	~~U~~	U	2.4 J	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	~~U~~	~~U~~	U	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	33 P	~~U~~	~~U~~	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	16 P	~~U~~	~~4.4 P~~	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	3.2 JP	~~U~~	~~U~~	U	2.2 JP	0.10	----	----	----	----	----	----
alpha-Chlordane	U	~~U~~	~~U~~	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	~~15 P~~	~~U~~	U	3.0	0.05	----	----	----	----	----	----
Toxaphene	U	~~U~~	~~U~~	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	~~U~~	~~U~~	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	~~860 P~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	~~980 P~~	~~U~~	U	54 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	62.1	~~180~~	~~4.4~~	0	7.6							
Total PCBs	0	~~1,840~~	~~0~~	0	54							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
NOTES:

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-6 (0.5-1.0)	SSRI-7 (0.5-1.0)	SSRI-8 (0.5-1.0)	SSRI-9 (0.5-1.0)	SSRI-10 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	10.0	5.0	1.0	1.0							
Percent Moisture	18	18	35	16	24							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	U	U	4.7 P	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	U	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	U	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	U	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	U	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	U	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	U	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	U	5.4 P	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	U	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	30 P	14 P	U	U	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	62 P	40 P	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	U	U	11 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	59 P	22 P	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	9.5 P	U	U	54 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	U	68 DP	U	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	11 JP	U	U	U	41 P	0.50	----	----	----	----	----	----
Endrin Ketone	U	U	26 DP	U	4.9 P	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	U	U	U	23 P	0.10	----	----	----	----	----	----
alpha-Chlordane	U	U	U	U	23	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	17 P	U	U	U	0.05	----	----	----	----	----	----
Toxaphene	U	U	U	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	U	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	U	U	59 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	**1400 P**	U	U	380 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	11	177.5	175.4	0	161.6							
Total PCBs	0	1,400	0	0	439							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-11 (0.5-1.0)	SSRI-12 (0.5-1.0)	SSRI-13 (0.5-1.0)	SSRI-14 (0.5-1.0)	SSRI-15 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	1.0	1.0	5.0							
Percent Moisture	13	21	15	21	12							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	U	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	U	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	U	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	U	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	U	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	U	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	4.7 P	U	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	1.6 JP	U	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	4.3 P	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	20 P	9.4 P	U	U	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	U	7.5 P	U	46	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	U	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	U	U	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	21 P	2.0 JP	2.3 J	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	8.9 P	16 P	1.2 JP	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	U	U	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	6.6 P	U	U	5.6	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	17 P	2.8 JP	U	U	0.10	----	----	----	----	----	----
alpha-Chlordane	U	U	U	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	7.2 P	U	U	3.1 P	0.05	----	----	----	----	----	----
Toxaphene	U	U	U	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	U	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	30 J	**1100**	U	99	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	0	87	42	3.5	54.7							
Total PCBs	30	1,100	0	99	0							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-16 (0.5-1.0)	SSRI-17 (0.5-1.0)	~~SSRI-18 (0.5-1.0)~~	SSRI-19 (0.5-1.0)	SSRI-20 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				
Sample Depth	0.5-1.0	0.5-1.0	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	10.0	~~10.0~~	1.0	1.0							
Percent Moisture	22	21	~~22~~	28	16							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	~~2.8 P~~	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	~~U~~	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	~~U~~	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	~~U~~	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	~~U~~	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	1.4 JP	~~U~~	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	~~U~~	U	0.99 JP	0.05	----	----	----	----	----	----
Endosulfan I	15 P	3.9 P	~~6.4 P~~	1.6 J	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	~~U~~	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	21 P	160 DP	~~47 P~~	4.3 JP	12 P	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	U	~~U~~	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	~~U~~	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	2.3 JP	18 P	~~U~~	4.1 JP	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	6.9	120 DP	~~79 DP~~	12 P	18 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	U	~~U~~	43 P	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	27 P	~~24 P~~	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	3.6 JP	~~8.1 P~~	5.6 P	4.4 P	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	170 DP	~~32 P~~	14 P	16 P	0.10	----	----	----	----	----	----
alpha-Chlordane	25 P	U	~~8.3 P~~	6.1	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	17	70 DP	~~26 P~~	5.9 P	5.9 P	0.05	----	----	----	----	----	----
Toxaphene	U	U	~~U~~	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	~~U~~	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	310	**3800 DP**	~~1000 P~~	110	190 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	270 P	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	**4400 D**	~~**1300 P**~~	390	590 P	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	87.2	573.9	~~233.6~~	96.6	57.29							
Total PCBs	580	8,200	~~2,300~~	500	780							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
NOTES:

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	**SSRI-1 (1.5-2.0)**	~~**SSRI-2 (1.5-2.0)**~~	~~**SSRI-3 (1.5-2.0)**~~	**SSRI-4 (1.5-2.0)**	**SSRI-5 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	~~1.5-2.0~~	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	23	~~22~~	~~17~~	30	27							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	~~U~~	~~U~~	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	~~U~~	~~U~~	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	~~U~~	~~U~~	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	~~U~~	~~U~~	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	~~U~~	~~U~~	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	~~U~~	~~U~~	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	~~U~~	~~U~~	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	~~U~~	~~U~~	U	2.8 P	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	~~U~~	~~U~~	U	12	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	~~3.2 JP~~	~~U~~	U	9.9 P	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	~~2.5 JP~~	~~U~~	U	23 P	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	~~U~~	~~U~~	U	6.7 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	~~U~~	~~U~~	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	~~4.1 JP~~	~~U~~	U	16 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	~~U~~	~~U~~	U	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	~~U~~	~~U~~	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	3.2 JP	~~U~~	~~U~~	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	~~U~~	~~U~~	U	U	0.10	----	----	----	----	----	----
alpha-Chlordane	U	~~U~~	~~U~~	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	~~2.3 P~~	~~U~~	U	15 P	0.05	----	----	----	----	----	----
Toxaphene	U	~~U~~	~~U~~	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	~~U~~	~~U~~	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	~~U~~	~~U~~	U	**1600**	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	~~130 P~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	3.2	~~12.1~~	~~0~~	0	85.4							
Total PCBs	0	~~130~~	~~0~~	0	1,600							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
NOTES:

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	**SSRI-6 (1.5-2.0)**	**SSRI-7 (1.5-2.0)**	**SSRI-8 (1.5-2.0)**	**SSRI-9 (1.5-2.0)**	**SSRI-10 (1.5-2.0)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	10	15	26	22	25							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	U	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	U	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	U	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	U	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	U	1.6 JP	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	U	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	U	3.1	U	0.05	----	----	----	----	----	----
Endosulfan I	U	U	U	1.7 J	1.2 JP	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	U	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	3.3 JP	3.9 JP	3.1 JP	U	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	9.9	8.4 P	U	2.8 JP	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	U	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	4.7 P	5.0 P	5.3	7.9 P	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	U	U	U	14 P	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	U	30	U	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	U	U	U	79	0.50	----	----	----	----	----	----
Endrin Ketone	U	2.2 JP	8.3 P	U	3.8 JP	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	U	U	U	6.1 P	0.10	----	----	----	----	----	----
alpha-Chlordane	U	U	U	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	7.5	U	U	U	0.05	----	----	----	----	----	----
Toxaphene	U	U	U	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	U	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	180 P	U	U	160	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	0	27.6	55.6	14.8	114.8							
Total PCBs	0	180	0	0	160							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
REMEDIAL ALTERNATIVES ANALYSIS REPORT
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-11 (1.5-2.0)	SSRI-12 (1.5-2.0)	SSRI-13 (1.5-2.0)	SSRI-14 (1.5-2.0)	SSRI-15 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	5.0							
Percent Moisture	15	27	8	20	18							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	U	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	U	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	U	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	U	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	U	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	U	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	U	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	U	U	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	3.8 P	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	6.2 P	3.3 JP	U	4.8 P	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	2.3 JP	U	6.6	U	20 P	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	U	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	U	U	U	40	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	3.9 JP	U	3.3 JP	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	U	15 P	5.7 P	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	U	U	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	2.4 JP	0.44 JP	U	U	7.6 P	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	2.8 JP	U	3.8 JP	U	0.10	----	----	----	----	----	----
alpha-Chlordane	U	U	U	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	2.1 JP	U	U	9.7	0.05	----	----	----	----	----	----
Toxaphene	U	U	U	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	U	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	340	U	160 P	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	4.7	15.44	28.7	12.8	82.1							
Total PCBs	0	340	0	160	0							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1c (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	SSRI-16 (1.5-2.0)	SSRI-17 (1.5-2.0)	~~SSRI-18 (1.5-2.0)~~	SSRI-19 (1.5-2.0)	SSRI-20 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				
Sample Depth	1.5-2.0	1.5-2.0	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	10.0	~~1.0~~	1.0	10.0							
Percent Moisture	13	17	~~14~~	17	26							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	~~U~~	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	~~U~~	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	~~U~~	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	~~U~~	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	~~U~~	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	~~U~~	U	1.8 JP	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	~~U~~	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	U	~~U~~	U	3.9 P	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	27 P	~~U~~	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	21 P	~~12~~	U	180 DP	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	11 P	~~6.4 P~~	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	~~U~~	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	U	~~U~~	U	21 P	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	U	~~13 P~~	3.1 JP	150 DP	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	33 P	~~19 P~~	2.0 JP	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	U	~~U~~	U	37 P	0.50	----	----	----	----	----	----
Endrin Ketone	U	U	~~U~~	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	U	~~U~~	2.2 JP	200 DP	0.10	----	----	----	----	----	----
alpha-Chlordane	U	U	~~U~~	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	2.4 P	U	~~U~~	U	72 DP	0.05	----	----	----	----	----	----
Toxaphene	U	U	~~U~~	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	~~U~~	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	250	~~U~~	U	**5000 DP**	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	U	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	~~U~~	95 P	**5800 D**	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	2.4	92	~~50.4~~	7.3	665.7							
Total PCBs	0	250	~~0~~	95	10,800							

QUALIFIERS:
P: Greater than 25% difference between columns.B
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 1d.
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	**SSRI-1 (0-0.1)**	~~**SSRI-2 (0-0.1)**~~	~~**SSRI-3 (0-0.1)**~~	**SSRI-4 (0-0.1)**	**SSRI-5 (0-0.1)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				
Sample Depth	0-0.1	~~0-0.1~~	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	12	~~34~~	~~32~~	39	15							
Units	(mg/kg)	~~(mg/kg)~~	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	3800	~~19200~~ -	~~4190~~ -	5890	5920	13	----	----	----	----	----	----
Antimony	4.0 B	~~20.1~~ -	~~79.7~~ -	127	U	8	----	----	----	----	----	----
Arsenic	3.1	~~***40.6***~~	~~12.6~~ -	12.3	4.9	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	159	~~**2550**~~ -	~~388~~ -	**691**	109	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.17 B	~~0.40 B~~	~~0.047 B~~	0.50 B	0.26 B	1	7.2	14	72	590	2,700	47
Cadmium	3.1	~~**34.8**~~ -	~~***61.0***~~	5.8	3.3	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	199000	~~40700~~	~~70700~~	50400	234000	8	----	----	----	----	----	----
Chromium*	24.3	~~375~~ -	~~58.3~~ -	30.9	35.3	1	30[c]	36	180	1,500	6,800	----
Cobalt	3.3 B	~~23.1~~ -	~~6.0 B~~	7.3 B	5.9 B	2	----	----	----	----	----	----
Copper	**581**	~~**4260**~~	~~***681000***~~	**3730**	**607**	1	50	270	270	270	10,000[d]	1,720
Iron	20700	~~211000~~	~~31300~~	27800	21300	20	----	----	----	----	----	----
Lead	224	~~**3640**~~	~~***19100***~~	**1490**	218	2	63[c]	400	400	1,000	3,900	450
Magnesium	32900	~~8610~~ -	~~1720~~ -	8700	16100	8	----	----	----	----	----	----
Manganese	327	~~1400~~ -	~~226~~ -	320	369	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	**9.3**	~~***230***~~	~~***26.8***~~	2.8	1.3	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	30.0	~~275~~ -	~~226~~ -	123	45.0	2	30	140	310	310	10,000[d]	130
Potassium	597 B	~~662 B~~	~~163 B~~	892 B	904	20	----	----	----	----	----	----
Selenium	6.9	~~- U~~	~~- U~~	1.6	4.8	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	7.0	~~- U~~	~~45.9~~ -	U	4.9	1	2	36	180	1,500	6,800	8.3
Sodium	396 B	~~592 B~~	~~346 B~~	368 B	295 B	9	----	----	----	----	----	----
Thallium	U	~~15.0~~ -	~~7.4~~ -	2.9	U	5	----	----	----	----	----	----
Vanadium	39.5	~~79.1~~ -	~~1.5 B~~	20.9	20.2	1	----	----	----	----	----	----
Zinc	926	~~***10300***~~	~~***389000***~~	2550	734	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	1.3	~~4.0~~ -	~~1.8~~ -	0.96	0.019	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-6 (0-0.1)	SSRI-7 (0-0.1)	SSRI-8 (0-0.1)	SSRI-9 (0-0.1)	SSRI-10 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	30	23	14	26	28							
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	12700	11600	5560	2790	13800	13	----	----	----	----	----	----
Antimony	U	5.5 B	U	0.58 B	6.5 B	8	----	----	----	----	----	----
Arsenic	***29.3***	***35.1***	13.6	4.7	10.1	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	**674**	**1220**	387	369	154	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.54 B	0.72 B	0.22 B	0.25 B	0.27 B	1	7.2	14	72	590	2,700	47
Cadmium	**17.9**	**15.2**	**17.8**	4.9	7.0	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	150000	57900	82000	20400	173000	8	----	----	----	----	----	----
Chromium*	747	167	604	29.4	69.6	1	30[c]	36	180	1,500	6,800	----
Cobalt	24.0	16.8	11.0	5.7 B	11.8	2	----	----	----	----	----	----
Copper	***28000***	**3870**	**2900**	**1340**	**1730**	1	50	270	270	270	10,000[d]	1,720
Iron	130000	99900	80300	14600	39500	20	----	----	----	----	----	----
Lead	**2240**	**1780**	956	548	363	2	63[c]	400	400	1,000	3,900	450
Magnesium	8150	9850	13000	3870	12300	8	----	----	----	----	----	----
Manganese	1520	869	622	284	499	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	***110***	***184***	***73.7***	**3.7**	***5.8***	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	**467**	202	165	30.3	82.7	2	30	140	310	310	10,000[d]	130
Potassium	652 B	787 B	619 B	1440	711 B	20	----	----	----	----	----	----
Selenium	U	U	U	1.5	1.1	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	U	U	U	3.8	1	2	36	180	1,500	6,800	8.3
Sodium	419 B	464 B	661 B	315 B	170 B	9	----	----	----	----	----	----
Thallium	19.2	8.7	5.1	0.87 B	4.2	5	----	----	----	----	----	----
Vanadium	59.1	55.7	156	8.3 B	23.8	1	----	----	----	----	----	----
Zinc	8280	5950	3070	1370	2890	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	4.8	2.9	1.5	0.79	0.54 B	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-11 (0-0.1)	SSRI-12 (0-0.1)	SSRI-13 (0-0.1)	SSRI-14 (0-0.1)	SSRI-15 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/6/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				
Sample Depth	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	21	24	49	32	29							
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	4490	13200	4080	3860	16200	13	----	----	----	----	----	----
Antimony	6.3 B	7.0 B	336	26.3	56.7	8	----	----	----	----	----	----
Arsenic	***19.4***	***27.5***	3.4	12.6	***29.9***	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	**806**	**1100**	**1130**	**628**	**1320**	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.30 B	0.53 B	0.30 B	0.20 B	0.40 B	1	7.2	14	72	590	2,700	47
Cadmium	**33.5**	**39.6**	***80.5***	**57.0**	**48.1**	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	29500	46800	9050	884 B	42600	8	----	----	----	----	----	----
Chromium*	89.4	458	934	254	179	1	30[c]	36	180	1,500	6,800	----
Cobalt	14.7	21.0	26.4	26.6	20.7	2	----	----	----	----	----	----
Copper	**1940**	**3700**	**6300**	***14400***	**9520**	1	50	270	270	270	10,000[d]	1,720
Iron	168000	153000	289000	244000	164000	20	----	----	----	----	----	----
Lead	**2250**	**3250**	877	**2780**	**3710**	2	63[c]	400	400	1,000	3,900	450
Magnesium	7240	9590	4110	1640	9730	8	----	----	----	----	----	----
Manganese	990	1270	1830	1500	1200	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	***22.0***	***438***	***8.5***	***9.5***	***29.5***	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	97.5	239	**610**	275	192	2	30	140	310	310	10,000[d]	130
Potassium	470 B	534 B	678 B	245 B	459	20	----	----	----	----	----	----
Selenium	U	U	U	U	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	U	U	U	U	1	2	36	180	1,500	6,800	8.3
Sodium	581 B	419 B	573 B	309 B	548 B	9	----	----	----	----	----	----
Thallium	12.4	9.1	18.9	20.9	14.7	5	----	----	----	----	----	----
Vanadium	37.7	88.3	53.6	55.2	56.5	1	----	----	----	----	----	----
Zinc	5850	6720	5360	***11200***	***11800***	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	5.9	7.8	1.4	5.2	9.6	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

Table 1d. (continued)
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-16 (0-0.1)	SSRI-17 (0-0.1	~~SSRI-18 (0-0.1)~~	SSRI-19 (0-0.1)	SSRI-20 (0-0.1)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				
Sample Depth	0-0.1	0-0.1	~~0-0.1~~	0-0.1	0-0.1			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	~~1.0~~	1.0	1.0							
Percent Moisture	41	19	~~39~~	34	26							
Units	(mg/kg)	(mg/kg)	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	6830	5210	~~13700~~	7240	6830	13	----	----	----	----	----	----
Antimony	90.2	22.1	~~6.4 B~~	U	5.7 B	8	----	----	----	----	----	----
Arsenic	***17.3***	11.1	~~***20.4***~~	***23.3***	4.4	3	13[c]	16[f]	16[f]	16[f]	16[f]	16[f]
Barium	368	**513**	~~**671**~~	251	89.5	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.26 B	0.18 B	~~0.28 B~~	0.15 B	0.26 B	1	7.2	14	72	590	2,700	47
Cadmium	**21.9**	**9.5**	~~**31.7**~~	**10.9**	2.3	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	18300	78100	~~37800~~	73900	147000	8	----	----	----	----	----	----
Chromium*	297	37.2	~~350~~	**1560**	25.1	1	30[c]	36	180	1,500	6,800	----
Cobalt	18.4	8.5	~~23.4~~	26.6	9.2 B	2	----	----	----	----	----	----
Copper	***51100***	**596**	~~**2310**~~	**6680**	**322**	1	50	270	270	270	10,000[d]	1,720
Iron	138000	38200	~~191000~~	282000	18400	20	----	----	----	----	----	----
Lead	***4200***	**1210**	~~**1800**~~	**1380**	153	2	63[c]	400	400	1,000	3,900	450
Magnesium	6580	15300	~~9920~~	7010	9690	8	----	----	----	----	----	----
Manganese	1090	477	~~1370~~	**2510**	407	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	***16.4***	***7.5***	~~***40.0***~~	***8.0***	***10.1***	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	**501**	44.9	~~266~~	**472**	29.5	2	30	140	310	310	10,000[d]	130
Potassium	694 B	807 B	~~1050 B~~	701 B	1140	20	----	----	----	----	----	----
Selenium	4.7	0.83	~~0.66~~	0.88 B	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	4.0	U	~~U~~	U	5.6	1	2	36	180	1,500	6,800	8.3
Sodium	105 B	175 B	~~217 B~~	161 B	110 B	9	----	----	----	----	----	----
Thallium	39.8	4.6	~~25.9~~	34.3	U	5	----	----	----	----	----	----
Vanadium	54.1	13.1	~~51.4~~	29.1	13.0	1	----	----	----	----	----	----
Zinc	4270	1790	~~6280~~	2830	687	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	2.2	5.4	~~2.8~~	1.1	1.6	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-1 (0.5-1.0)	~~SSRI-2 (0.5-1.0)~~	~~SSRI-3 (0.5-1.0)~~	SSRI-4 (0.5-1.0)	SSRI-5 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	~~0.5-1.0~~	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	18	~~24~~	~~15~~	15	15							
Units	(mg/kg)	~~(mg/kg)~~	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	14700	~~12400~~ -	~~6350~~ -	13300	10200	13	----	----	----	----	----	----
Antimony	12.8	~~32.2~~ -	~~4.1 B~~	U	6.6 B	8	----	----	----	----	----	----
Arsenic	12.1	~~***21.2***~~ -	~~8.9~~ -	0.84 B	U	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	272	~~**970**~~ -	~~189~~ -	71.9	109	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.63 B	~~0.31 B~~	~~0.50 B~~	0.63 B	0.31 B	1	7.2	14	72	590	2,700	47
Cadmium	4.4	~~**23.9**~~ -	~~2.1~~ -	0.21 B	3.9	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	106000	~~30900~~	~~14000~~	65800	139000	8	----	----	----	----	----	----
Chromium*	76.3	~~220~~ -	~~18.4~~ -	19.2	270	1	30[c]	36	180	1,500	6,800	----
Cobalt	8.2 B	~~19.7~~ -	~~12.0~~ -	9.1 B	13.5	2	----	----	----	----	----	----
Copper	**2970**	~~***25000***~~	~~**350**~~	28.4	**2580**	1	50	270	270	270	10,000[d]	1,720
Iron	41700	~~170000~~	~~71500~~	20000	145000	20	----	----	----	----	----	----
Lead	**1220**	~~**2830**~~	~~889~~	16.4	193	2	63[c]	400	400	1,000	3,900	450
Magnesium	14900	~~6060~~ -	~~4240~~ -	23800	19500	8	----	----	----	----	----	----
Manganese	480	~~1110~~ -	~~880~~ -	337	950	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	1.4	~~***31.4***~~ -	~~1.6~~ -	0.056 B	0.99	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	76.2	~~216~~ -	~~50.0~~ -	28.1	133	2	30	140	310	310	10,000[d]	130
Potassium	1020	~~723 B~~	~~1060~~	2640	658 B	20	----	----	----	----	----	----
Selenium	U	~~- U~~	~~- U~~	2.1	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	~~- U~~	~~- U~~	0.98 B	U	1	2	36	180	1,500	6,800	8.3
Sodium	382 B	~~363 B~~	~~314 B~~	319	343 B	9	----	----	----	----	----	----
Thallium	4.2	~~22.5~~ -	~~5.7~~ -	U	9.3	5	----	----	----	----	----	----
Vanadium	43.1	~~65.0~~ -	~~29.8~~ -	21.4	24.3	1	----	----	----	----	----	----
Zinc	2920	~~***12700***~~	~~834~~	63.1	2150	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	0.50 B	~~1.5~~ -	~~1.9~~ -	0.10	0.16 B	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-6 (0.5-1.0)	SSRI-7 (0.5-1.0)	SSRI-8 (0.5-1.0)	SSRI-9 (0.5-1.0)	SSRI-10 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	18	18	35	16	24							
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	5820	11800 *	3510	11700	53000	13	----	----	----	----	----	----
Antimony	5.2 B	U	U	0.28	3.2 B	8	----	----	----	----	----	----
Arsenic	***54.3***	***114***	14.0	2.4	***128***	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	**551**	**875**	89.9	79.7	233	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	1.2	0.57 B	0.60 B	0.61 B	0.22 B	1	7.2	14	72	590	2,700	47
Cadmium	4.3	**22.6**	**13.0**	0.71 B	**23.5**	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	17700	235000	12600	81700	15200	8	----	----	----	----	----	----
Chromium*	27.2	793	14.1	17.4	293	1	30[c]	36	180	1,500	6,800	----
Cobalt	10.4	17.4	6.6 B	8.2	20.2	2	----	----	----	----	----	----
Copper	**8800**	***50600***	**501**	37.2	***11300***	1	50	270	270	270	10,000[d]	1,720
Iron	88500	85900	56500	19700	378000	20	----	----	----	----	----	----
Lead	917	**2980**	247	17.4	811	2	63[c]	400	400	1,000	3,900	450
Magnesium	3160	12500	3960	23100	6620	8	----	----	----	----	----	----
Manganese	409	891	306	431	1560	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	2.2	***16.7***	2.5	**1.8**	***28.3***	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	44.2	**504**	22.6	25.8	245	2	30	140	310	310	10,000[d]	130
Potassium	872	1090	559	1720	416 B	20	----	----	----	----	----	----
Selenium	U	12.2	U	1.5	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	7.8	U	1.8	U	1	2	36	180	1,500	6,800	8.3
Sodium	435 B	960 B	341 B	281 B	122 B	9	----	----	----	----	----	----
Thallium	13.1	25.7	5.4	0.11	47.8	5	----	----	----	----	----	----
Vanadium	31.8	61.0	17.9	21.1	36.3	1	----	----	----	----	----	----
Zinc	1760	6040	2240	64.1	***13500***	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	2.1	7.8	1.0	U	0.91	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-11 (0.5-1.0)	SSRI-12 (0.5-1.0)	SSRI-13 (0.5-1.0)	SSRI-14 (0.5-1.0)	SSRI-15 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	13	21	15	21	12							
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	4150	4790	4800	1170	3470	13	----	----	----	----	----	----
Antimony	19.9	53.3	2.5 B	U	3.2 B	8	----	----	----	----	----	----
Arsenic	***20.7***	***72.7***	3.4	9.4	***22.6***	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	**1120**	**6390**	45.1	166	**2880**	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.37 B	0.23 B	0.28 B	0.72 B	0.29 B	1	7.2	14	72	590	2,700	47
Cadmium	**21.9**	**139**	0.24 B	**32.3**	***62.5***	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	18300	11700	76600	U	5610	8	----	----	----	----	----	----
Chromium*	54.6	65.1	14.4	45.1	392	1	30[c]	36	180	1,500	6,800	----
Cobalt	16.2	18.3	8.4	11.4	25.6	2	----	----	----	----	----	----
Copper	**666**	**7230**	49.5	**2660**	**5590**	1	50	270	270	270	10,000[d]	1,720
Iron	176000	181000	14900	78400	285000	20	----	----	----	----	----	----
Lead	***4040***	***8770***	73.8	610	***4790***	2	63[c]	400	400	1,000	3,900	450
Magnesium	4270	3290	34600	1230	2940	8	----	----	----	----	----	----
Manganese	1300	1590	497	767	1670	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	2.1	**4.7**	1.3	**4.9**	**3.5**	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	60.8	161	22.9	66.4	**635**	2	30	140	310	310	10,000[d]	130
Potassium	333 B	601	814 B	663 B	253 B	20	----	----	----	----	----	----
Selenium	U	U	2.9	U	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	U	2.4	U	U	1	2	36	180	1,500	6,800	8.3
Sodium	196 B	1030 B	258 B	435 B	416 B	9	----	----	----	----	----	----
Thallium	22.6	14.5	U	7.5	16.1	5	----	----	----	----	----	----
Vanadium	35.2	29.1	10.0	16.1	34.7	1	----	----	----	----	----	----
Zinc	6920	***118000***	69.9	3090	***20600***	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	2.3	11.9	0.14 B	1.6	6.9	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-16 (0.5-1.0)	SSRI-17 (0.5-1.0)	~~SSRI-18 (0.5-1.0)~~	SSRI-19 (0.5-1.0)	SSRI-20 (0.5-1.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	0.5-1.0	0.5-1.0	~~0.5-1.0~~	0.5-1.0	0.5-1.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	~~1.0~~	1.0	1.0							
Percent Moisture	22	21	~~22~~	28	16							
Units	(mg/kg)	(mg/kg)	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	7660	18600	~~7440~~	4690	6780	13	----	----	----	----	----	----
Antimony	U	10 B	~~7.1 B~~	U	2.0 B	8	----	----	----	----	----	----
Arsenic	9.3	11.2	~~4.5~~ -	***29.5*** -	4.3	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	244	396	~~278~~ -	**413**	71.4	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	1.2	0.13 B	~~0.15 B~~	U	0.24 B	1	7.2	14	72	590	2,700	47
Cadmium	4.0	**21.8**	~~**21.1**~~ -	**21.4**	1.3	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	50200	107000	~~46600~~	U	43700	8	----	----	----	----	----	----
Chromium*	189	162	~~370~~ -	**3530**	16.0	1	30[c]	36	180	1,500	6,800	----
Cobalt	10.2 B	12.3	~~29.6~~ -	39.4	9.1 B	2	----	----	----	----	----	----
Copper	**1180**	**1230**	~~**1880**~~	**3660**	113	1	50	270	270	270	10,000[d]	1,720
Iron	52600	83300	~~352000~~ -	500000	34900	20	----	----	----	----	----	----
Lead	382	**1550**	~~**1060**~~ -	**2280**	91.0	2	63[c]	400	400	1,000	3,900	450
Magnesium	4750	20900	~~5580~~ -	2330	12600	8	----	----	----	----	----	----
Manganese	526	676	~~1370~~ -	3630	882	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	2.8	**4.5**	~~***45.2***~~ -	**5.2**	0.72	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	112	116	~~246~~ -	**781**	48.7	2	30	140	310	310	10,000[d]	130
Potassium	680 B	657 B	~~607 B~~	365 B	1130	20	----	----	----	----	----	----
Selenium	2.8	0.32	~~- U~~	U	0.54	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	U	~~- U~~	U	U	1	2	36	180	1,500	6,800	8.3
Sodium	366 B	258 B	~~143 B~~	136 B	101 B	9	----	----	----	----	----	----
Thallium	8.9	8.9	~~40.7~~ -	48.5	2.2	5	----	----	----	----	----	----
Vanadium	23.7	20.4	~~18.6~~ -	23.7	14.8	1	----	----	----	----	----	----
Zinc	894	5980	~~4380~~	***11000***	311	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	1.2	5.0	~~2.0~~	0.93	0.72	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-1 (1.5-2.0)	~~SSRI-2 (1.5-2.0)~~	~~SSRI-3 (1.5-2.0)~~	SSRI-4 (1.5-2.0)	SSRI-5 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	~~2/5/2008~~	~~2/5/2008~~	2/5/2008	2/5/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	~~1.5-2.0~~	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	23	~~22~~	~~17~~	30	27							
Units	(mg/kg)	~~(mg/kg)~~	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	16500	~~4870~~ -	~~9930~~ -	9430	17600	13	----	----	----	----	----	----
Antimony	69.4	- ~~U~~	- ~~U~~	U	36.6	8	----	----	----	----	----	----
Arsenic	14.7	~~2.6~~ -	~~3.3~~ -	12.1	***~~17.5~~*** -	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	342	~~81.8~~ -	~~112~~ -	103	**404**	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.69 B	~~0.26 B~~	~~0.62 B~~	0.56 B	0.44 B	1	7.2	14	72	590	2,700	47
Cadmium	**10.6**	~~1.7~~ -	~~0.42 B~~	0.31 B	**18.2**	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	117000	~~128000~~	~~38500~~	29800	15700	8	----	----	----	----	----	----
Chromium*	78.2	~~28.8~~ -	~~16.9~~ -	19.0	508	1	30[c]	36	180	1,500	6,800	----
Cobalt	9.7 B	~~4.3 B~~	~~9.5 B~~	9.8 B	32.0	2	----	----	----	----	----	----
Copper	**8750**	~~181~~	~~112~~	**277**	***~~22800~~***	1	50	270	270	270	10,000[d]	1,720
Iron	65400	~~15300~~	~~30200~~	22900	282000	20	----	----	----	----	----	----
Lead	**1680**	~~221~~	~~233~~	203	**1510**	2	63[c]	400	400	1,000	3,900	450
Magnesium	11600	~~5600~~ -	~~13100~~ -	14700	7530	8	----	----	----	----	----	----
Manganese	567	~~542~~ -	~~565~~ -	279	2150	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	1.6	***~~16.3~~*** -	~~0.47~~ -	0.69	***~~14.5~~*** -	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	129	~~22.4~~ -	~~24.0~~ -	25.6	**312**	2	30	140	310	310	10,000[d]	130
Potassium	760 B	~~930 B~~	~~1800~~	1610	427 B	20	----	----	----	----	----	----
Selenium	0.79	~~17.3~~ -	- ~~U~~	1.5	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	0.77 B	~~15.7~~ -	- ~~U~~	U	U	1	2	36	180	1,500	6,800	8.3
Sodium	462 B	~~353 B~~	~~335 B~~	384 B	334 B	9	----	----	----	----	----	----
Thallium	8.7	- ~~U~~	~~0.86 B~~	1.0 B	25.4	5	----	----	----	----	----	----
Vanadium	50.4	~~9.1 B~~	~~23.7~~ -	23.1	88.2	1	----	----	----	----	----	----
Zinc	4430	~~405~~	~~200~~	140	***~~14400~~***	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	0.15 B	~~0.29 B~~	~~0.44 B~~	0.077	1.3	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-6 (1.5-2.0)	SSRI-7 (1.5-2.0)	SSRI-8 (1.5-2.0)	SSRI-9 (1.5-2.0)	SSRI-10 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/5/2008	2/5/2008	2/6/2008	2/6/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	10	15	26	22	25							
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	1100	7840	10800	10900	10600	13	----	----	----	----	----	----
Antimony	U	8.7 B	U	U	22.3	8	----	----	----	----	----	----
Arsenic	2.0	***24.2***	3.6	3.0	***36.7***	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	39.8	**921**	82.1	76.2	**833**	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.12 B	0.57 B	0.60 B	0.60 B	0.10 B	1	7.2	14	72	590	2,700	47
Cadmium	0.21 B	1.9	4.3	1.9	**33.7**	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	282000	33900	49600	64000	67600	8	----	----	----	----	----	----
Chromium*	6.9	26.3	18.5	18.0	112	1	30[c]	36	180	1,500	6,800	----
Cobalt	1.9 B	11.2	10.6	9.0 B	21.5	2	----	----	----	----	----	----
Copper	37.5	**436**	84.4	34.6	**5920**	1	50	270	270	270	10,000[d]	1,720
Iron	4200	70400	32100	26800	316000	20	----	----	----	----	----	----
Lead	56.7	**1790**	83.4	235	**2180**	2	63[c]	400	400	1,000	3,900	450
Magnesium	4030	10500	17000	19000	2520	8	----	----	----	----	----	----
Manganese	178	557	299	365	1140	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	0.22	1.8	**5.6**	0.97	2.2	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	13.4	36.5	31.7	28.9	102	2	30	140	310	310	10,000[d]	130
Potassium	415 B	1580	1620	1610	243 B	20	----	----	----	----	----	----
Selenium	18.0	U	0.70 U	U	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	18.1	U	0.11 U	U	U	1	2	36	180	1,500	6,800	8.3
Sodium	294 B	811 B	301 B	356 B	153 B	9	----	----	----	----	----	----
Thallium	U	5.1	2.2	0.97 B	40.3	5	----	----	----	----	----	----
Vanadium	2.7 B	27.9	23.2	21.8	11.6	1	----	----	----	----	----	----
Zinc	67.0	797	609	110	***13100***	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	0.22 B	4.1	0.29 B	0.18 B	2.3	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-11 (1.5-2.0)	SSRI-12 (1.5-2.0)	SSRI-13 (1.5-2.0)	SSRI-14 (1.5-2.0)	SSRI-15 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/6/2008	2/6/2008	2/6/2008	2/6/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	15	27	8	20	18							
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	6360	1370	1620	3290	3320	13	----	----	----	----	----	----
Antimony	9.3 B	9.1 B	U	2.0 B	13.6	8	----	----	----	----	----	----
Arsenic	***19.0***	9.0	4.1	7.0	13.7	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	**678**	**1700**	**457**	234	**710**	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.47 B	0.25 B	0.34 B	0.47 B	0.13 B	1	7.2	14	72	590	2,700	47
Cadmium	8.6	**33.2**	4.5	**22.7**	**21.1**	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	48300	1390	3590	111000	118000	8	----	----	----	----	----	----
Chromium*	24.5	10.8	44.4	62.4	165	1	30[c]	36	180	1,500	6,800	----
Cobalt	10.6	5.4 B	4.0 B	10.2	14.6	2	----	----	----	----	----	----
Copper	250	**500 ***	155	**1120**	**2620**	1	50	270	270	270	10,000[d]	1,720
Iron	90700	45000	25200	92200	149000	20	----	----	----	----	----	----
Lead	**1970**	**3910**	143	895	**1680**	2	63[c]	400	400	1,000	3,900	450
Magnesium	8530	605 B	1340	14700	48200	8	----	----	----	----	----	----
Manganese	947	326	162	563	994	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	1.7	**4.8**	0.41	**4.1**	**3.2**	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	41.2	28.9	26.8	73.5	**338**	2	30	140	310	310	10,000[d]	130
Potassium	818 B	303 B	318 B	394 B	301 B	20	----	----	----	----	----	----
Selenium	U	U	U	U	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	U	U	U	U	1	2	36	180	1,500	6,800	8.3
Sodium	165 B	394 B	240 B	314 B	310 B	9	----	----	----	----	----	----
Thallium	11.2	4.7	2.1	6.1	9.6	5	----	----	----	----	----	----
Vanadium	22.3	20.7	8.9	18.3	16.6	1	----	----	----	----	----	----
Zinc	2580	***14000***	661	2620	5520	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	0.49 B	2.4	0.73	5.7	2.4	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 1d (continued).
MCKINNEY PROPERTY SITE
SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SSRI-16 (1.5-2.0)	SSRI-17 (1.5-2.0)	~~SSRI-18 (1.5-2.0)~~	SSRI-19 (1.5-2.0)	SSRI-20 (1.5-2.0)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/22/2008	2/22/2008	~~2/22/2008~~	2/22/2008	2/22/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	1.5-2.0	1.5-2.0	~~1.5-2.0~~	1.5-2.0	1.5-2.0			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	~~1.0~~	1.0	1.0							
Percent Moisture	13	17	~~14~~	17	26							
Units	(mg/kg)	(mg/kg)	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	2160	11200	~~4830~~	8170	29300	13	----	----	----	----	----	----
Antimony	2.1 B	19.1	~~29.9~~ -	U	10.1 B	8	----	----	----	----	----	----
Arsenic	6.6	12.1	~~***25.0***~~ -	6.0	***30.4***	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	79.2	184	~~**1090**~~ -	99.4	**3490**	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.28 B	0.16 B	~~0.22 B~~	0.32 B	0.93 B	1	7.2	14	72	590	2,700	47
Cadmium	0.39 B	5.2	~~**10.6**~~ -	1.7	**56.7**	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	7660	130000	~~37600~~	96600	49400	8	----	----	----	----	----	----
Chromium*	10	44.1	~~153~~ -	112	588	1	30[c]	36	180	1,500	6,800	----
Cobalt	4.6 B	13.1	~~15.1~~ -	10.7	15.1	2	----	----	----	----	----	----
Copper	190	**4950**	~~**1090**~~	202	**2240**	1	50	270	270	270	10,000[d]	1,720
Iron	34000	102000	~~145000~~ -	39700	149000	20	----	----	----	----	----	----
Lead	67.8	**1350**	~~**2510**~~ -	115	***19200***	2	63[c]	400	400	1,000	3,900	450
Magnesium	695 B	20500	~~6090~~ -	25400	9020	8	----	----	----	----	----	----
Manganese	135	804	~~1160~~ -	555	2090	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	0.038 B	0.84	~~1.7~~ -	0.74	***38.1***	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	13.6	92.8	~~139~~ -	96.9	232	2	30	140	310	310	10,000[d]	130
Potassium	367 B	697 B	~~649 B~~	1410	2100	20	----	----	----	----	----	----
Selenium	2.7	1.5	~~0.93~~ -	U	3.3	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	0.11 U	U	~~-~~ U	U	U	1	2	36	180	1,500	6,800	8.3
Sodium	149 B	231 B	~~285 B~~	192 B	6550	9	----	----	----	----	----	----
Thallium	7.7	14.4	~~19.8~~ -	3.9	14.9	5	----	----	----	----	----	----
Vanadium	13.6	14.8	~~18.3~~ -	15.8	42.6	1	----	----	----	----	----	----
Zinc	50.2	4890	~~***12600***~~	**296**	***16100***	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	0.82	1.2	~~1.5~~	0.23 B	5.3	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

TABLE 2a.
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-1 (2-4)**	**SBRI-1 (8-10)**	~~**SBRI-2 (2-4)**~~	~~**SBRI-2 (9-11)**~~	**SBRI-3 (2-4)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/19/2008	2/19/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	2-4	8-10	~~2-4~~	~~9-11~~	2-4			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	~~1.0~~	~~1.0~~	1.0							
Percent Moisture	18	18	~~23~~	~~18~~	15							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dichlorodifluoromethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Chloromethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Vinyl Chloride	U	U	~~U~~	~~U~~	U	10	20	210	900	13,000	27,000	20
Bromomethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Chloroethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Trichlorofluoromethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
1,1-Dichloroethene	U	U	~~U~~	~~4 J~~	U	10	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	330
1,1,2-Trichloro-1,2,2-triflu.	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Acetone	97	39	~~230~~	~~36~~	10 J	10	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	50
Carbon Disulfide	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Methyl Acetate	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Methylene Chloride	U	U	~~U~~	~~U~~	U	10	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
trans-1,2-Dichloroethene	U	U	~~U~~	~~15~~	U	10	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
Methyl tert-Butyl Ether	U	U	~~U~~	~~U~~	U	10	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
1,1-Dichloroethane	U	U	~~U~~	~~U~~	U	10	270	19,000	26,000	240,000	480,000	270
cis-1,2-Dichloroethene	U	U	~~U~~	~~99~~	U	10	250	59,000	100,000[a]	500,000[b]	1,000,000[C]	250
2-Butanone	24	7 J	~~43~~	~~6 J~~	U	10	120	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	120
Chloroform	U	U	~~U~~	~~U~~	U	10	370	10,000	49,000	350,000	700,000	370
1,1,1-Trichloroethane	U	U	~~U~~	~~U~~	U	10	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	680
Cyclohexane	U	U	~~10 J~~	~~6 J~~	U	10	----	----	----	----	----	----
Carbon Tetrachloride	U	U	~~U~~	~~U~~	U	10	760	1,400	2,400	22,000	44,000	760
Benzene	U	U	~~U~~	~~6 J~~	U	10	60	2,900	4,800	44,000	89,000	60
1,2-Dichloroethane	U	U	~~3 J~~	~~U~~	U	10	20[c]	2,300	3,100	30,000	60,000	20[f]
Trichloroethene	U	U	4 J	~~1200 D~~	6 J	10	470	10,000	21,000	200,000	400,000	470
Methylcyclohexane	U	U	~~17~~	~~U~~	U	10	----	----	----	----	----	----
1,2-Dichloropropane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Bromodichloromethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
cis-1,3-Dichloropropene	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
4-Methyl-2-Pentanone	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Toluene	9 J	10 J	~~39~~	~~40~~	3 J	10	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
Trans-1,3-Dichloropropene	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
1,1,2-Trichloroethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Tetrachloroethene	U	U	~~U~~	~~U~~	U	10	1,300	5,500	19,000	150,000	300,000	1,300
2-Hexanone	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Dibromochloromethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
1,2-Dibromoethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----

TABLE 2a. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-1 (2-4)**	**SBRI-1 (8-10)**	~~**SBRI-2 (2-4)**~~	~~**SBRI-2 (9-11)**~~	**SBRI-3 (2-4)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/19/08	02/19/08	~~02/19/08~~	~~02/19/08~~	02/19/08			Protection of Public Health				Protection of Groundwater
Sample Depth	2-4	8-10	~~2-4~~	~~9-11~~	2-4			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	~~1.0~~	~~1.0~~	1.0							
Percent Moisture	18	18	~~23~~	~~18~~	15							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chlorobenzene	U	U	~~U~~	~~U~~	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
Ethylbenzene	U	U	~~10 J~~	~~U~~	U	10	1,000	30,000	41,000	390,000	780,000	1,000
Xylenes (total)	U	10 J	~~25~~	~~U~~	U	10	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,600
Styrene	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Bromoform	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Isopropylbenzene	U	U	~~38~~	~~U~~	U	10	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
1,3-Dichlorobenzene	U	U	~~U~~	~~U~~	U	10	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	~~U~~	~~U~~	U	10	1,800	9,800	13,000	130,000	250,000	1,800
1,2-Dichlorobenzene	U	U	~~U~~	~~U~~	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,2-Dibromo-3-chloropropane	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
1,2,4-Trichlorobenzene	U	U	~~U~~	~~U~~	U	10	----	----	----	----	----	----
Total VOCs	130	66	~~419~~	~~1,412~~	19							
Total VOC TICs	32	248	~~37,390~~	~~26~~	0							

QUALIFIERS:
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimate
U: Compound analyzed for but not detecte

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this tabl

NOTES:
~~1700~~ Indicates the sample location was excavated
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentratio is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by th Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 2a. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-3 (7-9)**	~~**SBRI-4 (2-4)**~~	~~**SBRI-4 (8-10)**~~	**SBRI-5 (2-4)**	**SBRI-5 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008	2/19/2008			Protection of Public Health				
Sample Depth	7-9	~~2-4~~	~~8-10~~	2-4	8-10			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	21	~~18~~	~~19~~	16	22							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dichlorodifluoromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Chloromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Vinyl Chloride	U	~~U~~	~~U~~	U	U	10	20	210	900	13,000	27,000	20
Bromomethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Chloroethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Trichlorofluoromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,1-Dichloroethene	U	~~U~~	~~U~~	U	U	10	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	330
1,1,2-Trichloro-1,2,2-triflu.	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Acetone	7 J	~~130~~	~~60~~	130	18	10	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	50
Carbon Disulfide	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Methyl Acetate	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Methylene Chloride	3 J	~~U~~	~~U~~	3 J	4 J	10	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
trans-1,2-Dichloroethene	U	~~U~~	~~U~~	U	U	10	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
Methyl tert-Butyl Ether	U	~~U~~	~~U~~	U	U	10	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
1,1-Dichloroethane	U	~~U~~	~~U~~	U	U	10	270	19,000	26,000	240,000	480,000	270
cis-1,2-Dichloroethene	U	~~U~~	~~U~~	U	U	10	250	59,000	100,000[a]	500,000[b]	1,000,000[C]	250
2-Butanone	U	~~15~~	~~11 J~~	28	4 J	10	----	----	----	----	----	----
Chloroform	U	~~U~~	~~U~~	U	U	10	370	10,000	49,000	350,000	700,000	370
1,1,1-Trichloroethane	U	~~U~~	~~U~~	U	U	10	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	680
Cyclohexane	U	~~3 J~~	~~3 J~~	U	U	10	----	----	----	----	----	----
Carbon Tetrachloride	U	~~U~~	~~U~~	U	U	10	760	1,400	2,400	22,000	44,000	760
Benzene	U	~~U~~	~~U~~	U	U	10	60	2,900	4,800	44,000	89,000	60
1,2-Dichloroethane	U	~~U~~	~~U~~	U	U	10	20[c]	2,300	3,100	30,000	60,000	20[f]
Trichloroethene	U	~~3 J~~	~~3 J~~	U	U	10	470	10,000	21,000	200,000	400,000	470
Methylcyclohexane	U	~~3 J~~	~~U~~	U	U	10	----	----	----	----	----	----
1,2-Dichloropropane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Bromodichloromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
cis-1,3-Dichloropropene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
4-Methyl-2-Pentanone	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Toluene	U	~~18~~	~~16~~	8 J	U	10	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
Trans-1,3-Dichloropropene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,1,2-Trichloroethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Tetrachloroethene	U	~~U~~	~~U~~	U	U	10	1,300	5,500	19,000	150,000	300,000	1,300
2-Hexanone	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Dibromochloromethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,2-Dibromoethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----

TABLE 2a. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-3 (7-9)**	~~**SBRI-4 (2-4)**~~	~~**SBRI-4 (8-10)**~~	**SBRI-5 (2-4)**	**SBRI-5 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/20/08	~~02/19/08~~	~~02/19/08~~	02/19/08	02/19/08			Protection of Public Health				Protection of Groundwater
Sample Depth	7-9	~~2-4~~	~~8-10~~	2-4	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	21	~~18~~	~~19~~	16	22							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chlorobenzene	U	~~U~~	~~U~~	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
Ethylbenzene	U	~~U~~	~~U~~	U	U	10	1,000	30,000	41,000	390,000	780,000	1,000
Xylenes (total)	U	~~U~~	~~U~~	U	U	10	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,600
Styrene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Bromoform	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Isopropylbenzene	U	~~75~~	~~5 J~~	U	U	10	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,3-Dichlorobenzene	U	~~U~~	~~U~~	U	U	10	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	~~U~~	~~U~~	U	U	10	1,800	9,800	13,000	130,000	250,000	1,800
1,2-Dichlorobenzene	U	~~U~~	~~U~~	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,2-Dibromo-3-chloropropane	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
1,2,4-Trichlorobenzene	U	~~U~~	~~U~~	U	U	10	----	----	----	----	----	----
Total VOCs	10	~~247~~	~~98~~	169	26							
Total VOC TICs	0	~~10,840~~	~~737~~	0	0							

QUALIFIERS:
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimate
U: Compound analyzed for but not detecte

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 2a. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	SBRI-6 (4-6)	SBRI-6 (8-10)	SBRI-7 (2-4)	SBRI-7 (8-10)	SBRI-8 (6-8)	SBRI-8 (8-10)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	2/20/2008	2/21/2008	2/21/2008	2/21/2008	2/21/2008			Protection of Public Health				
Sample Depth	4-6	8-10	2-4	8-10	6-8	8-10			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	19	18	17	20	21	20							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dichlorodifluoromethane	U	U	U	U	U	U	10	----	----	----	----	----	----
Chloromethane	U	U	U	U	U	U	10	----	----	----	----	----	----
Vinyl Chloride	U	U	U	U	U	U	10	20	210	900	13,000	27,000	20
Bromomethane	U	U	U	U	U	U	10	----	----	----	----	----	----
Chloroethane	U	U	U	U	U	U	10	----	----	----	----	----	----
Trichlorofluoromethane	U	U	U	U	U	U	10	----	----	----	----	----	----
1,1-Dichloroethene	U	U	U	U	U	U	10	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	330
1,1,2-Trichloro-1,2,2-triflu.	U	U	U	U	U	U	10	----	----	----	----	----	----
Acetone	34	20	82	U	22	10 J	10	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	50
Carbon Disulfide	U	U	U	U	U	U	10	----	----	----	----	----	----
Methyl Acetate	U	U	U	U	U	U	10	----	----	----	----	----	----
Methylene Chloride	3 J	U	U	3 J	U	U	10	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
Methyl tert-Butyl Ether	U	U	U	U	U	U	10	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
1,1-Dichloroethane	U	U	U	U	U	U	10	270	19,000	26,000	240,000	480,000	270
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250	59,000	100,000[a]	500,000[b]	1,000,000[C]	250
2-Butanone	5 J	3 J	17	U	U	U	10	----	----	----	----	----	----
Chloroform	U	U	U	U	U	U	10	370	10,000	49,000	350,000	700,000	370
1,1,1-Trichloroethane	U	U	U	U	U	U	10	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	680
Cyclohexane	U	U	U	U	U	U	10	----	----	----	----	----	----
Carbon Tetrachloride	U	U	U	U	U	U	10	760	1,400	2,400	22,000	44,000	760
Benzene	U	U	U	U	U	U	10	60	2,900	4,800	44,000	89,000	60
1,2-Dichloroethane	U	U	U	U	U	U	10	20[c]	2,300	3,100	30,000	60,000	20[f]
Trichloroethene	U	U	U	U	U	U	10	470	10,000	21,000	200,000	400,000	470
Methylcyclohexane	U	U	U	U	U	U	10	----	----	----	----	----	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----	----	----	----	----	----
Bromodichloromethane	U	U	U	U	U	U	10	----	----	----	----	----	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----	----	----	----	----	----
4-Methyl-2-Pentanone	U	U	U	U	U	U	10	----	----	----	----	----	----
Toluene	4 J	8 J	3 J	3 J	10 J	6 J	10	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
Trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----	----	----	----	----	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----	----	----	----	----	----
Tetrachloroethene	U	U	U	U	U	U	10	1,300	5,500	19,000	150,000	300,000	1,300
2-Hexanone	U	U	U	U	U	U	10	----	----	----	----	----	----
Dibromochloromethane	U	U	U	U	U	U	10	----	----	----	----	----	----
1,2-Dibromoethane	U	U	U	U	U	U	10	----	----	----	----	----	----

TABLE 2a. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
VOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-6 (4-6)**	**SBRI-6 (8-10)**	**SBRI-7 (2-4)**	**SBRI-7 (8-10)**	**SBRI-8 (6-8)**	**SBRI-8 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/20/08	02/20/08	02/21/08	02/21/08	02/21/08	02/21/08			Protection of Public Health				Protection of Groundwater
Sample Depth	4-6	8-10	2-4	8-10	6-8	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	19	18	17	20	21	20							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chlorobenzene	3 J	U	U	U	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
Ethylbenzene	U	U	U	U	U	U	10	1,000	30,000	41,000	390,000	780,000	1,000
Xylenes (total)	U	U	U	U	U	U	10	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,600
Styrene	U	U	U	U	U	U	10	----	----	----	----	----	----
Bromoform	U	U	U	U	U	U	10	----	----	----	----	----	----
Isopropylbenzene	U	U	U	U	U	U	10	----	----	----	----	----	----
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	----	----	----	----	----	----
1,3-Dichlorobenzene	U	U	U	U	U	U	10	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	U	U	U	U	10	1,800	9,800	13,000	130,000	250,000	1,800
1,2-Dichlorobenzene	11 J	U	U	U	U	U	10	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,100
1,2-Dibromo-3-chloropropane	U	U	U	U	U	U	10	----	----	----	----	----	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	10	----	----	----	----	----	----
Total VOCs	60	31	102	6	32	16							
Total VOC TICs	0	0	0	0	9	0							

QUALIFIERS:
D: Result taken from a reanalysis at a secondary dilution
J: Compound found at a concentration below the CRDL, value estimate
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram

TABLE 2b.
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-1 (2-4)**	**SBRI-1 (8-10)**	~~**SBRI-2 (2-4)**~~	~~**SBRI-2 (9-11)**~~	**SBRI-3 (2-4)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/19/2008	2/19/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	2-4	8-10	~~2-4~~	~~9-11~~	2-4			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	~~1.0~~	~~1.0~~	1.0							
Percent Moisture	18	18	~~23~~	~~18~~	15							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	52 J	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Phenol	U	U	~~U~~	~~U~~	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	~~U~~	~~U~~	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
2,2-Oxybis (1-Chloropropane)	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Acetophenone	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
4-Methylphenol	U	U	~~U~~	~~U~~	U	550	330[b]	34,000	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
N-Nitroso-di-n-propylamine	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	~~U~~	~~U~~	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Naphthalene	49 J	730	~~U~~	~~U~~	U	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Caprolactam	U	U	~~640~~	~~U~~	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2-Methylnaphthalene	U	170 J	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	~~U~~	~~U~~	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	~~U~~	~~U~~	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Acenaphthylene	U	U	~~65 J~~	~~U~~	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	~~U~~	~~U~~	U	1,400	----	----	----	----	----	----
Acenaphthene	U	110 J	~~57 J~~	~~U~~	U	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	~~U~~	~~U~~	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	~~U~~	~~U~~	U	1,400	----	----	----	----	----	----
Dibenzofuran	U	120 J	~~48 J~~	~~U~~	U	550	7,000	14,000	59,000	350,000	1,000,000	6,200
2,4-Dinitrotoluene	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Fluorene	U	170 J	~~150 J~~	~~U~~	U	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	~~U~~	~~U~~	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	~~U~~	~~U~~	U	1,400	----	----	----	----	----	----

TABLE 2b. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-1 (2-4)**	**SBRI-1 (8-10)**	~~**SBRI-2 (2-4)**~~	~~**SBRI-2 (9-11)**~~	**SBRI-3 (2-4)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/19/08	02/19/08	~~02/19/08~~	~~02/19/08~~	02/19/08			Protection of Public Health				Protection of Groundwater
Sample Depth	2-4	8-10	~~2-4~~	~~9-11~~	2-4			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	~~1.0~~	~~1.0~~	1.0							
Percent Moisture	18	18	~~23~~	~~18~~	15							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	~~U~~	~~U~~	U	550	330	330	1,200	6,000	12,000	1,400
Atrazine	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	~~U~~	~~U~~	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	54 J	470	~~650~~	~~U~~	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	U	91 J	~~U~~	~~U~~	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	U	59 J	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Di-n-butylphthalate	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Fluoranthene	110 J	370 J	~~1300~~	~~U~~	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	U	230 J	~~800~~	~~U~~	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	~~U~~	~~U~~	U	550	----	----	----	----	----	----
Benzo (a) anthracene	U	100 J	~~400 J~~	~~U~~	U	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	64 J	120 J	~~640~~	~~U~~	U	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	62 J	160 J	~~360 J~~	~~72 J~~	1100	550	----	----	----	----	----	----
Di-n-octylphthalate	U	U	~~390 J~~	~~U~~	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	U	89 J	~~640~~	~~U~~	U	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	U	U	~~280 J~~	~~U~~	U	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	U	58 J	~~340 J~~	~~U~~	U	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	U	U	~~89 J~~	~~U~~	U	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	U	U	~~U~~	~~U~~	U	550	330[p]	330[e]	330[e]	56,000	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	U	U	~~U~~	~~U~~	U	550	100,000a	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	277	2,708	~~5,411~~	~~0~~	0							
Total Carcinogen PAHs	64	367	~~2,389~~	~~0~~	0							
Total SVOCs	391	3,047	~~6,849~~	~~72~~	1,100							
Total SVOC TICs	1,716	2,500	~~124,910~~	~~210~~	190							

QUALIFIERS:
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
~~1700~~ Indicates the sample location was excavated
NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

TABLE 2b. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-3 (7-9)**	~~**SBRI-4 (2-4)**~~	~~**SBRI-4 (8-10)**~~	**SBRI-5 (2-4)**	**SBRI-5 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008	2/19/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	7-9	~~2-4~~	~~8-10~~	2-4	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	21	~~18~~	~~19~~	16	22							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	U	~~U~~	~~U~~	47 J	U	550	----	----	----	----	----	----
Phenol	U	~~U~~	~~U~~	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	~~U~~	~~U~~	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
2,2-Oxybis (1-Chloropropane)	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acetophenone	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	~~U~~	~~U~~	U	U	550	330[b]	34,000	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
N-Nitroso-di-n-propylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	~~U~~	~~U~~	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Naphthalene	U	~~U~~	~~U~~	U	U	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Caprolactam	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Acenaphthylene	U	~~U~~	~~U~~	U	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Acenaphthene	U	~~U~~	~~U~~	U	U	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	U	~~U~~	~~U~~	U	U	550	7,000	14,000	59,000	350,000	1,000,000	6,200
2,4-Dinitrotoluene	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Fluorene	U	~~U~~	~~U~~	U	U	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	~~U~~	~~U~~	U	U	1,400	----	----	----	----	----	----

TABLE 2b. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-3 (7-9)**	~~**SBRI-4 (2-4)**~~	~~**SBRI-4 (8-10)**~~	**SBRI-5 (2-4)**	**SBRI-5 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/20/08	~~02/19/08~~	~~02/19/08~~	02/19/08	02/19/08			Protection of Public Health				Protection of Groundwater
Sample Depth	7-9	~~2-4~~	~~8-10~~	2-4	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	21	~~18~~	~~19~~	16	22							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	~~U~~	~~U~~	U	U	550	330	330	1,200	6,000	12,000	1,400
Atrazine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	~~U~~	~~U~~	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	U	~~74 J~~	~~U~~	77 J	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	U	~~U~~	~~U~~	U	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Di-n-butylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Fluoranthene	U	~~190 J~~	~~41 J~~	140 J	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	U	~~130 J~~	~~U~~	120 J	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	U	~~85 J~~	~~U~~	64 J	U	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	U	~~120 J~~	~~U~~	65 J	U	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	94 J	~~150 J~~	~~120 J~~	280 J	97 J	550	----	----	----	----	----	----
Di-n-octylphthalate	U	~~U~~	~~U~~	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	U	~~110 J~~	~~U~~	91 J	U	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	U	~~46 J~~	~~U~~	U	U	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	U	~~69 J~~	~~U~~	74 J	U	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	U	~~44 J~~	~~U~~	44 J	U	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	U	~~U~~	~~U~~	U	U	550	330[p]	330[e]	330[e]	56,000	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	U	~~48 J~~	~~U~~	U	U	550	100,000a	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	0	~~916~~	~~41~~	675	0							
Total Carcinogen PAHs	0	~~474~~	~~0~~	338	0							
Total SVOCs	94	~~1,066~~	~~161~~	1,002	97							
Total SVOC TICs	0	~~6,838~~	~~1,907~~	890	0							

QUALIFIERS:
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

TABLE 2b. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	**SBRI-6 (4-6)**	**SBRI-6 (8-10)**	**SBRI-7 (2-4)**	**SBRI-7 (8-10)**	**SBRI-8 (6-8)**	**SBRI-8 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	2/20/2008	2/21/2008	2/21/2008	2/21/2008	2/21/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	4-6	8-10	2-4	8-10	6-8	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	19	18	17	20	21	20							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Benzaldehyde	U	U	U	U	U	U	550	----	----	----	----	----	----
Phenol	U	U	U	U	U	U	550	330[p]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
bis(2-Chloroethyl)ether	U	U	U	U	U	U	550	----	----	----	----	----	----
2-Chlorophenol	U	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylphenol	U	U	U	U	U	U	550	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
2,2-Oxybis (1-Chloropropane)	U	U	U	U	U	U	550	----	----	----	----	----	----
Acetophenone	U	U	U	U	U	U	550	----	----	----	----	----	----
4-Methylphenol	U	U	U	U	U	U	550	330[b]	34,000	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	550	----	----	----	----	----	----
Hexachloroethane	U	U	U	U	U	U	550	----	----	----	----	----	----
Nitrobenzene	U	U	U	U	U	U	550	----	3,700	15,000	69,000	140,000	170
Isophorone	U	U	U	U	U	U	550	----	----	----	----	----	----
2-Nitrophenol	U	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dimethylphenol	U	U	U	U	U	U	550	----	----	----	----	----	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	550	----	----	----	----	----	----
2,4-Dichlorophenol	U	U	U	U	U	U	550	----	----	----	----	----	----
Naphthalene	U	U	61 J	U	U	U	550	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
4-Chloroaniline	U	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobutadiene	U	U	U	U	U	U	550	----	----	----	----	----	----
Caprolactam	U	U	U	U	U	U	550	----	----	----	----	----	----
4-Chloro-3-methylphenol	U	U	U	U	U	U	550	----	----	----	----	----	----
2-Methylnaphthalene	U	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorocyclopentadiene	U	U	U	U	U	U	550	----	----	----	----	----	----
2,4,6-Trichlorophenol	U	U	U	U	U	U	1,400	----	----	----	----	----	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	550	----	----	----	----	----	----
1,1'-Biphenyl	U	U	U	U	U	U	550	----	----	----	----	----	----
2-Chloronaphthalene	U	U	U	U	U	U	1,400	----	----	----	----	----	----
2-Nitroaniline	U	U	U	U	U	U	550	----	----	----	----	----	----
Dimethylphthalate	U	U	U	U	U	U	550	----	----	----	----	----	----
2,6-Dinitrotoluene	U	U	U	U	U	U	550	----	----	----	----	----	----
Acenaphthylene	U	U	U	U	U	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
3-Nitroaniline	U	U	U	U	U	U	1,400	----	----	----	----	----	----
Acenaphthene	U	U	U	U	U	U	550	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
2,4-Dinitrophenol	U	U	U	U	U	U	1,400	----	----	----	----	----	----
4-Nitrophenol	U	U	U	U	U	U	1,400	----	----	----	----	----	----
Dibenzofuran	U	U	U	U	U	U	550	7,000	14,000	59,000	350,000	1,000,000	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	550	----	----	----	----	----	----
Diethylphthalate	U	U	U	U	U	U	550	----	----	----	----	----	----
Fluorene	U	U	U	U	U	U	550	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
4-Chlorophenyl-phenylether	U	U	U	U	U	U	550	----	----	----	----	----	----
4-Nitroaniline	U	U	U	U	U	U	1,400	----	----	----	----	----	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	1,400	----	----	----	----	----	----

TABLE 2b. (continued)
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
SEMIVOLATILE ORGANIC COMPOUNDS

Sample Identification	SBRI-6 (4-6)	SBRI-6 (8-10)	SBRI-7 (2-4)	SBRI-7 (8-10)	SBRI-8 (6-8)	SBRI-8 (8-10)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives	*Restricted Use Soil Cleanup Objectives				
Date of Collection	02/20/08	02/20/08	02/21/08	02/21/08	02/21/08	02/21/08			Protection of Public Health				Protection of Groundwater
Sample Depth	4-6	8-10	2-4	8-10	6-8	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	19	18	17	20	21	20							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
N-Nitrosodiphenylamine	U	U	U	U	U	U	550	----	----	----	----	----	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	550	----	----	----	----	----	----
Hexachlorobenzene	U	U	U	U	U	U	550	330	330	1,200	6,000	12,000	1,400
Atrazine	U	U	U	U	U	U	550	----	----	----	----	----	----
Pentachlorophenol	U	U	U	U	U	U	1,400	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	43 J	U	U	U	160 J	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Anthracene	U	U	U	U	U	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Carbazole	U	U	U	U	U	U	550	----	----	----	----	----	----
Di-n-butylphthalate	U	U	U	U	U	U	550	----	----	----	----	----	----
Fluoranthene	160 J	U	U	U	330 J	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Pyrene	160 J	U	U	U	350 J	U	550	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Butylbenzylphthalate	U	U	U	U	U	U	550	----	----	----	----	----	----
3,3'-Dichlorobenzidine	U	U	U	U	U	U	550	----	----	----	----	----	----
Benzo (a) anthracene	95 J	U	U	U	140 J	U	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Chrysene	87 J	U	U	U	200 J	U	550	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
bis(2-Ethylhexyl)phthalate	78 J	70 J	110 J	290 J	85 J	83 J	550	----	----	----	----	----	----
Di-n-octylphthalate	U	U	U	U	U	U	550	----	----	----	----	----	----
Benzo(b)fluoranthene	90 J	U	U	U	140 J	U	550	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(k)fluoranthene	U	U	U	U	64 J	U	550	800c	1,000	3,900	56,000	110,000	1,700
Benzo(a)pyrene	66 J	U	U	U	53 J	U	550	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	550	500[c]	500[f]	500[f]	5,600	11,000	8,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	550	330[p]	330[e]	330[e]	56,000	1,100	1,000,000[c1]
Benzo(g,h,i)perylene	U	U	U	U	U	U	550	100,000a	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total PAHs	701	0	61	0	1,437	0							
Total Carcinogen PAHs	338	0	0	0	597	0							
Total SVOCs	779	70	171	290	1,522	83							
Total SVOC TICs	240	0	349	0	788	0							

QUALIFIERS:
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected
NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
----: not established
ug/kg: Micrograms per kilogram
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

TABLE 2c.
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	**SBRI-1 (2-4)**	**SBRI-1 (8-10)**	~~**SBRI-2 (2-4)**~~	~~**SBRI-2 (9-11)**~~	**SBRI-3 (2-4)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/19/2008	2/19/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008			Protection of Public Health				
Sample Depth	2-4	8-10	~~2-4~~	~~9-11~~	2-4			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	~~1.0~~	~~1.0~~	1.0							
Percent Moisture	18	18	~~23~~	~~18~~	15							
Units	(ug/kg)	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	~~U~~	~~U~~	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	~~1.3 JP~~	~~U~~	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	~~U~~	~~U~~	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	~~U~~	~~U~~	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	~~U~~	~~U~~	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	~~U~~	~~U~~	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	~~U~~	~~U~~	U	0.05	----	----	----	----	----	----
Endosulfan I	U	U	~~U~~	~~U~~	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	~~5.2 P~~	~~U~~	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	U	~~4.5 P~~	~~U~~	U	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	U	~~U~~	~~U~~	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	~~U~~	~~U~~	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	U	~~U~~	~~U~~	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	U	~~9.3~~	~~U~~	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	U	~~U~~	~~U~~	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	U	~~U~~	~~U~~	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	U	~~U~~	~~U~~	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	U	~~U~~	~~U~~	U	0.10	----	----	----	----	----	----
alpha-Chlordane	U	U	~~U~~	~~U~~	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	U	~~3.4 P~~	~~U~~	U	0.05	----	----	----	----	----	----
Toxaphene	U	U	~~U~~	~~U~~	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	~~U~~	~~U~~	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	~~U~~	~~U~~	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	~~U~~	~~U~~	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	~~U~~	~~U~~	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	~~150 P~~	~~U~~	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	U	~~U~~	~~U~~	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	~~120~~	~~U~~	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	0	0	~~23.7~~	~~0~~	0							
Total PCBs	0	0	~~270~~	~~0~~	0							

QUALIFIERS:
P: Greater than 25% difference between columns.B
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 2c (continued).
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	**SBRI-3 (7-9)**	~~**SBRI-4 (2-4)**~~	~~**SBRI-4 (8-10)**~~	**SBRI-5 (2-4)**	**SBRI-5 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008	2/19/2008			Protection of Public Health				
Sample Depth	7-9	~~2-4~~	~~8-10~~	2-4	8-10			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	21	~~18~~	~~19~~	16	22							
Units	(ug/kg)	~~(ug/kg)~~	~~(ug/kg)~~	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	~~U~~	~~U~~	U	1.6 J	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	~~U~~	~~U~~	1.6 JP	2.5	0.05	36	72	360	3000	14,000	90
delta-BHC	U	~~U~~	~~U~~	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	~~U~~	~~U~~	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	~~U~~	~~U~~	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	~~U~~	~~U~~	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	~~U~~	~~U~~	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	~~U~~	~~U~~	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	~~U~~	~~U~~	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	~~U~~	~~U~~	U	U	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	~~U~~	~~U~~	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	~~U~~	~~U~~	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	~~U~~	~~U~~	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	~~U~~	~~U~~	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	~~U~~	~~U~~	U	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	~~U~~	~~U~~	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	~~U~~	~~U~~	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	~~U~~	~~U~~	U	U	0.10	----	----	----	----	----	----
alpha-Chlordane	U	~~U~~	~~U~~	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	~~U~~	~~U~~	U	U	0.05	----	----	----	----	----	----
Toxaphene	U	~~U~~	~~U~~	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	~~U~~	~~U~~	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	~~U~~	~~U~~	30 J	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	~~U~~	~~U~~	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	0	~~0~~	~~0~~	1.6	4.1							
Total PCBs	0	~~0~~	~~0~~	30	0							

QUALIFIERS:
P: Greater than 25% difference between columns.B
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 2c (continued).
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
PESTICIDES/POLYCHLORINATED BIPHENYLS

Sample Identification	**SBRI-6 (4-6)**	**SBRI-6 (8-10)**	**SBRI-7 (2-4)**	**SBRI-7 (8-10)**	**SBRI-8 (6-8)**	**SBRI-8 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	2/20/2008	2/21/2008	2/21/2008	2/21/2008	2/21/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	4-6	8-10	2-4	8-10	6-8	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	19	18	17	20	21	20							
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
alpha-BHC	U	U	U	U	U	U	0.05	20	97	480	3,400	6,800	20
beta-BHC	U	U	U	U	U	U	0.05	36	72	360	3000	14,000	90
delta-BHC	U	U	U	U	U	U	0.05	40	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	250
gamma-BHC (Lindane)	U	U	U	U	U	U	0.05	100	280	1300	9200	23000	100
Heptachlor	U	U	U	U	U	U	0.05	42	420	2,100	15,000	29,000	380
Aldrin	U	U	U	U	U	U	0.05	5[e]	19	97	680	1,400	190
Heptachlor Epoxide	U	U	U	U	U	U	0.05	----	----	----	----	----	----
Endosulfan I	U	U	U	U	U	U	0.05	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
Dieldrin	U	U	U	U	U	U	0.10	5[e]	39	200	1,400	2,800	100
4,4'-DDE	U	U	U	U	U	U	0.10	3.3[b]	1,800	8,900	62,000	120,000	17,000
Endrin	U	U	U	U	U	U	0.10	14	2,200	11,000	89,000	410,000	60
Endosulfan II	U	U	U	U	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	102,000
4,4'-DDD	U	U	U	U	U	U	0.10	3.3[b]	2,600	13,000	92,000	180,000	14,000
Endosulfan Sulfate	U	U	U	U	U	U	0.10	2,400	4,800[i]	24,000[i]	200,000[i]	920,000[i]	1,000,000[c1]
4,4'-DDT	U	U	U	U	U	U	0.10	3.3[b]	1,700	7,900	47,000	94,000	136,000
Methoxychlor	U	U	U	U	U	U	0.50	----	----	----	----	----	----
Endrin Ketone	U	U	U	U	U	U	0.10	----	----	----	----	----	----
Endrin Aldehyde	U	U	U	U	U	U	0.10	----	----	----	----	----	----
alpha-Chlordane	U	U	U	U	U	U	0.05	94	910	4,200	24,000	47,000	2,900
gamma-Chlordane	U	U	U	U	U	U	0.05	----	----	----	----	----	----
Toxaphene	U	U	U	U	U	U	5.0	----	----	----	----	----	----
Aroclor-1016	U	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1221	U	U	U	U	U	U	2.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1232	U	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1242	U	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1248	U	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1254	U	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Aroclor-1260	U	U	U	U	U	U	1.0	100	1,000	1,000	1,000	25,000	3,200
Total Pesticides	0	0	0	0	0	0							
Total PCBs	0	0	0	0	0	0							

QUALIFIERS:
P: Greater than 25% difference between columns.B
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (ug/kg) or parts per billion (ppb
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
i: This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
----: not established
ug/kg: Micrograms per kilogram

TABLE 2d.
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	**SBRI-1 (2-4)**	**SBRI-1 (8-10)**	~~**SBRI-2 (2-4)**~~	~~**SBRI-2 (9-11)**~~	**SBRI-3 (2-4)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/19/2008	2/19/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	2-4	8-10	~~2-4~~	~~9-11~~	2-4			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	1.0	~~1.0~~	~~1.0~~	1.0							
Percent Moisture	18	18	~~23~~	~~18~~	15							
Units	(mg/kg)	(mg/kg)	~~(mg/kg)~~	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	11600	11300	~~11700~~	~~10000~~	14900	13	----	----	----	----	----	----
Antimony	1.1 B	1.8 B	~~5.1 B~~	~~1.9 B~~	1.6 B	8	----	----	----	----	----	----
Arsenic	1.9	0.52 B	~~5.7~~	~~0.82 B~~	1.9	3	13[c]	16[ŧ]	16[ŧ]	16[ŧ]	16[ŧ]	16[ŧ]
Barium	67.3	165	**~~404~~**	~~109~~	56.6	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.52 B	0.46 B	~~0.50 B~~	~~0.45 B~~	0.58 B	1	7.2	14	72	590	2,700	47
Cadmium	0.98	1.1	**~~11.0~~**	~~0.49 B~~	1.1	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	40000	63200	~~80600~~	~~69900~~	49700	8	----	----	----	----	----	----
Chromium*	18.1	22.9	~~42.0~~	~~16.0~~	22.5	1	30[c]	36	180	1,500	6,800	----
Cobalt	10	8.5 B	~~15.2~~	~~9.2 B~~	10.6	2	----	----	----	----	----	----
Copper	15.3	41.9	**~~752~~**	~~34.7~~	13.0	1	50	270	270	270	10,000[d]	1,720
Iron	21600	23300	~~36500~~	~~19900~~	25900	20	----	----	----	----	----	----
Lead	13.9	28.1	~~668~~	~~12.9~~	17.0	2	63[c]	400	400	1,000	3,900	450
Magnesium	18000	19000	~~11600~~	~~28300~~	26600	8	----	----	----	----	----	----
Manganese	422	457	~~528~~	~~505~~	397	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	U	0.32	**~~3.7~~**	~~0.020~~	0.095 B	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	25.4	24.6	~~46.9~~	~~23.7~~	35.6	2	30	140	310	310	10,000[d]	130
Potassium	1670	1870	~~1660~~	~~2110~~	1960	20	----	----	----	----	----	----
Selenium	U	U	~~0.45~~	~~1.5~~	U	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	U	U	~~U~~	~~0.77 B~~	U	1	2	36	180	1,500	6,800	8.3
Sodium	108 B	194 B	~~567 B~~	~~282 B~~	173 B	9	----	----	----	----	----	----
Thallium	1.8	1.2 B	~~4.0~~	~~0.21~~	1.4 B	5	----	----	----	----	----	----
Vanadium	21.6	18.6	~~25.3~~	~~17.7~~	27.6	1	----	----	----	----	----	----
Zinc	58.8	95.4	~~1830~~	~~60.7~~	64.4	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	0.019	0.019	~~2.0~~	~~U~~	U	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 2d (continued).
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	**SBRI-3 (7-9)**	~~**SBRI-4 (2-4)**~~	~~**SBRI-4 (8-10)**~~	**SBRI-5 (2-4)**	**SBRI-5 (8-10)**	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	~~2/19/2008~~	~~2/19/2008~~	2/19/2008	2/19/2008			Protection of Public Health				Protection of Groundwater
Sample Depth	7-9	~~2-4~~	~~8-10~~	2-4	8-10			Residential	Restricted-Residential	Commercial	Industrial	
Dilution Factor	1.0	~~1.0~~	~~1.0~~	1.0	1.0							
Percent Moisture	21	~~18~~	~~19~~	16	22							
Units	(mg/kg)	~~(mg/kg)~~	~~(mg/kg)~~	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	8190	~~13900~~	~~11800~~	9880	8600	13	----	----	----	----	----	----
Antimony	2.3 B	~~1.7 B~~	~~1.9 B~~	3.2 B	1.9 B	8	----	----	----	----	----	----
Arsenic	1.8	~~3.5~~	~~3.3~~	2.0	1.7 B	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	117	~~92.7~~	~~116~~	69.9	137	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.36 B	~~0.59 B~~	~~0.49 B~~	0.38 B	0.42 B	1	7.2	14	72	590	2,700	47
Cadmium	0.40 B	~~1.2~~	~~0.63 B~~	0.66 B	0.47 B	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	82100	~~61700~~	~~68700~~	119000	62300	8	----	----	----	----	----	----
Chromium*	14.4	~~22.0~~	~~18.9~~	20.6	13.5	1	30[c]	36	180	1,500	6,800	----
Cobalt	7.5 B	~~12.9~~	~~10.4~~	7.0 B	8.6 B	2	----	----	----	----	----	----
Copper	86.6	~~29.9~~	~~24.5~~	144	25.8	1	50	270	270	270	10,000[d]	1,720
Iron	17800	~~25700~~	~~21200~~	19400	19100	20	----	----	----	----	----	----
Lead	28.1	~~23.4~~	~~14.4~~	172	17.0	2	63[c]	400	400	1,000	3,900	450
Magnesium	20400	~~23800~~	~~24000~~	6640	16600	8	----	----	----	----	----	----
Manganese	421	~~496~~	~~504~~	250	437	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	0.060 B	~~0.25~~	~~0.20~~	1.3	0.062 B	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	23.2	~~32.1~~	~~26.1~~	24.3	20.1	2	30	140	310	310	10,000[d]	130
Potassium	1230	~~1980~~	~~1770~~	1420	1600	20	----	----	----	----	----	----
Selenium	2.3	~~0.49~~	~~1.6~~	3.1	1.9	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	1.8	~~U~~	~~0.17 B~~	3.8	0.32 B	1	2	36	180	1,500	6,800	8.3
Sodium	120 B	~~127 B~~	~~192 B~~	422 B	149 B	9	----	----	----	----	----	----
Thallium	0.29	~~1.5 B~~	~~0.14~~	1.4 B	0.49 B	5	----	----	----	----	----	----
Vanadium	15.7	~~26.1~~	~~20.8~~	16.5	17.1	1	----	----	----	----	----	----
Zinc	91.9	~~88.0~~	~~61.6~~	263	55.7	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	U	~~0.063~~	~~0.021~~	0.19 B	U	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table
~~1700~~ Indicates the sample location was excavated

NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

TABLE 2d (continued).
MCKINNEY PROPERTY SITE
SUB-SURFACE SOIL SAMPLE RESULTS - FEBRUARY 2008
INORGANICS ANALYTES

Sample Identification	SBRI-6 (4-6)	SBRI-6 (8-10)	SBRI-7 (2-4)	SBRI-7 (8-10)	SBRI-8 (6-8)	SBRI-8 (8-10)	Contract Required Detection Limit	Unrestricted Use Soil Cleanup Objectives[1]	Restricted Use Soil Cleanup Objectives[2]				
Date of Collection	2/20/2008	2/20/2008	2/21/2008	2/21/2008	2/21/2008	2/21/2008			Protection of Public Health				
Sample Depth	4-6	8-10	2-4	8-10	6-8	8-10			Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0							
Percent Moisture	19	18	17	20	21	20							
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	10900	3360	11800	7390	6630	10500	13	----	----	----	----	----	----
Antimony	2.4 B	1.6 B	1.3 B	2.3 B	3.9 B	1.9 B	8	----	----	----	----	----	----
Arsenic	5.0	1.3 B	1.1 B	1.2 B	0.83 B	0.69 B	3	13[c]	16[‡]	16[‡]	16[‡]	16[‡]	16[‡]
Barium	124	76.4	66.4	129	125	132	1	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.51 B	0.18 B	0.46 B	0.36 B	0.31 B	0.50 B	1	7.2	14	72	590	2,700	47
Cadmium	0.67 B	0.13 B	0.50 B	U	9.0	0.48 B	1	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	78900	44200	61200	74700	61400	70300	8	----	----	----	----	----	----
Chromium*	17.0	6.0	18.0	11.8	14.2	16.7	1	30[c]	36	180	1,500	6,800	----
Cobalt	12.3	3.9 B	8.8 B	8.9 B	8.4 B	10.1	2	----	----	----	----	----	----
Copper	33.7	11.4	13.1	23.2	28.8	25.2	1	50	270	270	270	10,000[d]	1,720
Iron	21700	9970	19300	18600	73900	20500	20	----	----	----	----	----	----
Lead	94.7	5.1	9.2	12.4	36.5	10.6	2	63[c]	400	400	1,000	3,900	450
Magnesium	15900	8450	23000	20900	15000	25700	8	----	----	----	----	----	----
Manganese	627	206	492	452	634	430	4	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	0.015	U	0.057 B	0.020	0.087 B	0.017	0.2	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	28.5	9.9	25.6	19.1	20.7	27.0	2	30	140	310	310	10,000[d]	130
Potassium	2020	496 B	1960	1610	994 B	1870	20	----	----	----	----	----	----
Selenium	1.3	2.0	0.77 B	1.2	U	2.5	4	3.9[c]	36	180	1,500	6,800	4[f]
Silver	0.81 B	0.92 B	0.39 B	0.99 B	U	0.38 B	1	2	36	180	1,500	6,800	8.3
Sodium	135 B	89.8 B	117 B	126 B	114 B	257 B	9	----	----	----	----	----	----
Thallium	U	U	0.30	0.45 B	8.5	0.32	5	----	----	----	----	----	----
Vanadium	19.5	7.4 B	19.7	14.1	16.5	17.7	1	----	----	----	----	----	----
Zinc	73.1	21.8	49.1	39.8	1510	58.4	1	109[c]	2,200	10,000[a]	10,000[a]	10,000[a]	2,480
Cyanide	0.068	U	U	0.061	U	U	2.0	27	27	27	27	10,000[a]	40

QUALIFIERS:
B: Compound found in the method blank as well as the sample
J: Compound found at a concentration below the CRDL, value estimated
U: Compound analyzed for but not detected

1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

NOTES:
All concentrations are in micrograms per kilogram (mg/kg) or parts per million (ppm
1: 6 NYCRR PART 375 - Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (SCOs)
2: 6 NYCRR PART 375 - Table 375-6.8(b): Restricted Use SCOs
c: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
*: This SCO is the higher of the values for chromium (trivalent) SCO value for this use of the site
----: not established
mg/kg: Milligrams per kilogram

Table 3a
McKinney Property
Excavation 1 Documentation Soil Sample Results
Volatile Organic Compounds

Sample ID	EX1-SW-E	EX1-SW-W	EX1-SW-N	EX1-SW-S	EX1-EP	NYCRR 6 Part 375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/18/2014	8/18/2014	8/18/2014	8/18/2014	8/18/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
							Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS											
1,1,1-Trichloroethane	U	U	U	U	U	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	680
1,1,2,2-Tetrachloroethane	U	U	U	U	U	---	---	---	---	---	---
1,1,2-Trichloroethane	U	U	U	U	U	---	---	---	---	---	---
1,1-Dichloroethane	U	U	U	U	U	270	19,000	26,000	240,000	480,000	270
1,1-Dichloroethene	U	U	U	U	U	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	330
1,2,3-Trichlorobenzene	U	U	U	U	U	---	---	---	---	---	---
1,2,4-Trichlorobenzene	U	U	U	U	U	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	U	U	U	U	U	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	U	U	U	U	U	---	---	---	---	---	---
1,2-Dichlorobenzene	U	U	U	U	U	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,2-Dichloroethane	U	U	U	U	U	20[c]	2,300	3,100	30,000	60,000	20[f]
1,2-Dichloropropane	U	U	U	U	U	---	---	---	---	---	---
1,3-Dichlorobenzene	U	U	U	U	U	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	U	U	U	1,800	9,800	13,000	130,000	250,000	1,800
1,4-Dioxane	R	R	R	R	R	100[b]	9,800	13,000	130,000	250,000	1,000[e]
2-Butanone	U	U	U	U	U	120	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	120
2-Hexanone	U	U	U	U	U	---	---	---	---	---	---
4-Methyl-2-pentanone	U	U	U	U	U	---	---	---	---	---	---
Acetone	53.1	U	U	30.9	U	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	50
Benzene	U	U	U	U	U	60	2,900	4,800	44,000	89,000	60
Bromochloromethane	U	U	U	U	U	---	---	---	---	---	---
Bromodichloromethane	U	U	U	U	U	---	---	---	---	---	---
Bromoform	U	U	U	U	U	---	---	---	---	---	---
Bromomethane	U	U	U	U	U	---	---	---	---	---	---
Carbon disulfide	U	U	U	U	U	---	---	---	---	---	---
Carbon tetrachloride	U	U	U	U	U	760	1,400	2,400	22,000	44,000	760
Chlorobenzene	U	U	U	U	U	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
Chloroethane	U	U	U	U	U	---	---	---	---	---	---
Chloroform	U	U	U	U	U	370	10,000	49,000	350,000	700,000	370
Chloromethane	U	U	U	U	U	---	---	---	---	---	---
cis-1,2-Dichloroethene	U	U	36.5	U	215	250	59,000	100,000[a]	500,000[b]	1,000,000[c]	250
cis-1,3-Dichloropropene	U	U	U	U	U	---	---	---	---	---	---
Cyclohexane	U	U	U	U	U	---	---	---	---	---	---
Dibromochloromethane	U	U	U	U	U	---	---	---	---	---	---
Dichlorodifluoromethane	U	U	U	U	U	---	---	---	---	---	---
Ethylbenzene	U	U	U	U	U	1,000	30,000	41,000	390,000	780,000	1,000

See next page for Footnotes/Qualifiers

Table 3a
McKinney Property
Excavation 1 Documentation Soil Sample Results
Volatile Organic Compounds

Sample ID	EX1-SW-E	EX1-SW-W	EX1-SW-N	EX1-SW-S	EX1-EP	NYCRR 6 Part 375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/18/2014	8/18/2014	8/18/2014	8/18/2014	8/18/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
							Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
COMPOUNDS CONTINUED											
Freon 113	U	U	U	U	U	---	---	---	---	---	---
Isopropylbenzene	3.49 J	U	U	U	U	---	---	---	---	---	---
m,p-Xylene	U	U	U	U	U	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,600
Methyl Acetate	U	U	U	U	U	---	---	---	---	---	---
Methyl tert-butyl ether	U	U	U	U	U	930	62,000	100,000[a]	500,000[b]	1,000,000[C]	930
Methylcyclohexane	U	U	U	U	U	---	---	---	---	---	---
Methylene chloride	24.5	U	U	U	U	50	51,000	100,000[a]	500,000[b]	1,000,000[C]	50
o-Xylene	U	U	U	U	U	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	1,600
Styrene	U	U	U	U	U	---	---	---	---	---	---
Tetrachloroethene	U	U	U	U	U	1,300	5,500	19,000	150,000	300,000	1,300
Toluene	U	U	U	U	U	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	700
trans-1,2-Dichloroethene	6.36	U	U	U	U	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[C]	190
trans-1,3-Dichloropropene	U	U	U	U	U	---	---	---	---	---	---
Trichloroethene	U	20.8	2,500	U	6,840	470	10,000	21,000	200,000	400,000	470
Trichlorofluoromethane	U	U	U	U	U	---	---	---	---	---	---
Vinyl chloride	U	U	U	U	U	20	210	900	13,000	27,000	20
Total Volatile Compounds	87.45	20.8	2,536.5	30.9	7,055	---	---	---	---	---	---

Footnotes/Qualifiers:

ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
J: Estimated value
R: Unusable value
---: No standard
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 3b
McKinney Property
Excavation 1 Documentation Soil Sample Results
Semi-Volatile Organic Compounds

Sample ID	EX1-SW-E	EX1-SW-W	EX1-SW-N	EX1-SW-S	EX1-EP	NYCRR 6 Part 375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/18/2014	8/18/2014	8/18/2014	8/18/2014	8/18/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
							Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILE COMPOUNDS											
1,2,4-Trichlorobenzene	U	U	U	U	U	---	---	---	---	---	---
1,2-Dichlorobenzene	U	U	U	U	U	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,3-Dichlorobenzene	U	U	U	U	U	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	U	U	U	1,800	9,800	13,000	130,000	250,000	1,800
2,4,5-Trichlorophenol	U	U	U	U	U	---	---	---	---	---	---
2,4,6-Trichlorophenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dichlorophenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dimethylphenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dinitrophenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dinitrotoluene	U	U	U	U	U	---	---	---	---	---	---
2,6-Dinitrotoluene	U	U	U	U	U	---	---	---	---	---	---
2-Chlorophenol	U	U	U	U	U	---	---	---	---	---	---
2-Methylnaphthalene	U	U	U	U	U	---	---	---	---	---	---
2-Methylphenol	U	U	U	U	U	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	330
2-Nitroaniline	U	UJ	UJ	UJ	UJ	---	---	---	---	---	---
2-Nitrophenol	U	U	U	U	U	---	---	---	---	---	---
3,3-Dichlorobenzidine	U	U	U	U	U	---	---	---	---	---	---
3-Nitroaniline	U	U	U	U	U	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	---	---	---	---	---	---
4-Bromophenyl-phenylether	U	U	U	U	U	---	---	---	---	---	---
4-Chloro-3-methylphenol	U	U	U	U	U	---	---	---	---	---	---
4-Chloroaniline	U	U	U	U	U	---	---	---	---	---	---
4-Chlorophenylphenyl ether	U	U	U	U	U	---	---	---	---	---	---
4-Nitroaniline	U	U	U	U	U	---	---	---	---	---	---
4-Nitrophenol	U	U	U	U	U	---	---	---	---	---	---
Acenaphthene	U	U	U	U	U	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
Acenaphthylene	U	U	U	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
Anthracene	U	U	U	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Benzo(a)anthracene	U	U	U	U	U	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Benzo(a)pyrene	U	U	U	U	U	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Benzo(b)fluoranthene	U	U	U	U	U	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(ghi)perylene	U	U	U	U	U	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Benzo(k)fluoranthene	U	U	U	U	U	800[c]	1,000	3,900	56,000	110,000	1,700
Benzyl butyl phthalate	U	U	U	U	U	---	---	---	---	---	---

See next page for Footnotes/Qualifiers

Table 3b
McKinney Property
Excavation 1 Documentation Soil Sample Results
Semi-Volatile Organic Compounds

Sample ID	EX1-SW-E	EX1-SW-W	EX1-SW-N	EX1-SW-S	EX1-EP	NYCRR 6 Part 375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/18/2014	8/18/2014	8/18/2014	8/18/2014	8/18/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
							Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
COMPOUNDS CONTINUED											
Bis(2-chloroethoxy)methane	U	U	U	U	U	---	---	---	---	---	---
Bis(2-chloroethyl)ether	U	U	U	U	U	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	U	U	U	U	U	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate (BEHP)	U	U	U	U	U	---	---	---	---	---	---
Carbazole	U	U	U	U	U	---	---	---	---	---	---
Chrysene	90 J	U	U	U	U	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
Cresols, M	U	U	U	U	U	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
Dibenzo(a,h)anthracene	U	U	U	U	U	330[b]	330[e]	330[e]	560	1,100	1,000,000[c1]
Dibenzofuran	U	U	U	U	U	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
Diethyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Dimethyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Di-n-butyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Di-n-octyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Fluoranthene	U	U	U	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Fluorene	U	U	U	U	U	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Hexachlorobenzene	U	U	U	U	U	330	330	1,200	6,000	12,000	1,400
Hexachlorobutadiene	U	U	U	U	U	---	---	---	---	---	---
Hexachlorocyclopentadiene	U	U	U	U	U	---	---	---	---	---	---
Hexachloroethane	U	U	U	U	U	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	500[c]	500[f]	500[f]	5,600	11,000	8,200
Isophorone	U	U	U	U	U	---	---	---	---	---	---
Naphthalene	U	U	U	U	U	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
Nitrobenzene	U	U	U	U	U	---	3,700	15,000	69,000	140,000	170
N-Nitroso-di-n-propylamine	U	UJ	UJ	UJ	UJ	---	---	---	---	---	---
N-Nitrosodiphenylamine	U	U	U	U	U	---	---	---	---	---	---
Pentachlorophenol	U	U	U	U	U	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	U	U	U	U	U	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Phenol	U	U	U	U	U	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
Pyrene	U	U	U	U	U	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total Semivolatile Compounds	90	0	0	0	0	---	---	---	---	---	---

Footnotes/Qualifiers:

ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
J: Estimated value or detection limit
---: No standard
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site

Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 3c
McKinney Property
Excavation 1 Documentation Soil Sample Results
Polychlorinated Biphenyls (PCBs)

Sample ID	EX1-SW-E	EX1-SW-W	EX1-SW-N	EX1-SW-S	EX1-EP	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				
Sampling Date	8/18/2014	8/18/2014	8/18/2014	8/18/2014	8/18/2014		Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PCBS											
PCB-1016	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1221	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1232	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1242	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1248	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1254	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1260	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1262	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1268	U	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
Total PCBs	0	0	0	0	0	100	1,000	1,000	1,000	25,000	3,200

Footnotes/Qualifiers:
ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 3d
McKinney Property
Excavation 1 Documentation Soil Sample Results
Target Analyte List Metals and Mercury

Sample ID	EX1-SW-E	EX1-SW-W	EX1-SW-N	EX1-SW-S	EX1-EP	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				
Sampling Date	8/18/2014	8/18/2014	8/18/2014	8/18/2014	8/18/2014		Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
METALS											
Aluminum	10,700	14,000	10,500	7,380	14,000	----	----	----	----	----	----
Antimony	U	U	U	U	UJ	----	----	----	----	----	----
Arsenic	4.16	2.61	2.39	1.71	2.26 J	13[c]	16[ǂ]	16[ǂ]	16[ǂ]	16[ǂ]	16[ǂ]
Barium	104	111	115	135	110	350[c]	350[f]	400	400	10,000[a]	820
Beryllium	0.448 J	0.588 J	0.439 J	U	0.594 J	7.2	14	72	590	2,700	47
Cadmium	U	U	U	U	U	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	72,500	77,100	73,700	60,400	69,700	----	----	----	----	----	----
Chromium	15.1	18.8	15.3	12.2	19.1	30[c]	36	180	1,500	6,800	----
Cobalt	8.25	8.5	8.75	6.61 J	9.77	----	----	----	----	----	----
Copper	18.3	20.6	19.8	16.1	23.6	50	270	270	270	10,000[a]	1,720
Iron	15,500	19,200	15,100	13,800	19,800	----	----	----	----	----	----
Lead	7.45	8.14	7.51	7.06	8.73	63[c]	400	400	1,000	3,900	450
Magnesium	19,100	20,900	27,700	21,900	26,100	----	----	----	----	----	----
Manganese	400	405	387	429	417 J-	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	0.0148 J	U	U	U	0.0172 J	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	18.1	23.2	22	15.4	25.9	30	140	310	310	10,000[a]	130
Potassium	2,620	3,430	2,920	1,740	3,660	----	----	----	----	----	----
Selenium	3.43	5.02	3.36	2.26	4.47 J	3.9[c]	36	180	1,500	6,800	4[f]
Silver	0.731 J	U	0.838 J	0.833 J	U	2	36	180	1,500	6,800	8.3
Sodium	163 J	229 J	240 J	186 J	366	----	----	----	----	----	----
Thallium	U	U	U	U	U	----	----	----	----	----	----
Vanadium	19.9	23.5	19.4	16	24.4	----	----	----	----	----	----
Zinc	38.3	48.5	42.8	30.6	52	109[ᵕ]	2,200	10,000[ᵕ]	10,000[ᵕ]	10,000[ᵕ]	2,480

Footnotes/Qualifiers:

mg/Kg: Milligrams per kilogram
U: Analyzed for but not detected
J: Estimated value or detection limit
J-: Estimated bias low
---: Not analyzed or no standard
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 4a
McKinney Property
Excavation 2 Documentation Soil Sample Results
Volatile Organic Compounds

Sample ID	EX2-SW-SW-3.7	EX2-SW-WW-3.10	EX2-SW-TAR-5-2.2	EX2-EP-5.5	EX2-SW-EW-4	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				Protection of Groundwater
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	8/28/2014		Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS											
1,1,1-Trichloroethane	U	U	UJ	U	U	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	680
1,1,2,2-Tetrachloroethane	U	U	UJ	U	U	---	---	---	---	---	---
1,1,2-Trichloroethane	U	U	UJ	U	U	---	---	---	---	---	---
1,1-Dichloroethane	U	U	UJ	U	U	270	19,000	26,000	240,000	480,000	270
1,1-Dichloroethene	U	U	UJ	U	U	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	330
1,2,3-Trichlorobenzene	U	U	UJ	U	U	---	---	---	---	---	---
1,2,4-Trichlorobenzene	U	U	UJ	U	U	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	U	U	UJ	U	U	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	U	U	UJ	U	U	---	---	---	---	---	---
1,2-Dichlorobenzene	U	U	UJ	U	U	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,2-Dichloroethane	U	U	UJ	U	U	20[c]	2,300	3,100	30,000	60,000	20[f]
1,2-Dichloropropane	U	U	UJ	U	U	---	---	---	---	---	---
1,3-Dichlorobenzene	U	U	UJ	U	U	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	UJ	U	U	1,800	9,800	13,000	130,000	250,000	1,800
1,4-Dioxane	R	R	R	R	R	100[b]	9,800	13,000	130,000	250,000	1,000[e]
2-Butanone	U	U	UJ	U	11.0 J	120	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	120
2-Hexanone	U	U	UJ	U	U	---	---	---	---	---	---
4-Methyl-2-pentanone	U	U	UJ	U	U	---	---	---	---	---	---
Acetone	43.6 B	77.2 B	47.7 J	21.1 JB	78.9 B	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	50
Benzene	U	U	UJ	U	U	60	2,900	4,800	44,000	89,000	60
Bromochloromethane	U	U	UJ	U	U	---	---	---	---	---	---
Bromodichloromethane	U	U	UJ	U	U	---	---	---	---	---	---
Bromoform	U	U	UJ	U	U	---	---	---	---	---	---
Bromomethane	U	U	UJ	U	U	---	---	---	---	---	---
Carbon disulfide	U	U	2.71 J	U	U	---	---	---	---	---	---
Carbon tetrachloride	U	U	UJ	U	U	760	1,400	2,400	22,000	44,000	760
Chlorobenzene	U	U	UJ	U	U	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
Chloroethane	U	U	UJ	U	U	---	---	---	---	---	---
Chloroform	U	U	UJ	U	U	370	10,000	49,000	350,000	700,000	370
Chloromethane	U	U	UJ	U	U	---	---	---	---	---	---
cis-1,2-Dichloroethene	U	U	UJ	U	U	250	59,000	100,000[a]	500,000[b]	1,000,000[c]	250
cis-1,3-Dichloropropene	U	U	UJ	U	U	---	---	---	---	---	---
Cyclohexane	U	U	UJ	U	U	---	---	---	---	---	---
Dibromochloromethane	U	U	UJ	U	U	---	---	---	---	---	---
Dichlorodifluoromethane	U	U	UJ	U	U	---	---	---	---	---	---
Ethylbenzene	U	U	UJ	U	U	1,000	30,000	41,000	390,000	780,000	1,000

See next page for Footnotes/Qualifiers

Table 4a
McKinney Property
Excavation 2 Documentation Soil Sample Results
Volatile Organic Compounds

Sample ID	EX2-SW-SW-3.7	EX2-SW-WW-3.10	EX2-SW-TAR-5-2.2	EX2-EP-5.5	EX2-SW-EW-4	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				Protection of Groundwater
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	8/28/2014		Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
COMPOUNDS CONTINUED											
Freon 113	U	U	UJ	U	U	---	---	---	---	---	---
Isopropylbenzene	U	U	3.08 J	U	U	---	---	---	---	---	---
m,p-Xylene	U	U	5.59 J	U	U	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,600
Methyl Acetate	U	U	UJ	U	U	---	---	---	---	---	---
Methyl tert-butyl ether	U	U	UJ	U	U	930	62,000	100,000[a]	500,000[b]	1,000,000[c]	930
Methylcyclohexane	U	U	UJ	U	U	---	---	---	---	---	---
Methylene chloride	U	U	UJ	U	U	50	51,000	100,000[a]	500,000[b]	1,000,000[c]	50
o-Xylene	U	U	9.97 J	U	U	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,600
Styrene	U	U	UJ	U	U	---	---	---	---	---	---
Tetrachloroethene	U	U	UJ	U	U	1,300	5,500	19,000	150,000	300,000	1,300
Toluene	U	U	UJ	U	U	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	700
trans-1,2-Dichloroethene	U	U	UJ	U	U	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	190
trans-1,3-Dichloropropene	U	U	UJ	U	U	---	---	---	---	---	---
Trichloroethene	U	U	UJ	U	U	470	10,000	21,000	200,000	400,000	470
Trichlorofluoromethane	U	U	UJ	U	U	---	---	---	---	---	---
Vinyl chloride	U	U	UJ	U	U	20	210	900	13,000	27,000	20
Total Volatile Compounds	43.6	77.2	69.05	21.1	89.9	---	---	---	---	---	---

Footnotes/Qualifiers:

ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
J: Estimated value
R: Unusable value
---: No standard
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 4b
McKinney Property
Excavation 2 Documentation Soil Sample Results
Semi-Volatile Organic Compounds

Sample ID	EX2-SW-SW-3.7	EX2-SW-WW-3.10	EX2-SW-TAR-5-2.2	EX2-EP-5.5	EX2-SW-EW-4	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				Protection of Groundwater
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	8/28/2014		Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILE COMPOUNDS											
1,2,4-Trichlorobenzene	U	U	U	U	U	---	---	---	---	---	---
1,2-Dichlorobenzene	U	U	U	U	U	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,3-Dichlorobenzene	U	U	U	U	U	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	U	U	U	1,800	9,800	13,000	130,000	250,000	1,800
2,4,5-Trichlorophenol	U	U	U	U	U	---	---	---	---	---	---
2,4,6-Trichlorophenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dichlorophenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dimethylphenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dinitrophenol	U	U	U	U	U	---	---	---	---	---	---
2,4-Dinitrotoluene	U	U	U	U	U	---	---	---	---	---	---
2,6-Dinitrotoluene	U	U	U	U	U	---	---	---	---	---	---
2-Chlorophenol	U	U	U	U	U	---	---	---	---	---	---
2-Methylnaphthalene	U	U	U	U	U	---	---	---	---	---	---
2-Methylphenol	U	U	U	U	U	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	330
2-Nitroaniline	U	U	U	U	U	---	---	---	---	---	---
2-Nitrophenol	U	U	U	U	U	---	---	---	---	---	---
3,3-Dichlorobenzidine	U	U	U	U	U	---	---	---	---	---	---
3-Nitroaniline	U	U	U	U	U	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	---	---	---	---	---	---
4-Bromophenyl-phenylether	U	U	U	U	U	---	---	---	---	---	---
4-Chloro-3-methylphenol	U	U	U	U	U	---	---	---	---	---	---
4-Chloroaniline	U	U	U	U	U	---	---	---	---	---	---
4-Chlorophenylphenyl ether	U	U	U	U	U	---	---	---	---	---	---
4-Nitroaniline	U	U	U	U	U	---	---	---	---	---	---
4-Nitrophenol	U	U	U	U	U	---	---	---	---	---	---
Acenaphthene	U	U	U	U	U	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
Acenaphthylene	U	U	U	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
Anthracene	U	U	1,330 J	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Benzo(a)anthracene	U	U	1,720 J	U	U	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Benzo(a)pyrene	U	U	***1,490 J***	U	U	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Benzo(b)fluoranthene	U	U	1,390 J	U	U	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(ghi)perylene	U	U	U	U	U	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Benzo(k)fluoranthene	U	U	1,060 J	U	U	800[c]	1,000	3,900	56,000	110,000	1,700
Benzyl butyl phthalate	U	U	U	U	U	---	---	---	---	---	---

See next page for Footnotes/Qualifiers

Table 4b
McKinney Property
Excavation 2 Documentation Soil Sample Results
Semi-Volatile Organic Compounds

Sample ID	EX2-SW-SW-3.7	EX2-SW-WW-3.10	EX2-SW-TAR-5-2.2	EX2-EP-5.5	EX2-SW-EW-4	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	8/28/2014		Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
COMPOUNDS CONTINUED											
Bis(2-chloroethoxy)methane	U	U	U	U	U	---	---	---	---	---	---
Bis(2-chloroethyl)ether	U	U	U	U	U	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	U	U	U	U	U	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate (BEHP)	U	U	U	U	U	---	---	---	---	---	---
Carbazole	U	U	U	U	U	---	---	---	---	---	---
Chrysene	U	U	2,780	U	U	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
Cresols, M	U	U	U	U	U	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
Dibenzo(a,h)anthracene	U	U	U	U	U	330[b]	330[e]	330[e]	560	1,100	1,000,000[c1]
Dibenzofuran	U	U	985 J	U	U	7,000	14,000	59,000	350,000	1,000,000[c]	6,200
Diethyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Dimethyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Di-n-butyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Di-n-octyl phthalate	U	U	U	U	U	---	---	---	---	---	---
Fluoranthene	U	U	3,980	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Fluorene	U	U	1,520 J	U	U	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Hexachlorobenzene	U	U	U	U	U	330	330	1,200	6,000	12,000	1,400
Hexachlorobutadiene	U	U	U	U	U	---	---	---	---	---	---
Hexachlorocyclopentadiene	U	U	U	U	U	---	---	---	---	---	---
Hexachloroethane	U	U	U	U	U	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	U	U	1,440 J	U	U	500[c]	500[f]	500[f]	5,600	11,000	8,200
Isophorone	U	U	U	U	U	---	---	---	---	---	---
Naphthalene	U	U	3,440	U	U	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
Nitrobenzene	U	U	U	U	U	---	3,700	15,000	69,000	140,000	170
N-Nitroso-di-n-propylamine	U	U	U	U	U	---	---	---	---	---	---
N-Nitrosodiphenylamine	U	U	U	U	U	---	---	---	---	---	---
Pentachlorophenol	U	U	U	U	U	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	U	U	3,850	U	U	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Phenol	U	U	U	U	U	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
Pyrene	U	U	3,850	U	U	100,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total Semivolatile Compounds	0	0	28,835	0	0	---	---	---	---	---	---

Footnotes/Qualifiers:

ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
J: Estimated value or limit
--: No standard
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site

Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
1700 Indicates the value exceeds the NYSDEC Commercial SCO
1700 Indicates the value exceeds the NYSDEC Industrial Use SCOs

Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 4c
McKinney Property
Excavation 2 Documentation Soil Sample Results
Polychlorinated Biphenyls (PCBs)

Sample ID	EX2-SW-SW-3.7	EX2-SW-WW-3.10	EX2-SW-TAR-5-2.2	EX2-EP-5.5	EX2-SW-EW-4	NYCRR 6 Part 375	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	8/28/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PCBS											
PCB-1016	U	U	UJ	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1221	U	U	UJ	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1232	U	U	UJ	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1242	U	U	UJ	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1248	U	U	135 J	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1254	U	U	94.3 J	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1260	U	U	UJ	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1262	U	U	UJ	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1268	U	U	UJ	U	U	100	1,000	1,000	1,000	25,000	3,200
Total PCBs	0	0	229.3	0	0	100	1,000	1,000	1,000	25,000	3,200

Footnotes/Qualifiers:
ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 4d
McKinney Property
Excavation 2 Documentation Soil Sample Results
Target Analyte List Metals and Mercury

Sample ID	EX2-SW-SW-3.7	EX2-SW-WW-3.10	EX2-SW-TAR-5-2.2	EX2-EP-5.5	EX2-SW-EW-4	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
							Protection of Public Health				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	8/28/2014		Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
METALS											
Aluminum	19,700	13,800	4,470	17,400	14,500	----	----	----	----	----	----
Antimony	6.49 J	4.75 J	14.1	4.19 J	4.67 J-	----	----	----	----	----	----
Arsenic	3.31	2.92	10.0	5.23	5.05 J	13[c]	16[f]	16[f]	16[f]	16[f]	16[f]
Barium	71.0	55.6	140.0	100	73.4	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.696	0.555	U	0.692	0.614	7.2	14	72	590	2,700	47
Cadmium	U	U	0.679	U	U	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	30,800	109,000	141,000	61,700	69,900	----	----	----	----	----	----
Chromium	52.9	18.4	21.0	22.0	19.1	30[c]	36	180	1,500	6,800	----
Cobalt	13.5	8.87	5.88 J	16.4	12.3	----	----	----	----	----	----
Copper	9.45	13.5	222	20.4	21.2 J	50	270	270	270	10,000[d]	1,720
Iron	27,700	19,700	41,300	24,500	23,500	----	----	----	----	----	----
Lead	10.6	12.7	501	10.5	24.2 J	63[c]	400	400	1,000	3,900	450
Magnesium	22,300	19,900	3,700	20,100	19,100	----	----	----	----	----	----
Manganese	662	398	482	786	476	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	0.0364	0.0200 J	0.221	0.0119 J	0.0226	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	50.4	23.3	49.6	31.8	28.9	30	140	310	310	10,000[d]	130
Potassium	3,700	3,050	870	3,970	3,110	----	----	----	----	----	----
Selenium	7.42	4.89	8.92	6.51	7.15 J	3.9[c]	36	180	1,500	6,800	4[f]
Silver	1.87	2.25	4.21	2.37	2.22	2	36	180	1,500	6,800	8.3
Sodium	174 J	153 J	U	243 J	190 J	----	----	----	----	----	----
Thallium	U	U	U	U	U	----	----	----	----	----	----
Vanadium	32.8	23.7	11.3	27.2	25.0	----	----	----	----	----	----
Zinc	76.6	47.1	1,850	52.6	57.2	109[c]	2,200	10,000[u]	10,000[u]	10,000[u]	2,480

Footnotes/Qualifiers:

mg/Kg: Milligrams per kilogram
U: Analyzed for but not detected
J: Estimated value
J-: Estimated bias low
--: Not analyzed or no standard
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 5a
McKinney Property
Excavation 3 Documentation Soil Sample Results
Volatile Organic Compounds

Sample ID	EX3-SW-WW-8	EX3-SW-SW-7.5	EX3-SW-EW-8	EX3-SW-EP-10	NYCRR 6 Part375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
						Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS										
1,1,1-Trichloroethane	UJ	UJ	UJ	UJ	680	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	680
1,1,2,2-Tetrachloroethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
1,1,2-Trichloroethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
1,1-Dichloroethane	UJ	UJ	UJ	UJ	270	19,000	26,000	240,000	480,000	270
1,1-Dichloroethene	UJ	UJ	UJ	UJ	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	330
1,2,3-Trichlorobenzene	UJ	UJ	UJ	UJ	---	---	---	---	---	---
1,2,4-Trichlorobenzene	UJ	UJ	UJ	UJ	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	UJ	UJ	UJ	UJ	---	---	---	---	---	---
1,2-Dichlorobenzene	UJ	UJ	UJ	UJ	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,2-Dichloroethane	UJ	UJ	UJ	UJ	20[c]	2,300	3,100	30,000	60,000	20[f]
1,2-Dichloropropane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
1,3-Dichlorobenzene	UJ	UJ	UJ	UJ	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	UJ	UJ	UJ	UJ	1,800	9,800	13,000	130,000	250,000	1,800
1,4-Dioxane	R	R	R	R	100[b]	9,800	13,000	130,000	250,000	1,000[e]
2-Butanone	14.2 J	15.2 J	19.6 J	UJ	120	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	120
2-Hexanone	UJ	UJ	UJ	UJ	---	---	---	---	---	---
4-Methyl-2-pentanone	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Acetone	108 J	84.4 J	113 J	51.7 J	50	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	50
Benzene	UJ	UJ	3.76 J	UJ	60	2,900	4,800	44,000	89,000	60
Bromochloromethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Bromodichloromethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Bromoform	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Bromomethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Carbon disulfide	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Carbon tetrachloride	UJ	UJ	UJ	UJ	760	1,400	2,400	22,000	44,000	760
Chlorobenzene	UJ	UJ	UJ	UJ	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
Chloroethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Chloroform	UJ	UJ	UJ	UJ	370	10,000	49,000	350,000	700,000	370
Chloromethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
cis-1,2-Dichloroethene	UJ	UJ	UJ	UJ	250	59,000	100,000[a]	500,000[b]	1,000,000[c]	250
cis-1,3-Dichloropropene	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Cyclohexane	UJ	13.1 J	48.7 J	UJ	---	---	---	---	---	---
Dibromochloromethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Dichlorodifluoromethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Ethylbenzene	6.89 J	21.1 J	19.8 J	UJ	1,000	30,000	41,000	390,000	780,000	1,000

See next page for Footnotes/Qualifiers

Table 5a
McKinney Property
Excavation 3 Documentation Soil Sample Results
Volatile Organic Compounds

Sample ID	EX3-SW-WW-8	EX3-SW-SW-7.5	EX3-SW-EW-8	EX3-SW-EP-10	NYCRR 6 Part375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
						Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
COMPOUNDS CONTINUED										
Freon 113	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Isopropylbenzene	6.00 J	22.5 J	10.7 J	UJ	---	---	---	---	---	---
m,p-Xylene	16.8 J	47.7 J	69.1 J	3.22 J	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,600
Methyl Acetate	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Methyl tert-butyl ether	UJ	UJ	UJ	UJ	930	62,000	100,000[a]	500,000[b]	1,000,000[c]	930
Methylcyclohexane	16.5 J	23.1 J	88.0 J	UJ	---	---	---	---	---	---
Methylene chloride	UJ	UJ	UJ	UJ	50	51,000	100,000[a]	500,000[b]	1,000,000[c]	50
o-Xylene	17.7 J	47.6 J	49.5 J	3.03 J	260	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,600
Styrene	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Tetrachloroethene	UJ	UJ	UJ	UJ	1,300	5,500	19,000	150,000	300,000	1,300
Toluene	3.42 J	6.76 J	5.48 J	UJ	700	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	700
trans-1,2-Dichloroethene	UJ	UJ	UJ	UJ	190	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	190
trans-1,3-Dichloropropene	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Trichloroethene	UJ	2.96 J	2.47 J	UJ	470	10,000	21,000	200,000	400,000	470
Trichlorofluoromethane	UJ	UJ	UJ	UJ	---	---	---	---	---	---
Vinyl chloride	UJ	UJ	UJ	UJ	20	210	900	13,000	27,000	20
Total Volatile Compounds	189.51	284.42	430.11	57.95	---	---	---	---	---	---

Footnotes/Qualifiers:

ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
J: Estimated value and detection limit
R: Unusable value
---: No standard
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 5b
McKinney Property
Excavation 3 Documentation Soil Sample Results
Semi-Volatile Organic Compounds

Sample ID	EX3-SW-WW-8	EX3-SW-SW-7.5	EX3-SW-EW-8	EX3-SW-EP-10	NYCRR 6 Part 375	Restricted Use Soil Cleanup Objectives				
						Protection of Public Health				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILE COMPOUNDS										
1,2,4-Trichlorobenzene	U	U	U	U	---	---	---	---	---	---
1,2-Dichlorobenzene	U	U	U	U	1,100	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	1,100
1,3-Dichlorobenzene	U	U	U	U	2,400	17,000	49,000	280,000	560,000	2,400
1,4-Dichlorobenzene	U	U	U	U	1,800	9,800	13,000	130,000	250,000	1,800
2,4,5-Trichlorophenol	U	U	U	U	---	---	---	---	---	---
2,4,6-Trichlorophenol	U	U	U	U	---	---	---	---	---	---
2,4-Dichlorophenol	U	U	U	U	---	---	---	---	---	---
2,4-Dimethylphenol	U	U	U	U	---	---	---	---	---	---
2,4-Dinitrophenol	U	U	U	U	---	---	---	---	---	---
2,4-Dinitrotoluene	U	U	U	U	---	---	---	---	---	---
2,6-Dinitrotoluene	U	U	U	U	---	---	---	---	---	---
2-Chlorophenol	U	U	U	U	---	---	---	---	---	---
2-Methylnaphthalene	U	U	U	U	---	---	---	---	---	---
2-Methylphenol	U	U	U	U	330	100,000[a]	100,000[a]	500,000[b]	1,000,000[c]	330
2-Nitroaniline	U	U	U	U	---	---	---	---	---	---
2-Nitrophenol	U	U	U	U	---	---	---	---	---	---
3,3-Dichlorobenzidine	U	U	U	U	---	---	---	---	---	---
3-Nitroaniline	U	U	U	U	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	U	U	U	U	---	---	---	---	---	---
4-Bromophenyl-phenylether	U	U	U	U	---	---	---	---	---	---
4-Chloro-3-methylphenol	U	U	U	U	---	---	---	---	---	---
4-Chloroaniline	U	U	U	U	---	---	---	---	---	---
4-Chlorophenylphenyl ether	U	U	U	U	---	---	---	---	---	---
4-Nitroaniline	U	U	U	U	---	---	---	---	---	---
4-Nitrophenol	U	U	U	U	---	---	---	---	---	---
Acenaphthene	U	U	U	U	20,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	98,000
Acenaphthylene	U	U	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	107,000
Anthracene	U	1,240	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Benzo(a)anthracene	U	239 J	U	U	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,000[f]
Benzo(a)pyrene	U	242 J	U	U	1,000[c]	1,000[f]	1,000[f]	1,000[f]	1,100	22,000
Benzo(b)fluoranthene	U	208 J	U	U	1,000[c]	1,000[f]	1,000[f]	5,600	11,000	1,700
Benzo(ghi)perylene	U	U	U	U	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Benzo(k)fluoranthene	U	319 J	U	U	800[c]	1,000	3,900	56,000	110,000	1,700
Benzyl butyl phthalate	U	U	U	U	---	---	---	---	---	---

See next page for Footnotes/Qualifiers

Table 5b
McKinney Property
Excavation 3 Documentation Soil Sample Results
Semi-Volatile Organic Compounds

Sample ID	EX3-SW-WW-8	EX3-SW-SW-7.5	EX3-SW-EW-8	EX3-SW-EP-10	NYCRR 6 Part 375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
						Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
COMPOUNDS CONTINUED										
Bis(2-chloroethoxy)methane	U	U	U	U	---	---	---	---	---	---
Bis(2-chloroethyl)ether	U	U	U	U	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	U	U	U	U	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate (BEHP)	U	U	U	U	---	---	---	---	---	---
Carbazole	U	U	U	U	---	---	---	---	---	---
Chrysene	472	941	1,790	304 J	1,000[c]	1,000[f]	3,900	56,000	110,000	1,000[f]
Cresols, M	U	U	U	U	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
Dibenzo(a,h)anthracene	U	U	U	U	330[b]	330[e]	330[e]	560	1,100	1,000,000[c1]
Dibenzofuran	U	U	U	U	7,000	14,000	59,000	350,000	1,000,000	6,200
Diethyl phthalate	U	U	U	U	---	---	---	---	---	---
Dimethyl phthalate	U	U	U	U	---	---	---	---	---	---
Di-n-butyl phthalate	U	U	U	U	---	---	---	---	---	---
Di-n-octyl phthalate	U	U	U	U	---	---	---	---	---	---
Fluoranthene	563	U	1,170 J	418	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Fluorene	287 J	442	U	U	30,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Hexachlorobenzene	U	U	U	U	330	330	1,200	6,000	12,000	1,400
Hexachlorobutadiene	U	U	U	U	---	---	---	---	---	---
Hexachlorocyclopentadiene	U	U	U	U	---	---	---	---	---	---
Hexachloroethane	U	U	U	U	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	U	269 J	U	U	500[c]	500[f]	500[f]	5,600	11,000	8,200
Isophorone	U	U	U	U	---	---	---	---	---	---
Naphthalene	U	U	U	U	12,000	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	12,000
Nitrobenzene	U	U	U	U	---	3,700	15,000	69,000	140,000	170
N-Nitroso-di-n-propylamine	U	U	U	U	---	---	---	---	---	---
N-Nitrosodiphenylamine	U	U	U	U	---	---	---	---	---	---
Pentachlorophenol	U	U	U	U	800[b]	2,400	6,700	6,700	55,000	800[e]
Phenanthrene	358	758	2,440	541	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Phenol	U	U	U	U	330[b]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	330[e]
Pyrene	444	855	1,380 J	373 J	100,000[a]	100,000[a]	100,000[a]	500,000[b1]	1,000,000[c]	1,000,000[c1]
Total Semivolatile Compounds	2,124	5,513	6,780	1,636	---	---	---	---	---	---

Footnotes/Qualifiers:

ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
J: Estimated value
---: No standard
a: The SCOs for unrestricted use, residential, restricted-residential and ecological resources use were capped at a maximum value of 100,000 ug/kg
b: For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
b1: The SCOs for commercial use were capped at a maximum value of 500,000 ug/kg
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
c1: The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1,000,000
e: For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site

Indicates the value exceeds the NYSDEC Unrestricted Use SCOs

Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 5c
McKinney Property
Excavation 3 Documentation Soil Sample Results
Polychlorinated Biphenyls (PCBs)

Sample ID	EX3-SW-WW-8	EX3-SW-SW-7.5	EX3-SW-EW-8	EX3-SW-EP-10	NYCRR 6 Part375	Restricted Use Soil Cleanup Objectives				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014	Unrestricted Use Soil Cleanup Objectives (SCO)	Protection of Public Health				Protection of Groundwater
						Residential	Restricted-Residential	Commercial	Industrial	
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PCBS										
PCB-1016	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1221	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1232	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1242	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1248	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1254	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1260	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1262	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
PCB-1268	U	U	U	U	100	1,000	1,000	1,000	25,000	3,200
Total PCBs	0	0	0	0	100	1,000	1,000	1,000	25,000	3,200

Footnotes/Qualifiers:
ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

Table 5d
McKinney Property
Excavation 3 Documentation Soil Sample Results
Target Analyte List Metals and Mercury

Sample ID	EX3-SW-WW-8	EX3-SW-SW-7.5	EX3-SW-EW-8	EX3-SW-EP-10	NYCRR 6 Part375 Unrestricted Use Soil Cleanup Objectives (SCO)	Restricted Use Soil Cleanup Objectives				
						Protection of Public Health				
Sampling Date	8/28/2014	8/28/2014	8/28/2014	8/28/2014		Residential	Restricted-Residential	Commercial	Industrial	Protection of Groundwater
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
METALS										
Aluminum	6,490	6,490	6,060	16,500	----	----	----	----	----	----
Antimony	U	U	U	5.85 J	----	----	----	----	----	----
Arsenic	2.61	2.20	1.20	5.22	13[c]	16[f]	16[f]	16[f]	16[f]	16[f]
Barium	74.2	56.7	46.5	96.9	350[c]	350[f]	400	400	10,000[d]	820
Beryllium	0.293 J	U	U	0.580 J	7.2	14	72	590	2,700	47
Cadmium	U	U	U	U	2.5[c]	2.5[f]	4.3	9.3	60	7.5
Calcium	51,800	56,800	45,000	44,100	----	----	----	----	----	----
Chromium	9.97	9.98	9.03	22.5	30[c]	36	180	1,500	6,800	----
Cobalt	5.77	4.94 J	5.31 J	8.57	----	----	----	----	----	----
Copper	15.6	13.0	16.9	23.4	50	270	270	270	10,000[d]	1,720
Iron	12,700	14,200	10,800	22,600	----	----	----	----	----	----
Lead	6.50	6.90	7.56	28.1	63[c]	400	400	1,000	3,900	450
Magnesium	18,400	19,200	14,800	17,900	----	----	----	----	----	----
Manganese	379	407	376	333	1,600[c]	2,000[f]	2,000[f]	10,000[d]	10,000[d]	2,000[f]
Mercury	0.0149	U	0.0127 J	0.132	0.18[c]	0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.73
Nickel	15.3	13.2	15.0	26.9	30	140	310	310	10,000[d]	130
Potassium	1,400	1,610	1,430	2,900	----	----	----	----	----	----
Selenium	2.76	3.45	1.78	7.08	3.9[c]	36	180	1,500	6,800	4[f]
Silver	1.53	1.63	1.31	1.81	2	36	180	1,500	6,800	8.3
Sodium	U	U	U	U	----	----	----	----	----	----
Thallium	U	U	U	U	----	----	----	----	----	----
Vanadium	14.1	14.2	12.9	25.8	----	----	----	----	----	----
Zinc	31.6	30.9	28.1	110	109[c]	2,200	10,000[c]	10,000[c]	10,000[c]	2,480

Footnotes/Qualifiers:

mg/Kg: Milligrams per kilogram
U: Analyzed for but not detected
J: Estimated value
---: No standard
c: For constituents where the calculated SCO was lower than the rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this site
d: The SCOs for metals were capped at a maximum value of 10,000 ppm
f: For constituents where the calculated SCO was lower than the rural soil background concentrations as determied by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site
j: This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)
Indicates the value exceeds the NYSDEC Unrestricted Use SCOs
Note that the exceedances for Residential, Restricted Residential and Protection of Groundwater use SCO are not shown on this table

APPENDIX E

CAMP

New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

APPENDIX F

SOIL BORING AND MONITORING WELL CONSTRUCTION LOGS

Driller: Parratt-Wolff, Inc. (Glen Lansing / Layne Peak)
Inspector: Dan Bishuk
Rig Type: Ingersoll Rand A300
Drilling Method: 4.25-in. ϕ HSA

Dvirka and Bartilucci Boring Log

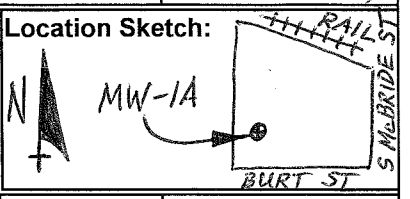
Project Name: McKinney Property/Syracuse
Project #: 2576
Boring Depth: _____

Boring ID: MW-1A
Sheet 1 of 1
Location: Near SW Corner of property

Groundwater Observations			
Date	9/22/10		
Time	14:10		
DTW	5.85		
Casing/Total Depth	13.72		

Start (Date & Time): 9/21/10 09:50
Finish (Date & Time): 9/21/10 12:30
Weather: Sunny Few Clouds
Temp 75°F/Calm; No Precip.
Elevation of Ground Surface: 15 ft

Location Sketch:



TIME	Sample Interval	Sample No.	Blows / Recovery (ft)	Headspace PID (ppm)	Field Description	Well Schematic	Comments
11:10	0-3	1	NA	275	0 Dark Brown SILT and f-m GRAVEL; Little vf-c Sand; Trace Clay (FILL) Dry to Slightly moist; Petroleum odor; Abundant metal, glass, plastic		0-3 ft FILL; Air Knife; Hand Dig to clear unknown utilities/structures
11:25	3-5	2	NA / 1.6	13	Gray to Grayish Brown SILT & CLAY; Trace vf-f Sand (Moist; Moderate plasticity; cohesive; Trace thin sand lenses in varves)		3 ft Encountered definitive native glaciolacustrine deposits; Begin auger drilling.
11:35	5-7	3	NA / 1.7	4	5 5-6.5 ft Same as 3-5 ft 6.5-7 ft Gray vf-f SAND & SILT; Trace Clay (Moist; Very moist at 6.5 ft; Cohesive; Pasty) Sand, Silt, and Clay in thin interlaminations)		
11:40	7-9	4	NA / 1.8	1.7	7-9 ft Same as 6.5-7 ft		No soil samples submitted for laboratory analysis.
11:45	9-11	5	NA / 1.8	1.5	Grayish Brown SILT; Some Clay; 10 Little vf-f Sand (Wet; cohesive; pasty)		
11:50	11-13	6	NA / 2.0	<1	Grayish Brown SILT; Little Clay; Trace vf-f Sand (Wet; Cohesive; Pasty; Thin varve interlaminations)		
12:05	13-15	7	NA / 1.8	<1	Grayish Brown SILT; Little vf-f Sand and Clay (Wet; Cohesive; Pasty; Thin varve interlaminations)		
					15 Bottom of Boring = 15 ft No Bedrock Encountered		

Soil Stratigraphy Summary: SILT interbedded and finely interlaminated with variable amounts of clay and vf-f sand (Varves)

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Well Construction Log

Site McKinney Property / Syracuse Job No. 2576 Well No. MW-1A

Total Depth 14.15 Surface Elevation 402.94 Top Riser Elevation 402.76

Water Levels (Depth, Date, Time) 5.85 @ 9/22/10 14:10 Date Installed 9/21/10
modified 10/7/14

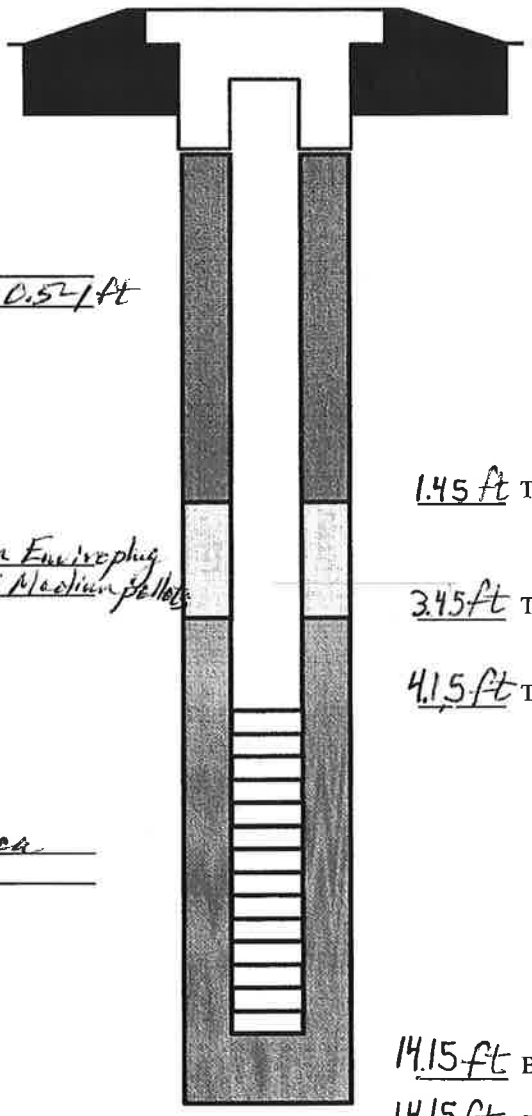
Riser Dia. 2-inch Material Sch 40 PVC Length 3.97 ft
Screen Dia. 2-inch Material Sch 40 PVC Length 10 ft Slot Size 10

SCHEMATIC

Surface Seal Type
Quikcrete concrete mix

Ground Surface
402.76 Riser Elevation
0.5 Bottom Surface Seal

Grout Type None
Secondary Sand Pack = 0.5 ft



1.45 ft Top Seal

Seal Type Wyo-Ben Envirosphere
50 lbs. of Ace 16 Medium pellets

3.45 ft Top Sand Pack

4.15 ft Top Screen

Sand Pack Type US Silica
Size 0

14.15 ft Bottom Screen

14.15 ft Total Depth of Boring

Driller: Parratt-Wolff, Inc. (Glen Lansing / Layne Peck)
Inspector: Dan Bishuk
Rig Type: Ingersoll Rand A300
Drilling Method: 4.25-in. ØHSA

Dvirka and Bartilucci Boring Log

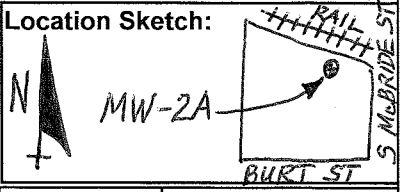
Project Name: McKinney Property / Syracuse
Project #: 2576
Boring Depth: 13 ft

Boring ID: MW-2A
Sheet 1 of 1
Location: Near NE corner of property

Groundwater Observations			
Date	9/22/10		
Time	15:15		
DTW	9.20		
Casing/Total Depth	12.92		

Start (Date & Time): 9/21/10 14:30
Finish (Date & Time): 9/22/10 08:55
Weather: Sunny Few Clouds
Temp 75°F; Calm; No Precip.
Elevation of Ground Surface: ____

Location Sketch:



TIME	Sample Interval	Sample No.	Blows/Recovery (ft)	Headspace PID (ppm)	Field Description	Well Schematic	Comments
14:30 to 15:40	0-3	1	NA	45	0 Dark Brown to Dark Gray SILT and f-m GRAVEL; Little vf-c Sand (Moist; Petroleum Odor; Cohesive; Abundant metal, glass, concrete, and brick fragments)		0-3 ft: FILL; Air Knife; Hand Dig to clear unknown utilities/structures
15:45	3-5	2	NA 0.4	1.5	Brown SILT & CLAY; Little vf-f Sand (Moist to Very moist; Cohesive; Moderate plasticity; Thin varve interlaminations)		3ft Encountered definitive native glacio/lacustrine deposits; Begin auger drilling.
15:50	5-7	3	NA 2	1.5	5 Brown SILT & CLAY; Trace vf-f Sand (Very moist; Wet @ 5.5-6ft; Cohesive; Moderate plasticity; Varves)		
15:55	7-9	4	NA 2	1.0	7-7.8 ft Same as 5-7 ft. 7.8-9 ft Grayish Brown SILT; Some vf-f Sand; Trace Clay (Wet; Thin varve interlaminations)		No soil samples submitted for laboratory analysis.
16:10	9-11	5	NA 2	<1	9-10.2 ft Light Brown to Brown SILT and vf-f SAND; Trace Clay (Wet; Varves) 10 10.2-11 ft Reddish Brown SILT; Little Clay; Trace vf-f Sand (Wet; Cohesive; Pasty)		
16:15	11-13	6	NA 2	<1	11-11.9 ft Light Brown vf-m SAND; Little Silt; Trace c Sand and f Gravel (Wet; Slightly cohesive) 11.9-13 ft Reddish Brown SILT; Some Clay; Trace vf-f Sand (Wet; Cohesive; Pasty) Bottom of Boring = 13 ft 15 No Bedrock Encountered		

Soil Stratigraphy Summary: SILT interbedded and finely interlaminated with variable amounts of clay and vf-f Sand (Varves)

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Well Construction Log

Site McKinney Property/Syracuse Job No. 2576 Well No. MW-2A

Total Depth 14.63 Surface Elevation 404.60 Top Riser Elevation 404.38

Water Levels (Depth, Date, Time) 9.20 ft btoc @ 9/22/10 15:15 Date Installed 9/22/10 modified 10/7/14

Riser Dia. 2-inch Material Sch 40 PVC Length 4.41 ft

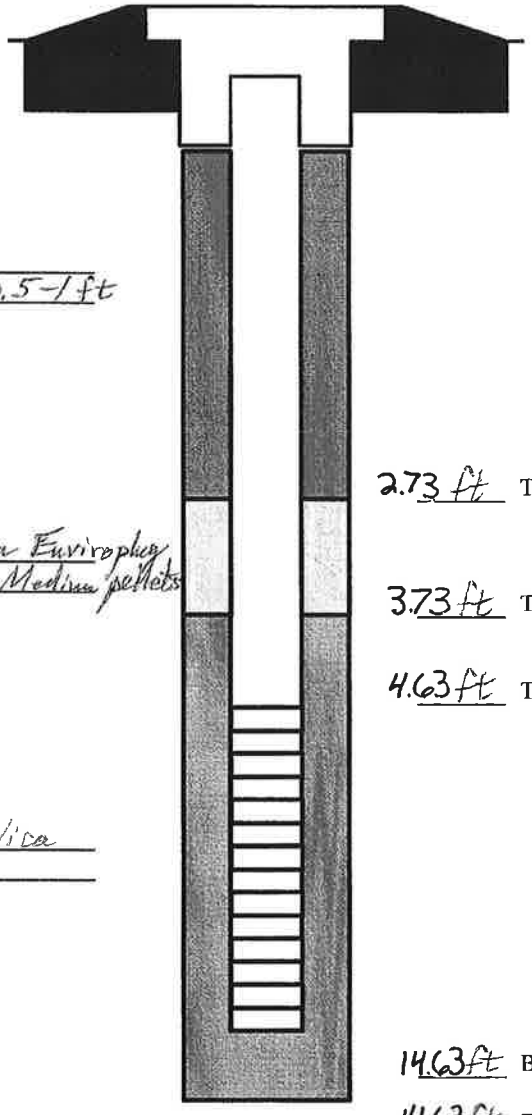
Screen Dia. 2-inch Material Sch 40 PVC Length 10. ft Slot Size 10

SCHEMATIC

Surface Seal Type Quikcrete concrete mix

Ground Surface
404.38 Riser Elevation
0.5 Bottom Surface Seal

Grout Type None
Secondary Sand Pack = 0.5-1 ft



2.73 ft Top Seal

Seal Type Wyo-Ben Enviroplug
50 lbs of #1 No. 16 Medium pellets

3.73 ft Top Sand Pack

4.63 ft Top Screen

Sand Pack Type US Silica
Size 0

14.63 ft Bottom Screen

14.63 ft Total Depth of Boring

Driller: Parratt-Wolff, Inc. (Lee Penrod, Shawn Bodah)
Inspector: Emily Thurston
Rig Type: CME 75
Drilling Method: 4.25-in ϕ HSA

D&B Boring Log

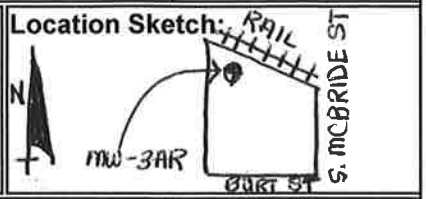
Project Name: McKinney Property/Syracuse
Project #: 2576
Boring Depth: 13ft

Boring ID: MW-3AR
Sheet 1 of 1
Location: Near NW corner of property

Groundwater Observations			
Date	11/2/15		
Time	11:47		
DTW	3.00		
Casing/Total Depth	13ft		

Start (Date & Time): 11/2/15
Finish (Date & Time): 11/2/15
Weather: Partly cloudy 55°F - 61°F wind NW @ 5mph
Elevation of Ground Surface:

Location Sketch:



TIME	Sample Interval	Sample No.	Blows		Field Description	Well Schematic	Comments
11:45		N/A	N/A		0-2ft cover material (gravel)		0-2ft COVER
					3-5ft Clean Fill - clean material from site Dark Gray to Black SILT. some clays, some gravel.		3-5ft CLEAN FILL
					5 5-8.5ft Brown SILT; some clay; Trace vf-f Sand (wet; cohesive; evidence of thin varve interlaminations)		5-13ft
					8.5-10ft Brown SILT and vf-f sand; Some clay (wet; cohesive)		
					10 10-11.5ft Lt Brown to Reddish Brown SILT; Little vf-f sand & clay (wet; Cohesive)		
					11.5-13ft Brown SILT & CLAY; trace vf sand (wet; cohesive)		
					13 Bottom of Boring = 13ft No Bedrock Encountered		No soil samples submitted for laboratory analysis

Soil Stratigraphy Summary

D&B ENGINEERS AND ARCHITECTS, P.C.

Well Construction Log

Site McKinney Property / Syracuse Job No. 2576 Well No. MW-3AR

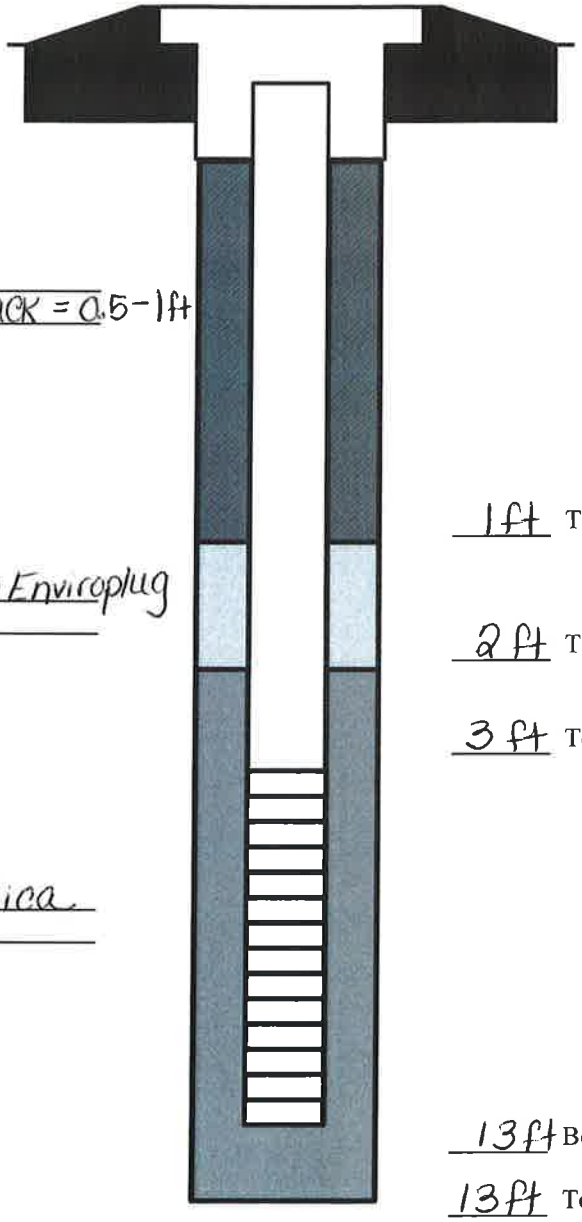
Total Depth 13ft bgs Surface Elevation 405.14 Top Riser Elevation 404.89

Water Levels (Depth, Date, Time) 3 ft bgs (11/2/15 - 11:47) Date Installed 11/2/15

Riser Dia. 2-inch Material Sch 40 PVC Length 3ft

Screen Dia. 2-inch Material Sch 40 PVC Length 10ft Slot Size 10

SCHEMATIC



Surface Seal Type Quickrete Concrete mix

Ground Surface

404.89 Riser Elevation

0.5ft Bottom Surface Seal

Grout Type NONE

secondary sand pack = 0.5-1ft

1ft Top Seal

Seal Type Wyo-Ben Enviroplug

2 ft Top Sand Pack

3 ft Top Screen

Sand Pack Type U.S. Silica.

Size Ø

13ft Bottom Screen

13ft Total Depth of Boring

Driller: Parratt-Wolff, Inc (Lee Penrod, Shawn Bodah)
Inspector: Emily Thurston
Rig Type: CME 75
Drilling Method: 4.25-in ϕ HSA

D&B Boring Log

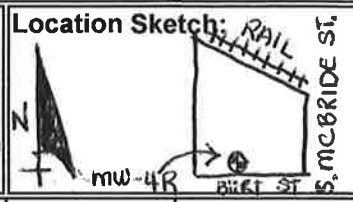
Project Name: McKinney Property/Syracuse
Project #: 25716
Boring Depth: 13 ft

Boring ID: MW-4R
Sheet 1 of 1
Location: S-central property boundary

Groundwater Observations			
Date	11/2/15		
Time	14:25		
DTW	5.90		
Casing/Total Depth	13ft		

Start (Date & Time): 11/2/15
Finish (Date & Time): 11/2/15
Weather: Mostly Sunny
55°F-61°F, wind. NW@5mph
Elevation of Ground Surface: _____

Location Sketch:



TIME	Sample Interval	Sample No.	Blows		Field Description	Well Schematic	Comments
09:10	N/A	N/A	N/A		0 cover material (gravel)		0-2ft COVER
					clean fill - clean material from site Brown gray vf-c SAND & SILT; some Gravel. (moist to very moist)		2-11 ft FILL
					5 wet @ ≈ 5'9"		
					10		
					Grayish Brown SILT; some clays; Little vf sand (wet, cohesive; rare varves)		11-13 ft
10:40					13 Bottom of Boring = 13 ft No Bedrock Encountered		No soil samples submitted for laboratory analysis

Soil Stratigraphy Summary _____

D&B ENGINEERS AND ARCHITECTS, P.C.

Well Construction Log

Site mckinney Property /Syracuse Job No. 2576 Well No. mw-4R

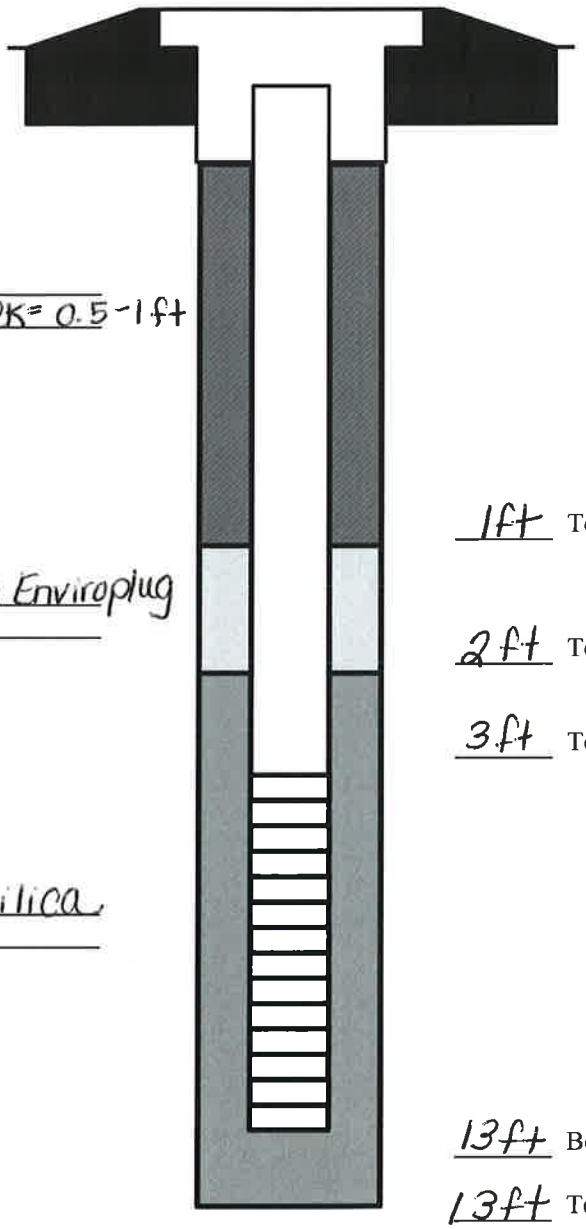
Total Depth 13 ft bgs Surface Elevation 403.13 Top Riser Elevation 403.00

Water Levels (Depth, Date, Time) (11/2/15 – 14:25) 5'9" bgs Date Installed 11/2/15

Riser Dia. 2-inch Material Sch40 PVC Length 3ft

Screen Dia. 2-inch Material Sch 40 PVC Length 10ft Slot Size 10

SCHEMATIC



Surface Seal Type Quickrete Concrete mix

Ground Surface

403.00 Riser Elevation

0.5ft Bottom Surface Seal

Grout Type NONE

secondary sand pack = 0.5 - 1 ft

1ft Top Seal

Seal Type Wyo-Ben Enviroplug

2ft Top Sand Pack

3ft Top Screen

Sand Pack Type U.S. Silica

Size Ø

13ft Bottom Screen

13ft Total Depth of Boring

SBRI-3 / MW-5

Driller: Parratt-Wolff, Inc Jolaun Price Sean Cornell
Inspector: Dan Bishuk
Rig Type: CME 75
Drilling Method: 4.25-in. ϕ HSA

Dvirka and Bartilucci Boring Log

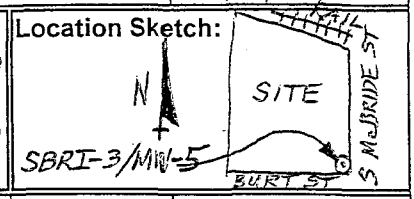
Project Name: McKinney Property/Syracuse
Project #: 2576
Boring Depth: 13 ft

Boring ID: SBRI-3/MW-5
Sheet 1 of 1
Location: SE corner of property

Groundwater Observations			
Date	3/6/08		
Time	09:00		
DTW	2.55		
Casing/Total Depth	12.65		

Start (Date & Time): 2/19/08 12:50
Finish (Date & Time): 2/20/08 09:30
Weather: Overcast 35-40°F
No Precip; Wind NE @ 0-10 mph
Elevation of Ground Surface: ____

Location Sketch:



DATE TIME	Sample Interval	Sample No.	Blows/ Recovery(ft)	Headspace PID (ppm)	Field Description	Well Schematic	Comments
2/19/08 12:50	0-2	1	NA	<1	0 Brown Gray m-c SAND & f-m GRAVEL; Little vf-f Sand & Silt (Moist; Non-cohesive; Abundant metal, brick, concrete, and plastic fragments)		0-5 ft Air Knife/ Hand Dig 0-2 ft FILL
2/19/08 12:55	2-4	2	NA	<1	Brown SILT & CLAY; Trace vf Sand (Wet; Cohesive; Moderate plasticity)		* Submitted subsurface soil sample SBRI-3(2-4) for laboratory analysis
2/19/08 13:05	4-5	3	NA	<1	Same as 2-4 ft interval (Wet)		2-8 ft Probable native glaciolacustrine deposits or reworked material
2/20/08 0905	5-7	4	NA 2.0	<1	5 Gray Brown SILT; Some Clay; Little vf-f Sand (Wet; Cohesive; Pasty to Slightly Plastic)		
2/20/08 0910	7-9	5	NA 2.0	<1	7-8 ft Brown SILT; Some f Gravel; Little vf-c Sand; Trace Clay (Wet; Cohesive; Pasty) 8-9 ft Reddish Brown SILT & CLAY; Trace vf Sand (Wet; Cohesive; Low Plasticity; Varve interlaminations)		* Submitted subsurface soil sample SBRI-3(7-9) for laboratory analysis
2/20/08 0915	9-11	6	NA 2.0	<1	Reddish Brown SILT; Some Clay; 10 Little vf Sand (Wet; Cohesive; Pasty to slightly plastic; Varve interlaminations)		8-13 ft Definitely native glaciolacustrine deposits.
2/20/08 0930	11-13	7	NA 2.0	<1	Same as 9-11 ft interval (Wet)		
					Bottom of Boring = 13 ft No Bedrock Encountered 15		

WELL CONSTRUCTION SUMMARY

Screened Interval = 3-13 ft
Screen Type = Drillers Services, Inc. Sch 40 PVC 10 slot
Sand Pack Interval = 2-13 ft
Sand Pack Type = US Silica Size O (275 lbs.)
Bentonite Interval = 1-2 ft
Bentonite Type = Wyo-Ben Enviroplug 25 lbs. of No. 16 Medium Pellets
Secondary Sand Pack = 0.5-1 ft
Riser Casing Interval = 0.3-3 ft
Riser Casing Type = Drillers Services, Inc. Sch 40 PVC
Flush-Mount = 8" ϕ roadbox with 4 1/6" bolts set in a 12" ϕ concrete tube concrete

Soil Stratigraphy Summary: Interbedded and interlaminated SILT with variable amounts of clay and vf-f Sand (Varves)

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Well Construction Log

Site McKinney Property / Syracuse Job No. 2576 Well No. MW-5 (SBRI-3)

Total Depth 12.65 ft btoc Surface Elevation 402.57 ft MSL Top Riser Elevation 402.18 ft MSL

Water Levels (Depth, Date, Time) 2.55 ft btoc (3/6/08 – 09:00) Date Installed 2/19/08 & 2/20/08

Riser Dia. 2-inch Material Sch 40 PVC Length 2.7 ft

Screen Dia. 2-inch Material Sch 40 PVC Length 10 ft Slot Size 10

SCHEMATIC

Surface Seal Type Quikrete concrete mix

Ground Surface

402.18 ft MSL Riser Elevation

≈0.5 ft bgs Bottom Surface Seal

Grout Type None

Secondary Sand Pack = 0.5–1 ft

1 ft Top Seal

Seal Type Wyo-Ben Enviroplug 25 lbs. of No. 16 Medium Pellets

2 ft Top Sand Pack

3 ft Top Screen

Sand Pack Type US Silica

Size 0

13 ft Bottom Screen

13 ft Total Depth of Boring

SBRI-6/MW-6

Dvirka and Bartilucci Boring Log

Boring ID: SBRI-6/MW-6

Driller: Parratt-Wolff, Inc. Jolean Price Sean Cornell
Inspector: Dan Bishuk
Rig Type: CME 75
Drilling Method: 4.25-in. ϕ HSA

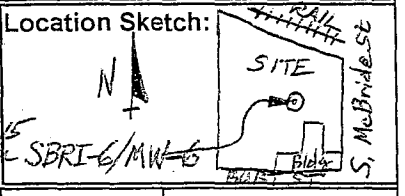
Project Name: McKinney Property/Syracuse
Project #: 2576
Boring Depth: 14 ft

Sheet 1 of 1
Location: E-central part of property

Groundwater Observations			
Date	3/6/08		
Time	09:00		
DTW	3.25		
Casing/Total Depth	12.99		

Start (Date & Time): 2/20/08 13:10
Finish (Date & Time): 2/21/08 09:35
Weather: Mostly Cloudy 30°'s F
No Precip; Wind NW@5-15 mph
Elevation of Ground Surface: ____

Location Sketch:



TIME	Sample Interval	Sample No.	Blows/ Recovery (ft)	Headspace PID (ppm)	Field Description	Well Schematic	Comments
13:15	0-2	1	NA No Recovery	NC	0 FILL — No split spoon recovery		0-4 ft FILL
13:20	2-4	2	NA No Recovery	NC	FILL — No split spoon recovery		
15:45	4-6	3	NA 2.0	<1	Grayish Brown SILT; Some Clay; Little Silt (Wet; Cohesive; Pasty to slightly plastic; Rare varve interlaminations)		* Submitted subsurface soil sample SBRI-6(4-6) for laboratory analysis
15:50	6-8	4	NA 2.0	<1	6-7.1 ft Brown vf-f SAND; Some Silt; Trace m Sand (Wet; Semi-cohesive)		4-14 ft Definitely native glaciolacustrine deposits.
					7.1-8 ft Brown SILT & vf-f SAND; Little Clay (Wet; Cohesive; Slight plasticity)		
15:55	8-10	5	NA 2.0	<1	8-9.5 ft Brown vf-f SAND; Little Silt and m Sand (Wet; Non- to semi-cohesive)		* Submitted subsurface soil sample SBRI-6(8-10) for laboratory analysis
16:05	10-12	6	NA 2.0	<1	10 9.5-10 ft Red Brown SILT; Some Clay & vf-f Sand		
					10-11.5 ft Brown vf-m SAND; Little Silt; Trace c Sand & f Gravel (Wet; Non-cohesive)		
					11.5-12 ft Red Brown SILT; Some vf-f Sand and Clay (Wet; Cohesive; Slightly plastic; Varve interlaminations)		
16:15	12-14	7	NA 2.0	<1	12-14 ft Same as 11.5-12 ft interval		
					Bottom of Boring = 14 ft		
					15 No Bedrock Encountered		

WELL CONSTRUCTION SUMMARY

Screened Interval = 3-13 ft
Screen Type = Drillers Services, In Sch 40 PVC 10 slot
Sand Pack Interval = 2-13 ft
Sand Pack Type = US Silica Siz (275 lbs)
Bentonite Interval = 1-2 ft
Bentonite Type = Wyo-Ben Enviro 25 lbs of No. 16 Medium Pellets
Secondary Sand Pack = 0.5-1 ft
Riser Casing Interval = 0.3-3 ft
Riser Casing Type = Drillers Services Sch 40 PVC
Flush-Mount = 8" ϕ roadbox with bolts set in a 12" ϕ sonnet tube cone pad

Soil Stratigraphy Summary: Interbedded and interlaminated SILT with variable amounts of clay and vf-f sand (Varves)

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Well Construction Log

Site McKinney Property/Syracuse Job No. 2576 Well No. MW-6 (SBRI-6)

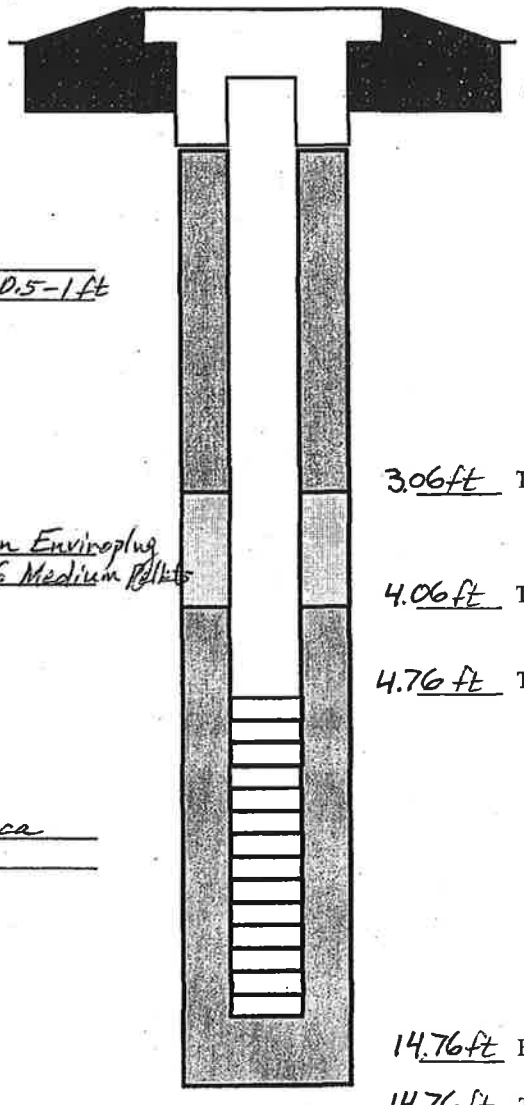
Total Depth 14.76 Surface Elevation 404.21 Top Riser Elevation 404.06

Water Levels (Depth, Date, Time) 3.25 ft btoc (3/6/08 - 09:00) Date Installed 2/20/08 & 2/21/08 modified 10/7/14

Riser Dia. 2-inch Material Sch 40 PVC Length 4.61 ft

Screen Dia. 2-inch Material Sch 40 PVC Length 10 ft Slot Size 10

SCHEMATIC



Surface Seal Type Quikrete concrete mix

Ground Surface 404.06 Riser Elevation

≈0.5 ft bgs Bottom Surface Seal

Grout Type None

Secondary Sand Pack = 0.5-1 ft

3.06 ft Top Seal

Seal Type Wyo-Ben Enviroplug 25 lbs. of No. 16 Medium Pellets

4.06 ft Top Sand Pack

4.76 ft Top Screen

Sand Pack Type US Silica

Size D

14.76 ft Bottom Screen

14.76 ft Total Depth of Boring

SBRI-7/MW-7

Driller: Parratt-Wolff, Inc. Jolaan Price Sean Cornell
Inspector: Dan Bishuk
Rig Type: CME 75
Drilling Method: 4.25-in. ϕ HSA

Dvirka and Bartilucci Boring Log

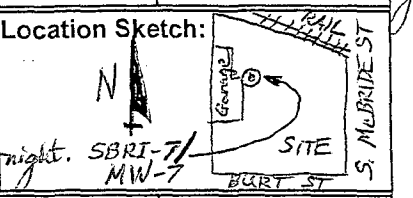
Project Name: McKinney Property/Syracuse
Project #: 2576
Boring Depth: 14 ft

Boring ID: SBRI-7/MW-7
Sheet 1 of 1
Location: W-central part of property on the E-central side of the existing garage

Groundwater Observations			
Date	3/6/08		
Time	09:00		
DTW	4.00		
Casing/Total Depth	13.72		

Start (Date & Time): 2/21/08 09:50
Finish (Date & Time): 2/21/08 12:00
Weather: Mostly Sunny Teens °F
No Precip; Wind W-NW@0-10mph; ~7in. new snow overnight.
Elevation of Ground Surface:

Location Sketch:



TIME	Sample Interval	Sample No.	Blows/Recovery	Headspace (ppm) PID	Field Description	Well Schematic	Comments
09:55	0-2	1	NA / 2.0	<1	0 Dark Gray to Black Stained m-c SAND & f-m GRAVEL; Little vf-f Sand; Trace Silt (Moist; Non-cohesive; Abundant metal, concrete, and plastic fragments)		0-2 ft FILL
10:10	2-4	2	NA / 1.5	<1	Reddish Grayish Brown SILT & CLAY; Little vf-f Sand; Trace m-c Sand (Very Moist; Wet @ 3 ft; Cohesive; Low to moderate plasticity; Varve interlamination)		* Submitted subsurface soil sample SBRI-7(2-4) for laboratory analysis
10:20	4-6	3	NA / 1.2	<1	4-6 ft Same as 2-4 ft interval		2-14 ft Definitely native glaciolacustrine deposits
10:30	6-8	4	NA / 2.0	<1	6-7.5 ft Same as 2-4 ft interval		
10:40	8-10	5	NA / 2.0	<1	7.5-8 ft Gray Brown vf-f SAND & SILT (Wet; Cohesive); 8-9.2 ft Gray Brown SILT; Some vf-f Sand; Little Clay (Wet; Cohesive; Pasty)		* Submitted subsurface soil sample SBRI-7(8-10) for laboratory analysis
10:50	10-12	6	NA / 2.0	<1	9.2-10 ft Reddish Brown-Gray SILT; Some Clay; Little vf-f Sand (Wet; Varves); 10-10.8 ft Same as 9.2-10 ft. interval; 10.8-12 ft Reddish Gray SILT; Little vf Sand & Clay (Wet; Cohesive; Pasty)		
11:00	12-14	7	NA / 1.3	<1	Brown Gray SILT; Some Clay; Trace vf-f Sand (Wet; Cohesive; Pasty; Slightly plastic; Rare Varve interlaminations)		
					Bottom of Boring = 14 ft; No Bedrock Encountered		

Soil Stratigraphy Summary: Interbedded and interlaminated SILT with variable amounts of clay and vf-f sand (Varves)

WELL CONSTRUCTION SUMMARY
Screened Interval = 4-14 ft
Screen Type = Drillers Services, I
Sch 40 PVC 10 slot
Sand Pack Interval = 2.5-14 ft
Sand Pack Type = US Silica Size C
(350 lbs.)
Bentonite Interval = 1-2.5 ft
Bentonite Type = Wyo-Ben Enviro
50 lbs. of No. 16 Medium Pelle
Secondary Sand Pack = 0.5-1 ft
Riser Casing Interval = 0.3-4 ft
Riser Casing Type = Drillers Servi
Sch 40 PVC

d&b boring log -GG version.xls

Flush-Mount = 8" ϕ roadbox with bolts set in a 12" sonnet tube concre

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Well Construction Log

Site McKinney Property / Syracuse Job No. 2576 Well No. MW-7 (SBRI-7)

Total Depth 15.29 Surface Elevation 404.59 Top Riser Elevation 404.25

Water Levels (Depth, Date, Time) 4.00 ft btoc (3/6/08 – 09:00) Date Installed 2/21/08 Modified 10/7/14

Riser Dia. 2-inch Material Sch 40 PVC Length 4.95 ft

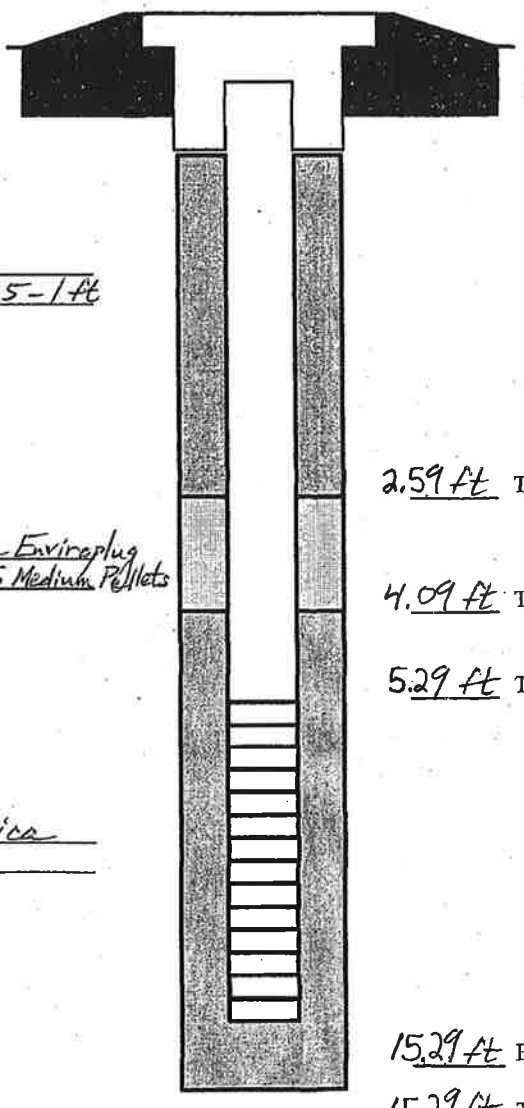
Screen Dia. 2-inch Material Sch 40 PVC Length 10 ft Slot Size 10

SCHEMATIC

Surface Seal Type QuikCrete concrete mix

Ground Surface 404.25 Riser Elevation ≈0.5 ft bgs Bottom Surface Seal

Grout Type None
Secondary Sand Pack = 0.5 – 1 ft



2.59 ft Top Seal

Seal Type Wyo-Ben Enviroplug 50 lbs. & No. 16 Medium Pellets

4.09 ft Top Sand Pack

5.29 ft Top Screen

Sand Pack Type US Silica
Size 0

15.29 ft Bottom Screen

15.29 ft Total Depth of Boring

SBRI-9/MW-8

Driller: Parratt-Wolff, Inc.
Inspector: Jim Magda
Rig Type: IR Direct-Push/HSA combo
Drilling Method: 2" Ø SS direct push 4 1/4" Ø HSA well

Dvirka and Bartilucci Boring Log

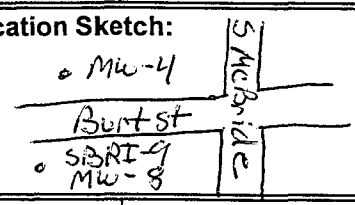
Project Name: McKinney Property Site
Project #: 2576
Boring Depth: 15'

Boring ID: ___
Sheet 1 of 1
Location: offsite South of site

Groundwater Observations			
Date	3/17/10		
Time	1323		
DTW	11.0'		
Casing/Total Depth	15.0'		

Start (Date & Time): 3/17/10 0955
Finish (Date & Time): 3/17/10 1334
Weather: Sunny, Temp Low 50s wind calm
Elevation of Ground Surface: 402.10

Location Sketch:



Sample Interval	Sample No.	Blows	PID (ppm)	Field Description	Well Schematic	Comments
0-2	1	NA	0.0	orange/Brown SILT + CLAY, trace angular gravel, moist cohesive + slightly plastic (Fill)		hand clear to 4.0' bgs for utilities
	0955					
2-4	2	NA	0.0	same as above		
	1047					
4-6	3					
	1107	NA	0.0	orange/Brown SILT, trace CLAY		
	90% rec					
6-8	4					
	1110	NA	0.0	same as above, wet @ 7.8		
	90% rec					
8-10	5					Observed
	1143	NA	0.0	same as above, wet		
	50% rec					
10-12	6	NA		NO recovery		Measured
	1146					
	0% rec					
12-14	7	NA	0.0	Gray SILT, trace F-VF SAND, wet, cohesive, plastic		
	1154					
	80% rec					
				HSA to 15' + set well		Screened interval 15-5' bgs 10-slot Sch 40 PVC Drillers Services INC.
				Bottom of boring at 15'		Sand Pack 15-3.5' bgs US Silica NJ#0 250 lbs
				NO bedrock encountered		Wyo-Ben medium chips 3.5-1.0' bgs 50 lbs
						Riser 5-0' bgs sched 40 PVC
						Flush mount 8" Ø curb box w/ concrete

Soil Stratigraphy Summary ___

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Well Construction Log

Site McKinney Property Site Job No. 2576 Well No. MW-8

Total Depth 15.0 Surface Elevation 402.10 Top Riser Elevation 401.67

Water Levels (Depth, Date, Time) 3/17/10 11'695 Date Installed 3/17/2010

Riser Dia. 2" Material PVC Length 5'

Screen Dia. 2" Material PVC Length 10' Slot Size 0.010

SCHEMATIC

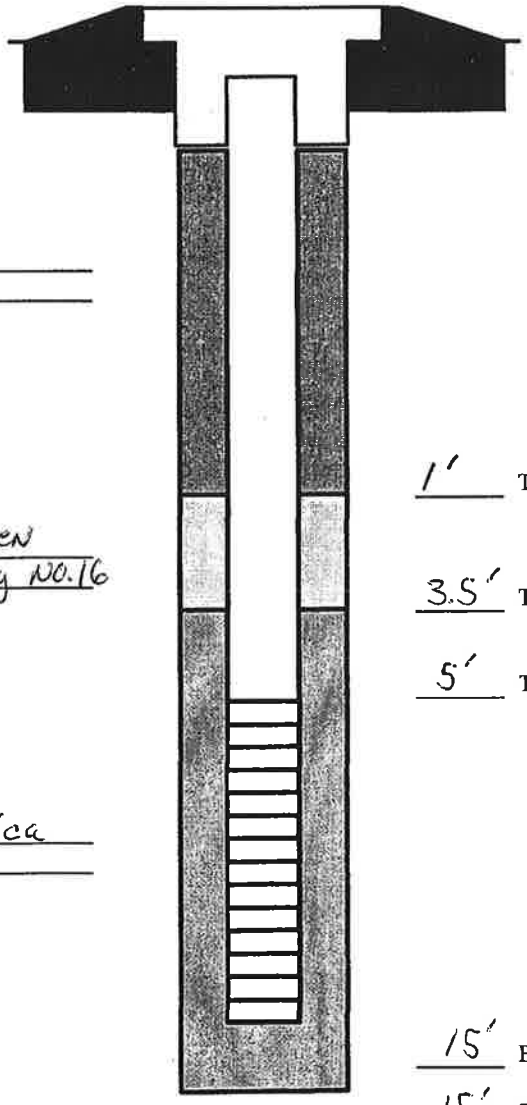
Surface Seal Type Quikrete concrete

Ground Surface

401.67 Riser Elevation

0.5' bgs Bottom Surface Seal

Grout Type None



1' Top Seal

Seal Type Wyo-Ben Enviroplug No. 16

3.5' Top Sand Pack

5' Top Screen

Sand Pack Type US Silica

Size 0

15' Bottom Screen

15' Total Depth of Boring

APPENDIX G

HASP

CORPORATE HEALTH AND SAFETY PLAN

JANUARY 2015

D&B Engineers and Architects, P.C.

50 YEARS est. 1965

D&B ENGINEERS AND ARCHITECTS, P.C.

CORPORATE HEALTH AND SAFETY PLAN

Prepared by:

D&B ENGINEERS AND ARCHITECTS, P.C.

WOODBURY, NEW YORK

AUGUST 2014

D&B ENGINEERS AND ARCHITECTS, P.C. 50 YEARS est. 1965

CORPORATE HEALTH AND SAFETY PLAN

TABLE OF CONTENTS

CORPORATE HEALTH AND SAFETY PLAN

TABLE OF CONTENTS (continued)

List of Appendices

List of Figures

List of Tables

1.0 CORPORATE HEALTH AND SAFETY PROGRAM

1.1 Introduction

1.1.1 Purpose

This Corporate Health and Safety Plan (HASP) describes the Corporate Health and Safety (H&S) Program for D&B Engineers and Architects, P.C. (D&B), and provides rules and procedures that will allow D&B personnel to safely and competently perform their field-related duties. This manual and the corresponding Standard Operating Procedures (SOPs) are to be used by managerial, professional and technical personnel as a guide to proper safety while working in the field.

Objectives of the H&S Program are to:

- Provide a safe work environment.
- Minimize the risk of human and economic loss.
- Comply with safety and health laws and regulations.
- Protect the environment and surrounding communities.
- Communicate effectively with the community.
- Enable D&B personnel to perform work tasks in a safe and efficient manner.
- Safely satisfy project needs.

The success of the H&S Program requires communication between D&B management and employees. D&B intends to provide the work place, equipment, materials and

training needed to safely perform tasks. Employees are expected to properly use the materials and equipment provided, to follow work procedures and rules and to identify hazards.

Failure to use the proper procedures and equipment may lead to injury and illness. It is for this reason that the following safe working procedures and practices are required for D&B personnel.

1.1.2 Regulatory Requirements

This Corporate H&S Program was developed to comply with applicable Occupational Safety and Health Administration (OSHA) OSHA 29 CFR (1910 and 1926), U.S. Environmental Protection Agency (EPA), and U.S. Army Corps of Engineers (COE) regulations and guidelines. Applicable OSHA CFR 1910 and 1926 Standards are provided on Table 1-1.

1.1.3 Organization of Documentation

This Corporate HASP outlines D&B's general company policies regarding health and safety issues for D&B employees working at D&B job sites. In instances where procedures apply only to hazardous waste sites, such will be noted.

In addition to adherence with the provisions of the Corporate HASP, site-specific HASPs will be drafted for projects where D&B employees will be completing field work. Based on project duration, complexity and potential chemical and/or hazards to be encountered at a given site, and as determined by D&B Project Directors/ Project

Managers (PDs/PMs) in consultation with D&B's Corporate Health and Safety Officer (HSO), a limited scope or comprehensive site-specific HASP will be drafted for projects where D&B employees will be completing field work.

Table 1-1

OSHA 29 CFR Part 1910 and 1926 Standards

Subject	General Industry Standard	Construction Standard
Housekeeping	1910.22	1926.25
Electrical	1910 Subpart S	1926 Subpart K
Welding and Cutting	1910 Subpart Q	1926 Subpart J
Personal Protective Equipment	1910 Subpart I	1926.28 1926 Subpart E
Fire Protection	1910 Subpart L	1926.24 1926 Subpart F
Ventilation	1910.94	1926.57
Materials Handling	1910.176	1926 Subpart H
Toxic and Hazardous Substances	1910 Subpart Z	1926 Subpart Z
Trenching/Excavation	Not Available	1926 Subpart P
Confined Space	1910.146	1926.21 (b)(6)
Fall Protection	1910.66 App C	1926.104 1926.105 1926 Subpart M
Lockout/Tagout	1910.147	1926.417 1926.702(j)
Noise Protection	1910.95	1926.52
Heat/Cold Stress	ACGIH TLVs	Not Available
Hazard Communication	1910.1200	1926.59 1910.1200
Mold	ACGIH	N/A

Hazardous Waste Site Control	1910.120	1926.65 1910.120

The limited scope and comprehensive site-specific HASPs are briefly summarized below:

- A limited scope site-specific HASP may be drafted for projects with short durations, limited complexities and/or limited potential for D&B employees to be exposed to hazards, as determined by D&B PDs/PMs in consultation with D&B's Corporate HSO. Limited scope HASPs will include basic site-specific information such as a route to hospital map, project organization, emergency contact information and a brief job hazard analysis. A limited scope HASP template is provided in Appendix A.
- A comprehensive site-specific HASP will be drafted for projects, projects with longer durations, greater complexities and/or greater potential for D&B employees to be exposed to hazards, as determined by D&B PDs/PMs in consultation with D&B's Corporate HSO. Comprehensive HASPs will include detailed site and project-specific information. A comprehensive HASP template is provided in Appendix B.

Further direction regarding the selection and detailed requirements for the preparation of each site-specific HASP is detailed on a HASP Checklist, provided in Appendix C.

This Corporate HASP and the Site-Specific HASP templates will, where appropriate, reference the appropriate Corporate SOPs, as provided in Appendix D. The Corporate SOPs provide details on how to perform specific tasks or address fieldwork situations in the safest and most effective manner possible.

1.1.4 D&B Corporate Health and Safety Program Summary

The D&B Corporate H&S Program consists of the following:

- Corporate H&S Plan: This document includes D&B's Corporate H&S policies, procedures and guidance.

- H&S Training Program: This program provides methods for confirming that required training for D&B personnel, depending on job tasks and responsibilities, has been completed and documented.

- Corporate SOPs: To provide further detail regarding D&B's health and safety requirements and procedures, and as referenced in the following sections, separate detailed documents referred to as Corporate SOPs have been developed to outline D&B's standard hazard control and prevention measures for specific H&S issues or work activities. These Corporate SOPs provide general and specific requirements relating to administrative aspects of the projects (i.e. field personnel responsibilities, program effectiveness evaluation, hazard communication, etc.), as well as chemical and physical hazards and their controls. D&B's Corporate SOPs are provided in Appendix D.

1.2 Health and Safety Program Organization

D&B has two basic types of projects, as detailed below:

- Hazardous Waste: Projects which primarily include environmental investigation and/or remedial activities, and some construction oversight activities, at designated hazardous waste and other potentially contaminated sites.

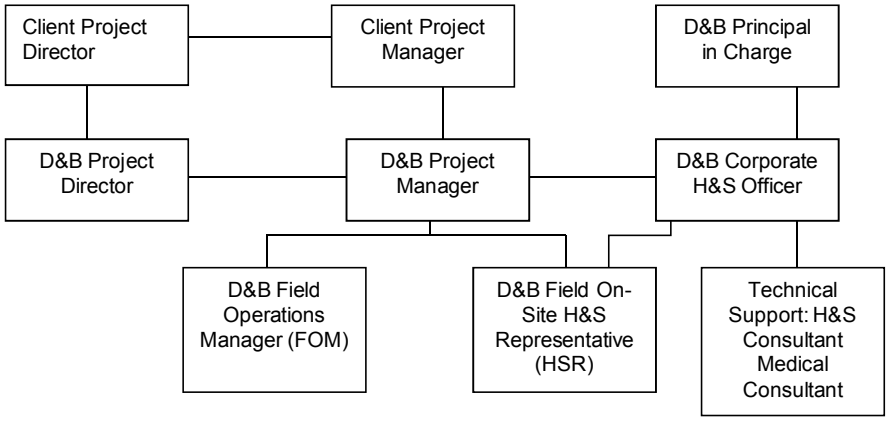
- Civil Engineering: Projects which primarily include construction activities and do not typically involve environmental investigation and/or remedial activities at designated hazardous waste and other potentially contaminated sites. However, civil engineering project can include some environmental investigation and/or remedial components as part of their overall scope of work.

1.0 CORPORATE HEALTH AND SAFETY PROGRAM

Field personnel are required to adhere to basic health and safety procedures, which may vary for each project as required by both OSHA standards and various project specifications. The organizational structure for each type of project will effectively be the same, although one individual may take the responsibilities of a number of organizational designations for those less-hazardous types of projects. An organization chart depicting general project health and safety personnel is provided as Figure 1-1.

Figure 1-1

General Health and Safety Organization Chart



1.2.1 D&B Project Management and Responsibilities

The basic responsibilities of D&B project personnel regarding implementation of the H&S program are outlined below:

Project Director

The D&B PD will have overall responsibility for implementation of the Corporate H&S Program, Site-Specific HASP and the supervision and monitoring of D&B employees. Specific responsibilities will be delegated to the D&B PM, which will be specified in the written procedures presented in the Site-Specific HASP.

Project Manager

The D&B PM will verify that elements of the Corporate H&S Program are addressed and implemented as part of the Site-Specific HASP.

Field Operations Manager

The D&B Field Operations Manager (FOM) will be responsible for conducting the project work and for confirming that the work is conducted in accordance with the requirements of the work plan and Site-Specific HASP. The FOM will be on-site during the project and will manage day-to-day field activities. Depending on the project size, hazards identified, and project organization considerations, the FOM may also act as the on-site H&S Representative (HSR). The FOM will also coordinate with the D&B

Corporate HSO regarding any health and safety issues throughout the duration of the project.

Principal in Charge

The D&B Principal in Charge of Health and Safety (PIC) will be responsible for the overall effectiveness and proper implementation of D&B's H&S Program. The PIC will additionally monitor and audit the compliance of D&B employees with respect to the provisions of the D&B H&S Program.

Corporate HSO

The D&B Corporate HSO will be responsible for confirming that the D&B Corporate H&S Program is followed and that the program is reviewed and updated as needed. The D&B HSO will act as a liaison between the D&B PM and any outside health and safety consultants, as needed.

On-Site Health and Safety Representative

The D&B HSR is designated by the PM and/or FOM to oversee the daily health and safety activities. The FOM will identify the HSR's specific responsibilities, which will be described in the Site-Specific HASP. For certain projects, the FOM may be assigned the responsibilities of the HSR. In some cases, the HSR may have other project responsibilities; however, health and safety will be the primary responsibility of this person.

1.2.2 Contractor/Subcontractor and Consultant/Sub-consultant H&S Responsibilities

Typical projects have multiple organizations/companies involved with project field activities. The overall purpose of the D&B H&S Program is to protect the safety and health of D&B personnel. To meet this objective, D&B must often rely on information provided by other companies and organizations and frequently interface with owners, representatives, regulatory personnel, and/or other contractors, subcontractors, consultants and sub-consultants.

The D&B Corporate H&S Program is designed to address procedures and protocols for D&B personnel only. It is not the intent of the D&B Corporate H&S Program to assume responsibility for, or to address the health and safety of employees of other companies/organizations. Since D&B personnel interface with and at times oversee the activities of non-D&B personnel, it is critical that the role of D&B personnel with regard to the health and safety of other organizations be clearly articulated.

It is D&B's position that project contractors, subcontractors, consultants and sub-consultants must be responsible for and independently manage their own health and safety program and procedures. There are four critical elements that these entities must address in order to effectively and independently manage their own Project H&S Program. These include:

- Documentation that the contractors, subcontractors, consultants and sub-consultants are familiar with and have knowledge of site hazards.

- Demonstration that contractors, subcontractors, consultants and sub-consultants who are assigned to the project are competent and technically able to implement their H&S programs and procedures.
- Demonstration that the contractors, subcontractors, consultants and sub-consultants meet required project and regulatory H&S and training requirements.
- Demonstration that adequate resources are available for the contractors, subcontractors, consultants and sub-consultants to adequately meet project H&S requirements.

D&B project personnel (PM or FOM) may be required to determine that contractors are qualified to independently manage their own health and safety programs. This may require that the D&B PM or FOM complete the following tasks:

- Confirm project hazards are formally communicated in writing to each contractor, subcontractor, consultant and sub-consultant.
- Establish minimum requirements for the contractors', subcontractors', consultants' and sub-consultants' H&S "competent person" and review that person's experience, credentials and/or licenses.
- Establish minimum H&S requirements (e.g., training) for contractors', subcontractors', consultants' and sub-consultants' project personnel and obtain documentation demonstrating that these personnel meet project H&S requirements.
- Identify minimum resources that are required for the contractors, subcontractors, consultants and sub-consultants to successfully implement the H&S program. Check that these resources are available on-site.

1.3 D&B Health and Safety Training for Employees

1.3.1 Introduction

Project site activities have the potential to expose site personnel to a broad spectrum of H&S hazards. It is the goal of this program to identify and provide the H&S training and certification that is required for each D&B employee to meet regulatory and company requirements while working in the field. A training matrix is presented on Table 1-2, which provides guidance regarding the minimum training requirements for personnel performing various work activities. Additional training requirements will be evaluated by D&B PDs/PMs on a task and site-specific basis.

Table 1-2

Health and Safety Training Matrix

	40 Hour HAZWOPER		*24 Hour HAZWOPER*		*8 Hour HAZWOPER Supervisor*		*8 Hour Refresher*		*Respiratory Program Administration*		*Fall Protection & Scaffold*		*Trenching & Excavation*		*Confined Space*		*Lead/Asbestos*		*10 Hour Construction Safety*		*Hazard Communications*	
Project Type	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***	***HW***	***CE***
Job Classifications																						
Project Director (PD)	√	O	√	NR	O	NR	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Project Managers (PM)	√	O	√	O	O	NR	√	NR	NR	NR	O	O	O	O	O	O	O	O	O	√	√	√
Corporate H&S Coordinator (HSC)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	O	O	√	√	√	√
Field Operations Manager (FOM)	√	O	√	O	√	O	√	NR	NR	NR	O	O	√	√	√	√	O	O	√	√	√	√
Field Engineers, Inspectors, Geologists, Scientists	√	O	√	O	O	NR	√	NR	NR	NR	O	O	√	√	O	√	O	O	√	√	√	√
Project Site Personnel	O	O	O	O	O	NR	√	NR	NR	NR	O	O	O	O	O	O	O	O	√	√	√	√

Notes:
HW = Hazardous Waste Projects
CE = Civil Engineering Projects
√ = Required
O = Optional
NR = Not Required

Besides formal training and certification, D&B personnel are given on-site training in field operations by qualified field personnel. This on-site training supplements the formal instruction given to employees and is an integral part of the D&B Corporate H&S training program.

1.3.2 Specific Training Requirements

The training matrix presented on Table 1-2 provides guidance on the level of mandatory and optional training that D&B personnel may be required to complete for specific work activities. This matrix designates training according to project type (hazardous waste or civil engineering), and is a tool to be used to determine the specific H&S training requirements for each D&B employee to be working in the field.

1.4 D&B Health and Safety Auditing Procedures and Program Evaluation

1.4.1 Purpose

D&B has implemented a formal auditing program that will satisfy OSHA requirements and establish a system to identify any areas of non-conformance with the Corporate H&S Program and Site-Specific HASPs, as well as to monitor the effectiveness of any implemented corrective action recommendations. D&B's Corporate H&S Program Evaluation Guidelines are detailed in Corporate SOP No. C03, provided in Appendix D. This SOP also contains auditing procedures, report forms and audit checklists. It may be necessary to modify checklists depending on the specifics of the situation.

To maintain the effectiveness of the H&S program, periodic evaluations of the program and work sites will be conducted. In accordance with Standard 29 CFR 1910.120 (b), OSHA requires the evaluation of the effectiveness of a Site-Specific HASP. This procedure has been developed to establish an auditing program capable of evaluating the effectiveness of D&B's Corporate H&S Program. Based on the results of the auditing program, corrective actions will be identified in order to address any noted deficiencies.

1.4.2 Continuous Improvement Monitoring

In addition to a formal auditing plan, the PM and/or HSO must facilitate continuous improvement by requiring corrective actions be implemented and evaluated. The most important aspect of this element of the program is the ability to measure the effectiveness of the implementation of any corrective action, preferably in a quantitative manner. Progress on specific and identified areas of concern must be documented and monitored on an ongoing basis, identifying responsible individuals and corrective action implementation schedules.

1.4.3 Responsibilities

The D&B PIC is responsible for implementing the auditing program for the H&S evaluations, as outlined in this guideline.

1.4.4 Health and Safety Audit Procedures

H&S audits will be conducted to verify compliance with D&B's Corporate H&S Program policies and procedures, as well as the Site-Specific HASPs. Auditing may be performed on any D&B work site and will include an H&S evaluation of work activities. It is the responsibility of the PIC to confirm that periodic audits are performed. The PIC, or designee, may perform these announced and unannounced H&S evaluations at randomly selected intervals and locations.

A copy of the Audit Report and Continuous Improvement Reports will be sent to the D&B PD/PM. Copies of reports for auditing activities will be kept in the Corporate H&S files. If deficiencies in field H&S procedures are identified, it will be the PD's responsibility to confirm corrective action has been implemented. In such instances, corrective action of deficiencies identified in the audit will be described in a written report.

Full auditing procedures are detailed in D&B SOP No. C03, provided in Appendix D. The site HSR will be responsible for the amendment of the forms to reflect any site-specific deviations.

1.5 Corporate Medical Surveillance Program

1.5.1 Introduction

To meet regulatory requirements, to qualify personnel to work on specific hazardous waste projects and to monitor the health of appropriate project personnel, a medical

program has been established consisting of two essential components: emergency medical care and treatment, and routine health monitoring.

Designated D&B employees who supervise work, or conduct surveys and investigations at hazardous waste sites are required to participate in the Corporate Medical Surveillance Program.

Each project, as applicable and as required, will have an associated Site-Specific HASP that will address emergency medical care and treatment of site personnel, including possible exposures to toxic substances and work-related injuries.

1.5.2 Purpose

The purpose of the Corporate Medical Surveillance Program is to accomplish the following:

- Initially qualify personnel to work on various field projects and wear respiratory protection.
- Establish a medical baseline for each individual.
- Re-qualify personnel through periodic medical evaluations.
- Evaluate the results of periodic medical examinations relative to each employee's baseline to determine if improvements/changes to the H&S Program are warranted.

The records will document employee health status and changes in physical condition, any care rendered, advice given and consultations recommended.

1.5.3 Program Participation

Employees whose job responsibilities justify inclusion in the Corporate Medical Surveillance Program are required to undergo such examinations as a condition of employment. The D&B PM must confirm that employees who work at hazardous waste sites have received a baseline health assessment. If an employee requires a baseline health assessment but has not received one, the D&B PM will make the necessary arrangements. The assessment must meet the requirements of OSHA Standard 29 CFR 1910.120 (f) and be at least equivalent to applicable EPA medical monitoring guidelines. In addition to personnel working on hazardous waste sites, a medical examination may be required for employees who:

- Work at project sites or abatement projects involving lead or asbestos.
- Use respiratory protective equipment.
- Perform strenuous exertion and/or have physical requirements more arduous than normal.
- Have potential exposure to hazardous materials in excess of the OSHA permissible exposure limits (PEL) during emergency situations.

1.5.4 Disclosure Agreement

Personnel participating in the Corporate Medical Surveillance Program will be required to sign a confidentiality disclosure agreement, allowing release of relevant information

to the appropriate D&B PM as designated in the Site-Specific HASP, and in accordance with Corporate SOP No. C24, Medical Surveillance Guidelines, provided in Appendix D.

1.5.5 Physician Selection

Medically related evaluations shall be conducted by or under the direct supervision of a licensed physician with experience in Occupational Medicine.

1.5.6 Examination Schedule

Participants in the Medical Surveillance Program will receive baseline examinations prior to beginning work on applicable projects and thereafter on a annual or biennial basis (as determined by the corporate physician) while working at hazardous waste sites with D&B. If the corporate physician determines that additional examinations are medically necessary, they will be conducted in accordance with the physician's requirements. Medical examinations will also be conducted as soon as possible for employees who develop signs or symptoms indicating possible overexposure to hazardous substances or health hazards, are injured, or have been exposed to a hazardous substance in excess of applicable PELs. Participants whose job responsibilities change so that they will no longer work at hazardous waste sites or who leave D&B, will receive an exit physical. Exit physicals may not be necessary if the participant has had a medical examination within the last 6 months.

Personnel designated to wear respirators will be required to have an initial respirator medical exam to qualify them to wear a respirator. The respirator medical exam may be

part of the initial exam for individuals eligible for the Medical Surveillance Program. A respirator medical evaluation questionnaire will be completed annually for those personnel required to wear respirators, in accordance with Corporate SOP No. C23, Respiratory Protection Guidelines, provided in Appendix D. Please refer to Corporate SOP No. C23 for the requirements for additional medical exams.

1.6 D&B Health and Safety Record Keeping

1.6.1 Purpose

To establish guidelines for H&S record and report generation and retention. This practice applies to all D&B work sites.

1.6.2 Responsibilities

The HSO, HSR or FOM is required to complete and maintain the required records and reports for the site as outlined in this guideline. This record keeping requirement will be addressed in the Site-Specific HASP. The HSO is responsible for approving and reviewing the generated documents as outlined in this guideline.

1.6.3 Records and Reports

H&S related records and reports are necessary to monitor D&B's Corporate H&S Program adherence with respect to company policy and procedures. The required

records and reports which are part of the D&B Corporate H&S Program may include, but are not limited to:

- Site-Specific HASP.
- Accident/incident reports.
- H&S training records.
- Audit reports and related corrective action documentation.
- Medical surveillance program and personal exposure records.
- Instrument calibration records.
- Other records may be designated in the project requirements.

A complete list of form templates are provided in D&B's Corporate SOP No. C05, Record Keeping Guidelines, provided in Appendix D. These form templates include:

- Incident Reports: The HSR or FOM will complete an incident report within 24 hours for each injury to personnel or accidental damage to property. Incident report forms are provided in D&B's Corporate SOP No. C02, Incident Investigation and Reporting Guidelines, provided in Appendix D. This form will be sent immediately to the PD, PM and HSO. The HSO or designee should investigate each reported incident. The original incident reports are placed in the Project File and copies will be placed in the Human Resources and Corporate Insurance file.

- Health and Safety Audit Reports: H&S audits will require completion of an Audit Report. The Audit Report must include details on each identified deficiency, even if the deficiency is corrected during the audit, and a proposed or implemented solution. The Audit Report will be dated and signed by the PD, PM and HSO. The original Audit Report and subsequent corrective action evaluation and continuous monitoring reports will be placed in the Program File with copies provided to the PD, PM and HSO.

- Medical Surveillance Reports: The employer will maintain the original medical records with a copy maintained by the medical provider. OSHA 29 CFR 1910.20 requires retention of medical records to termination of employment plus 30 years. The firm's Human Resources Department will maintain a copy of the employee's Disclosure Agreement and Physician's Statement.

- Personnel Training Records: Personnel training and certification records are required to document personnel qualifications and to determine conformance with D&B training requirements. Training requirements are summarized in Section 1.3. Training completion certificates will be filed with the HSO. The PD and HSO must approve training events prior to initiation.

- Calibration Records: A maintenance and calibration program is essential to verify the continued reliability of instrumentation. The three elements of this program include the recommended manufacturers' maintenance for each piece of equipment, service and repair (when required) and formalized record-keeping documenting maintenance and repair activities. Calibration records will be retained by the HSO, or designee, for the life of the monitoring, measuring or test equipment. Calibration records will be transferred with the equipment when surrendered at the end of the project.

2.0 DEVELOPMENT OF SITE-SPECIFIC HEALTH AND SAFETY PLANS

2.1 Introduction

The primary purpose of the Site-Specific HASP is the control of worker exposure to site and project hazards and to anticipate and control conditions that could result in worker exposure to these hazards. This objective is typically accomplished through site access control measures, scheduling of site work tasks, air monitoring, use of engineering controls, safe work practices, identification and use of personal protective equipment, as well as worker H&S training, as appropriate for each project. Although civil engineering sites often do not have potential chemical exposure issues, this potential does exist at some civil engineering sites. The Site-Specific HASP also describes the roles and responsibilities of D&B personnel for complying with project-specific minimum H&S requirements.

Based on project duration, complexity and potential chemical and/or physical hazards to be encountered at a given site, and as determined by D&B PDs/PMs in consultation with the D&B HSO, a limited scope or comprehensive HASP will be drafted for projects where D&B employees will be completing field work. A limited scope HASP template is provided in Appendix A. A comprehensive HASP template is provided in Appendix B. Further direction regarding the selection and detailed requirements for the preparation of each site-specific HASP is detailed on a HASP Checklist, provided in Appendix C.

2.0 DEVELOPMENT OF SITE-SPECIFIC HEALTH AND SAFEY PLANS

This section outlines the general guidelines for the development of a Site-Specific HASP pursuant to 29CFR Part 1910.120.

2.1.1 Site Safety Planning

A Site-Specific HASP must be prepared and/or reviewed by a qualified H&S representative and reviewed by field personnel prior to initiation of any field work. For construction oversight work at civil engineering sites, HASPs should be developed simultaneously with the site work plan(s) and specifications and implemented when field work begins. In addition, the site emergency plan is an integral part of the Site-Specific HASP. The plan must be periodically reviewed and updated during extended field operations to confirm it remains current and technically correct. The PM, in consultation with the HSO, is responsible for completing the HASP and verifying that it remains current and applicable to site conditions.

The FOM will perform a hazard assessment of the site and determine the type of personal protective equipment (PPE) that may be needed to protect employees from the hazards identified. The FOM may elect to consult with the HSO and/or the Corporate H&S Consultant. The Site-Specific HASP will be generated after the hazards are identified and associated work activities are identified. D&B employees assigned to a particular site must be familiar with the Site-Specific HASP.

2.1.2 HASP Requirements

2.0 DEVELOPMENT OF SITE-SPECIFIC HEALTH AND SAFEY PLANS

As detailed above, either a limited scope or comprehensive site-specific HASP will be drafted for projects where D&B employees will be completing field work, based on project duration, complexity and potential chemical and/or physical hazards to be encountered at a given site, and as determined by D&B PDs/PMs in consultation with D&B's HSO. Further direction regarding the selection and detailed requirements for the preparation of each site-specific HASP is detailed on a HASP Checklist, provided in Appendix C.

In general, based on the project scope of work and the chemical and physical hazards anticipated to be encountered at a given site, each HASP must include, but not be limited to, the following, if applicable:

- Identify key personnel responsible for site H&S and emergency response operations (including contractors, subcontractors, consultants and sub-consultants).
- Provide a detailed hazard assessment in which potential hazards and associated hazard controls are identified.
- Identify PPE requirements.
- Determine requirements for frequency and type of hazard monitoring.
- Designate work areas (exclusion, contamination reduction and support zones), if applicable.
- Establish decontamination procedures.
- Establish spill containment procedures.

- Identify municipal emergency response organizations trained and equipped to perform rescue from permit-required confined spaces in compliance with OSHA 29CFR 1910.146.
- Establish an emergency response plan that includes directions and telephone numbers for accessing the nearest medical facility for emergency medical care.
- Describe H&S training provided to D&B personnel.
- Plan work activities for weather and other conditions which may affect the H&S of personnel, if applicable.
- Implement control procedures to prevent access to the site by unauthorized personnel.
- Specify H&S training requirements for on-site D&B personnel.
- Specify medical surveillance requirements for on-site personnel.

In addition, D&B employees completing field work or site inspections will be required to read and be familiar with the provisions of each Site-Specific HASP and sign the associated Acknowledgement Form to be included in each Site-Specific HASP.

2.2 Project Hazard Assessment

2.2.1 Site/Hazard Assessment

Before a Site-Specific HASP can be prepared, the site must be assessed to identify H&S hazards associated with the site and with the activities planned for the site. This assessment is accomplished in two phases:

- H&S Hazard Assessment: Available information and data regarding the site are reviewed and analyzed. Hazardous materials and conditions likely to be encountered are identified, historical uses of the site are examined and any available site reference materials where site hazards are identified are reviewed.
- Preliminary Site Inspection/Reconnaissance: A detailed on-site inspection is conducted by D&B personnel to validate and supplement the information gathered during the Hazard Assessment process.

H&S hazards are identified and risks are assessed in order to determine if the hazards can be eliminated or identify a means to reduce associated risk to acceptable levels. This leads to the development of a detailed list of PPE requirements for specific project activities and general site H&S requirements, which complies with the requirements of 29 CFR 1910 and 1926.

Specific requirements regarding site characterization, site monitoring, hazard evaluation, assessment of physical site condition and waste hazards must be covered in detail in the HASP.

The most frequent occupational accidents involve physical hazards such as falls, falling objects, vehicle related occurrences, fires, explosions, unsafe trenches/excavations, confined space and unsafe electrical conditions. The types of physical hazards encountered could be numerous and will vary depending on the type of work being performed. Each Site-Specific HASP should identify specific physical hazards anticipated

to be encountered and measures to be taken to avoid them pursuant to the applicable Corporate SOPs and OSHA standards.

2.2.2 Work-Site Control

Procedures will be established in the Site-Specific HASP that cover site preparation, security, zone delineation and a site communication plan.

2.3 Hazard Prevention and Control

In addition to hazard prevention and control requirements and procedures to be included in the Site-Specific HASP, specific reference to and inclusion of pertinent Corporate SOPs, provided in Appendix D, will be provided in the Site-Specific HASP.

APPENDIX A

LIMITED SCOPE SITE-SPECIFIC HASP

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

Note: This document is a template for the development of a limited scope Site-Specific Health and Safety Plan (HASP). By providing format and general content guidelines, this template is intended to promote the development of consistent HASPs and shorten the HASP preparation time for D&B's Project Directors/Project Managers (PDs/PMs). This is a generic and non-site-specific document that does not address all possible H&S issues at a given site.

For some projects, some portions of this template may not be applicable and should be deleted. PDs/PMs, in consultation with D&B's Health and Safety Officer (HSO), should use their best judgment in determining which components of this template are relevant for specific projects. Similarly, PDs/PMs may elect to add information based on specific hazards to potentially be encountered at a given site.

This template contains highlighted and bracketed text. Such text provides guidance regarding recommended content to be included and should be replaced as-needed with information specific to each project and/or site.

Please refer to Appendix C for a checklist to determine if a Limited Site-Specific HASP can be created for a particular project.

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

This limited scope Site-Specific Health and Safety Plan (HASP) provides relevant site and project-specific information to supplement the requirements of D&B Engineers and Architects, P.C.'s (D&B's) Corporate HASP. In the event that D&B's Health and Safety Officer (HSO), or designee, determines that this limited scope Site-Specific HASP is not adequately protective of D&B employees, based on a change in the anticipated site conditions and/or work activities, site work will be halted and a Comprehensive Site-Specific HASP will be drafted for the project in which additional site and task-specific information will be identified.

Background:

Project Name/Address: _____

_____

_____

Date of HASP Preparation _____

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

Project Organization:

	Name	Telephone
D&B Project Director:		
D&B Project Manager:		
D&B Corporate Health and Safety Officer (HSO):		
D&B Site Safety Representative (SSR):		
Field Subcontractor(s):		

Medical Assistance:

Physician Name/Address: _____

_____

Physician Telephone No.: _____

Hospital Name/Address: _____

_____

_____

Telephone: _____

Route to Hospital: _____
(see attached Figure, provided as Attachment A)

_____

_____

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

Emergency Contacts:

Agency/Facility	Telephone	Emergency Telephone
Ambulance	000-000-0000	911
Police Department	000-000-0000	911
Fire Department	000-000-0000	911
Hospital	000-000-0000	000-000-0000
Poison Control Center	[redacted]	1-800-222-1222

Hazard Analysis:

Several chemical and physical hazards may be encountered at the site during completion of the above-defined scope of work. A task-specific hazard analysis is provided in Attachment B.

Personal Protective Equipment Requirements:

The level of protection required for this project will not exceed Level D, which consists of the following:

- Work coveralls or Tyvek®, as needed (for nuisance contamination only).
- Gloves, as needed.
- Appropriate steel-toe work boots.

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

- Hardhat and safety vest, if required on-site.
- Safety glasses, as needed.

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

D&B Standard Operating Procedures:

Select Corporate Standard Operating Procedures (SOPs), applicable to the above-defined scope of work, are provided as Attachment C. Applicable work to be completed at the Site will be completed per the provisions of the Corporate SOPs.

Additional Pertinent Site-Specific Information:

Additional site or project-specific health and safety-related information (including site controls, waste storage and disposal, decontamination area location, specific engineering controls, etc.) is provided below:

LIMITED SCOPE SITE-SPECIFIC HEALTH AND SAFETY PLAN

ATTACHMENT A

ROUTE TO HOSPITAL MAP

ATTACHMENT B

TASK-SPECIFIC HAZARD ANALYSIS

ATTACHMENT B

TASK-SPECIFIC HAZARD ANALYSIS

Potential Hazard	Site Inspection	Contractor Oversight	Sample Collection	Waste Handling (drill cuttings, groundwater)	Equipment Decon
Inhalation of volatiles	low	low	low to moderate	low to moderate	low
Skin & eye contact	low	low	moderate to high	moderate to high	moderate to high
Ingestion	low	low	low	low	low to moderate
Inhalation of dust	low	low	low	low	low to moderate
Heat stress	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)
Cold stress	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)
Heavy equipment	moderate to high	moderate to high	low	low	low to moderate
Noise	moderate	moderate	low	low	moderate
Tripping	moderate	moderate	low	low	low
Utilities	low	low	low	low	low
Other physical hazards	moderate	moderate	moderate	moderate	moderate
Biological hazards	low	low	low	low	low
Flammable hazards	low	low	low	low	low

JOB HAZARD ANALYSIS WORKSHEET

JOB HAZARD ANALYSIS	JOB:	DATE:	Page ____ of _____ pages	☐ NEW ☐ REVISED
Instructions on Reverse Side	Title of Person Who Does Job:	Supervisor:	Completed By:	
Recommended Personal Protective Equipment:				

SEQUENCE OF BASIC JOB STEPS	POTENTIAL HAZARDS	RECOMMENDED HAZARD CONTROL

INSTRUCTIONS FOR COMPLETING JOB HAZARD ANALYSIS FORM

Job Hazard Analysis (JHA) is an important accident prevention tool that works by finding hazards and eliminating or minimizing them before the job is performed, clarification and hazard awareness, as a guide in new employee training, for periodic contracts, and for retraining of senior employees, as a refresher on jobs which run infrequently, as an accident investigation tool, and for informing employees of specific job hazards and protective measures.

Set priorities for doing JHAs: Jobs that have a history of many accidents, jobs that have produced disabling injuries, jobs with high potential for disabling injury or death, and new jobs with no accident history.

Here is how to do each of the three parts of a Job Hazard Analysis:

SEQUENCE OF BASIC JOB STEPS

Break the job down into steps. Each of the steps of a job should accomplish some major task. The task will consist of a set of movements. Look at the first set of movements used to perform a task, and then determine the next logical set of movements. For example, the job might be to move a box from a conveyor and putting it on a hand truck is one logical set of movements, so it is one job step. Everything related to that one logical set of movements is part of that job step.

The next logical set of movements might be pushing the loaded hand truck to the storeroom. Removing the boxes from the truck and placing them on the shelf is another logical set of movements. And finally, returning the hand truck to the receiving area might be the final step of this type of job.

Be sure to list all the steps in a job. Some steps might not be done each time – checking the casters on a hand truck for example. However, that task is a part of the job as a whole, and should be listed and analyzed.

POTENTIAL HAZARDS

Identify the hazards associated with each step. Examine each step to find and identify hazards-actions, conditions, and possibilities that could lead to an accident.

It is not enough to look at the obvious hazards. It is also important to look at the entire environment and discover every conceivable hazard that might exist.

Be sure to list health hazards as well, even though the harmful effect may not be immediate. A good example is the harmful effect of inhaling a solvent or chemical dust over a long period of time.

It is important to list all hazards. Hazards contribute to accidents, injuries, and occupational illnesses.

In order to do part three of a JHA effectively, you must identify potential and existing hazards. That is why it is important to distinguish between a hazard, an accident, and an injury. Each of these items has a specific meaning.

HAZARD – A potential danger. Oil on the floor is a hazard.

ACCIDENT – An unintended happening that may result in injury, loss, or damage. Slipping on the oil is an accident.

INJURY – the result of an accident. A sprained wrist from the fall would be an injury.

Some people find it easier to identify possible accidents and illnesses and work back from them to the hazards. If you do that, you can list the accident and illness types in parentheses following the hazard. But be sure you focus on the hazard for developing recommended actions and safe work procedures.

RECOMMENDED ACTION

Using the first two columns as a guide, decide what actions are necessary to eliminate or minimize the hazards that could lead to an accident, injury, or occupational illness.

Among the actions that can be taken are:

1) engineering the hazard out; 2) providing personal protective equipment; 3) job instruction training; 4) good housekeeping; and 5) good ergonomics (positioning the person in relation to the machine or other elements in the environment in such a way as to eliminate stresses and strains).

List recommended safe operating procedures on the form, and also list required or recommended personal protective equipment for each step of the job.

Be specific. Say exactly what needs to be done to correct the hazard, such as, “lift using part of your leg muscles.” Avoid general statements like “be careful.”

Give a recommended action or procedure for every hazard.

If the hazard is a serious one, it should be corrected immediately. The JHA should then be changed to reflect the new conditions.

ATTACHMENT C

APPLICABLE CORPORATE STANDARD OPERATING PROCEDURES

APPENDIX B

COMPREHENSIVE SITE-SPECIFIC HASP

[INSERT PROJECT NAME]

SITE-SPECIFIC HEALTH AND SAFETY PLAN

Prepared by:

D&B ENGINEERS AND ARCHITECTS, P.C.

WOODBURY, NY 11797

[INSERT DATE]

APPROVALS

The undersigned certify that this Site-Specific Health and Safety Plan (HASP) is approved and will be utilized by D&B Engineers and Architects, P.C (D&B), at the [INSERT PROJECT NAME] site located in [INSERT SITE LOCATION].

Title	Name	Signature	Date
Project Director			
Project Manager			
Corporate Health & Safety Officer			
Site Field Operations Manager			

[INSERT PROJECT NAME]
SITE-SPECIFIC HEALTH AND SAFETY PLAN

TABLE OF CONTENTS

List of Appendices

List of Figures

List of Tables

1.0 INTRODUCTION AND BACKGROUND

Note: This document is a template for the development of a Site-Specific Health and Safety Plan (HASP). By providing format and general content guidelines, this template is intended to promote the development of consistent HASPs and shorten the HASP preparation time for D&B Engineers and Architects, P.C.'s (D&B's) Project Directors/Project Managers (PDs/PMs). This template is a generic and non-site-specific document that does not address all possible H&S issues at a given site.

For some projects, entire sections of this template may not be applicable and should be deleted. PDs/PMs, in consultation with D&B's Health and Safety Officer (HSO), should use their best judgment in determining which components of this template are relevant for specific projects. Similarly, PDs/PMs may elect to add information based on specific hazards to potentially be encountered at a given site.

This template contains highlighted and bracketed text. Such text provides guidance regarding recommended content to be included and should be replaced as-needed with information specific to each project and/or site.

Please refer to Appendix C for a checklist to determine the type of HASP necessary for your project.

1.1 Introduction

1.0 INTRODUCTION AND BACKGROUND

This Site-Specific Health and Safety Plan (HASP) was developed by D&B for the protection of D&B employees during work activities to be completed at the [INSERT PROJECT NAME] site (the Site) located in [INSERT SITE LOCATION].

This HASP provides relevant site and project-specific information and is to be used in conjunction with the procedures and requirements outlined in D&B's Corporate HASP. This Site-Specific HASP must be re-evaluated and revised should the project conditions change from those that are discussed below.

The procedures and protocols presented in this plan have been established to protect project personnel from hazards that are likely to be encountered at the Site. This plan addresses typical on-site activities such as surveying, drilling, excavation, construction and inspection activities that will be completed by D&B and its subcontractors. It also addresses procedures to protect D&B employees from potential hazards created by other contractors and subcontractors working on the Site. Existing H&S procedures are currently in place, as outlined in D&B's Corporate HASP and accompanying Standard Operating Procedures (SOPs), and will be referenced where appropriate. This HASP is not designed to replace existing procedures or to address each and every H&S scenario that could be encountered during the implementation of project work activities. This HASP addresses the project-specific H&S situations resulting from actual or potential exposure to physical and/or chemical hazards at the Site, consistent with the requirements pursuant to applicable OSHA 1910 General Industry Standards, applicable OSHA 29 CFR 1926 Construction Standards and OSHA 29 CFR 1910.120 Standard for Hazardous Waste Operations and Emergency Response.

The contents of this HASP may change or undergo revision based upon field monitoring results, modifications to the technical scope of work or additional

information made available to H&S personnel. Proposed changes must also be reviewed and approved by designated D&B personnel.

Compliance with this HASP is required from authorized D&B project personnel, project support personnel and visitors who enter the Site. Under no circumstances will D&B project personnel enter an established restricted area or exclusion zone without first complying with the requirements of this HASP.

1.2 Site Location and Description

The Site is located at [INSERT SITE ADDRESS] in [INSERT SITE LOCATION]. A Site Location Map is provided as Figure 1-1.

INSERT: Insert a physical description of the area, geological data and other information pertinent to this project, including any wells, soil/groundwater sampling, installation of utility lines, construction of concrete, etc.), as appropriate.

INSERT: If relevant, insert a paragraph describing the history of the Site. This should include a brief review of past manufacturing and/or commercial uses of the Site, highlighting any potential hazardous material use, by-products or waste produced in the processes,

1.3 Project Background

1.3.1 Scope of Work

INSERT: Briefly describe the technical scope of work and activities to be completed under this HASP (e.g., demolition of concrete pads, grade work area, excavation, installation of soil borings/monitoring wells, soil/groundwater sampling, installation of utility lines, construction of concrete, etc.).

This HASP covers only the activities, which have the reasonable potential for exposing D&B employees to physical and/or chemical hazards (contacting contaminated groundwater, soil and sediments). Additional information regarding the scope of work, work plan and project schedule is detailed in the [INSERT PROJECT WORK PLAN NAME AND DATE].

Figure 1-1

Site Location Map

1.3.2 Investigative/Remedial History

INSERT: If relevant, briefly describe investigative/remedial activities completed at the Site. List known potential hazardous materials associated with the Site. Include a brief summary of sampling results, which can be a brief description or table of significant sampling results.

2.0 PROJECT ORGANIZATION

2.1 Project Organization

The following briefly describes the H&S designations and general responsibilities for this project.

2.1.1 Principal in Charge

The D&B Principal in Charge of Health and Safety (PIC) is responsible for the overall effectiveness and proper implementation of D&B's Health and Safety Program. The PIC may additionally monitor and audit the compliance of D&B employees with the provisions of the HASP and D&B's overall Health and Safety Program.

2.1.2 Project Director

The Project Director (PD) has overall executive responsibility for activities and personnel on the Site during project activities described in this HASP.

2.1.3 Project Manager

The Project Manager (PM) will verify that required elements of the Corporate Health and Safety Program are addressed in this HASP.

2.1.4 Field Operations Manager

The D&B Field Operations Manager (FOM) will be responsible for overseeing

work activities and for confirming that the project work is conducted in accordance with the requirements of the work plan and HASP. The FOM will be on-site during the project and will manage day-to-day field activities. Depending on the project size, hazards identified, and project organization considerations, the FOM may also act as the on-site Health and Safety Representative. The FOM will coordinate with the D&B Corporate Health and Safety Officer regarding H&S issues encountered throughout the duration of the project.

2.1.5 Corporate Health and Safety Officer

The Corporate Health and Safety Officer (HSO) will be responsible for verifying that the HASP meets the requirements of D&B's Corporate Health and Safety Program and that the program is reviewed and updated as needed. The HSO will also approve changes to the HASP due to modification of procedures or newly proposed work activities or newly identified hazards.

The HSO is responsible for the development of safety protocols and procedures, and will also be responsible for the resolution of outstanding H&S issues that are identified during work activities at the Site. Health and safety-related duties and responsibilities will be assigned only to qualified individuals by the HSO.

The HSO, or designee, will provide technical assistance for high-hazard or other project tasks, as required, and may periodically conduct audits of the H&S procedures implemented on site, as required by the PIC. Before D&B personnel may work in designated construction zones, the HSO or designee is responsible for verifying that their medical surveillance and training requirements are in agreement with those requirements specified in OSHA 29 CFR 1910.120 and other applicable regulations.

2.1.6 On-Site Health and Safety Representative

The On-Site Health and Safety Representative (HSR) is designated by the PM and/or FOM to oversee the daily H&S activities. The HSR will be on-site for site activities that have the reasonable potential for exposing D&B workers to physical or chemical hazards. The HSR will obtain and review applicable H&S training and medical surveillance documents for personnel who may work in designated exclusion zones. The HSR has "stop-work authority," which will be executed upon determination of an imminent safety hazard, emergency situation or other potentially dangerous situation, such as extreme weather conditions. Authorization to resume work will be issued by the HSR once the hazard or situation is controlled or no longer poses a risk to D&B personnel. The HSR will initiate and execute contact with support facilities, such as hospitals, regulating body representatives and emergency response organizations, when this action is appropriate.

2.1.7 Health and Safety Consultants

A Health and Safety Consultant is available to provide H&S consulting services on an as-needed basis for this project. The designated Health and Safety Consultant can review the HASP prior to implementation. The determination as to the need for the services of a selected consultant will be made by the HSO, in consultation with the PM.

2.2 Project Support Personnel/Contact Information

D&B Engineers and Architects, P.C.

Title	Name	Phone Number
Principal in Charge		000-000-0000
Project Director		000-000-0000
Project Manager		000-000-0000
Field Operations Manager		000-000-0000
Corporate Health and Safety Officer		000-000-0000
On-Site Health and Safety Representative		000-000-0000
Site Emergency Coordinator		000-000-0000
Alternate Site Emergency Coordinator		000-000-0000
Other D&B Personnel		000-000-0000

Other Project Support Organizations

Company Name/Work Activity	Contact Name/Title	Phone Number
Geophysical Survey		000-000-0000
Driller		000-000-0000
Excavating Contractor		000-000-0000
Corporate Physician		000-000-0000

3.0 HAZARD ASSESSMENT

3.1 Introduction

Several [physical and chemical hazards] may be encountered at the Site during completion of the previously defined scope of work. The probability of worker exposure to [physical, chemical and biological hazards] varies with the job task. The job tasks that involve contact with [heavy equipment, potentially contaminated soil, etc.] are expected to have a greater potential for exposure to risk than job tasks that do not involve such exposures. For example, to protect potentially exposed personnel, the Site may be divided into zones by degree of hazard; dust control measures may be implemented; fall protection harnesses, respirators and other personal protective equipment (PPE) may be worn; personal and area air monitoring may be conducted; and decontamination procedures may be implemented.

Below is a general discussion of the categories of on-site personnel, followed by specific hazards on-site workers may potentially be exposed to at the Site.

3.2 General Project Personnel

As referred to throughout this HASP, project personnel are divided into three categories including Contact Project Personnel, Non-Contact Project Personnel and Project Support Personnel, as defined below:

Contact Project Personnel - Refers to project personnel who have a reasonable potential to come into contact with [physical hazards and contaminated soil,

groundwater or soil gas and vapors.] Specific job tasks will be evaluated to determine personnel classifications. The HSO, or designee (i.e., FOM), will assist with this determination.

It is anticipated that personnel performing the following work tasks have a reasonable potential to come into contact with [specific physical hazards and contaminated soil, groundwater, soil gas and vapors and sediments:]

List tasks that will fall into a "contact" category. These tasks may include:

- Scaffolding inspections.
- Excavation oversight.
- Drilling oversight.
- Well installation oversight.
- Handling of drill cuttings and fluids.
- Equipment and personnel decontamination.
- Liquid transfer activities.
- Material handling.

These activities will be evaluated and monitored by the HSR or his/her designee. Construction work zones will be established as required.

A task-specific hazard analysis was developed for the work activities that involve potential exposure to physical and chemical hazards at the Site (Contact work). The analysis was based on the potential for exposure to the hazard, regardless of risk

severity or contaminant concentrations. For example, the potential for an employee to come in contact with liquids or sediments during equipment decontamination is moderate to high; however, the actual risk may be low if the liquids or sediments are not contaminated. Table 3-1 outlines a task-specific hazard analysis, including an estimate of the probability of worker exposure to such hazards for Contact work activities.

Table 3-1

Task-Specific Hazard Analysis

Potential Hazard	Soil Boring Drilling	Well Installation	Excavation	Sample Collection	Waste Handling (drill cuttings, groundwater)	Equipment Decon-tamination
Inhalation of volatiles	low to moderate	low to moderate	low to moderate	low to moderate	low to moderate	low
Skin & eye contact	moderate	moderate	moderate	moderate to high	moderate to high	moderate to high
Ingestion	low	low	low	low	low	low to moderate
Inhalation of dust	low	low	moderate	low	low	low to moderate
Heat stress	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)	depends on weather conditions (temperature, humidity, etc.)
Cold stress	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)	depends on weather conditions (temperature, wind speed, etc.)
Confined space/ excavation	not expected/not allowed	not expected/not allowed	moderate	not expected/not allowed	not expected/not allowed	not expected/not allowed
Heavy equipment	moderate to high	moderate to high	moderate to high	low	low	low to moderate
Noise	moderate	moderate	moderate	low	low	moderate
Tripping	low	low	low to moderate	low	low	low
Utilities	moderate	moderate	moderate	low	low	low
Other physical hazards	moderate	moderate	moderate	moderate	moderate	moderate

Biological hazards	low	low	low	low	low	low
Flammable hazards	low	low	low	low	low	low

Non-Contact Project Personnel - Refers to Project Personnel who are not reasonably expected to come into contact with [physical hazards and contaminated soil, groundwater or soil gas and vapors.] Specific job tasks will be evaluated to determine personnel classifications. The HSO or designee (i.e., FOM) will assist with this determination.

It is anticipated that the following activities involve minimal exposure to [physical hazards and soil and water contact, and should not result in contact with such hazards.] These activities should not require additional H&S considerations beyond those addressed in D&B's Corporate HASP.

List tasks that will fall into a "non-contact" category. These tasks may include:

- Project administration.
- Some site inspections.
- Site preparation.
- Surveying.
- Above ground installation activities.
- Surface restoration.
- Air monitoring activities.

Potential exposure to physical hazards and/or contaminated soil or water is not anticipated; however, the operations will be evaluated and monitored as necessary. In the event that physical hazards are identified and/or contaminated materials are encountered, project personnel involved in such areas will stop work until further instructions from the HSO.

Initially, (for HAZWOPER sites) exclusion zones will not be established for such activities. However, exclusion zones will be established if physical hazards are identified or visual evidence of contamination is observed or instrument readings exceed the action levels detailed in Section 3.0.

Project Support Personnel - Refers to all other persons who may enter the project work zone such as truck drivers, utility workers and emergency crews (police, fire, ambulance, etc.), as well as other personnel designated as a project visitor by D&B.

The following is a general discussion of the hazards that may be encountered at the Site. Additional information on contaminants encountered during this project may be found in standard H&S references, such as the NIOSH "Pocket Guide to Chemical Hazards" and at http://www.cdc.gov/niosh/npg/npg.html

3.3 Physical Hazard Analysis

Potential physical hazards that are most likely to be encountered at the Site during field operations include, but are not limited to:

List the physical hazards that may be encountered at the Site.

- Weather conditions (lightning, rain, excessive heat, excessive cold, and high winds, etc.).
- Slips, trips and falls on uneven/overgrown surfaces.
- Heavy equipment traffic.
- Striking and struck-by (heavy equipment).
- Moving or rotating machinery.
- Falls from scaffolding.
- Flying debris from drilling.
- Electrocution from overhead power lines and damage to underground utilities (water, gas, sewer and process systems) and related equipment.
- Active rail traffic.

Below is a summary of guidelines that may be used to eliminate/reduce the potential risk of physical hazards which may be encountered at the Site. A copy of the appropriate Corporate SOP is referenced where appropriate.

Examples of physical hazard guidelines, including references to specific Corporate SOPs, are provided below:

3.3.1 Weather

If severe weather occurs that may affect the safety of site workers (heavy precipitation, lightning, etc.), the D&B PM or designee will stop affected field operations. The D&B PM or designee will resume operations when weather conditions improve.

Additional detail is to be added as needed.

3.3.2 Heat and Cold Stress

Depending on the time of year and weather conditions, heat or cold stress may present a physical hazard to on-site workers. The HSO or HSR will confirm that provisions of D&B's heat and cold stress programs are followed and that adequate rest breaks and liquid consumption are maintained, as appropriate.

Proposed reduced work/rest schedules will be dependent upon the weather conditions encountered and the level of PPE being utilized by on-site workers. The FOM will use their judgment to establish and adjust reduced work/rest schedules.

Additional detail is to be added as needed.

Reference Corporate SOP No. C11 - Heat Stress Prevention Guidelines and Corporate SOP No. C12 - Cold Stress Prevention Guidelines for more detailed requirements and procedures on preventing and controlling heat and cold stress.

3.3.3 Noise

Excessive noise can be a problem during completion of certain activities on-site, such as well drilling or the use of load machinery. If necessary and as designated by the HSO, ear plugs or other hearing protection equipment will be made available for personnel use.

Additional detail is to be added as needed.

Reference Corporate SOP No. C18 - Hearing Conservation Guidelines for more detailed requirements and procedures regarding hearing conservation.

3.3.4 Illumination

If work activities occur before sunrise and/or after sunset, lighting will be provided at each work area to meet the requirements of OSHA 29 CFR 1910.120(m). In accordance with this Standard, the general Site areas will be lighted to no less than five foot-candles[1], while work is in progress. In addition and in accordance with this Standard, areas of excavation, waste management areas, access ways, active storage areas, loading platforms and field maintenance areas will be lighted to no less than three foot-candles while work is actively being completed at the Site. Established first aid stations will be lighted to no less than 30 foot-candle.

Additional detail is to be added as needed.

3.3.5 Slip, Trip and Fall Hazards

As with most outdoor work sites, it is expected that the ground may be uneven, the surface may be unreliable due to settling, surface debris and/or equipment may be present and wet or muddy areas may exist. Therefore, the potential for slips, trips, and falls are present. It should be noted that this potential greatly increases with the use of

[1]One foot-candle equals 10.764 lux ($E=I/D^2$).

PPE, such as booties, Tyvek, respirators, etc., which can restrict movement and impede vision. Severe trip and fall hazards, such as holes or building edges, will be identified in project meetings and demarcated by flags, caution tape or signage, as appropriate.

A Fall Protection Program has been established to protect D&B employees from injuries associated with falls from elevated surfaces. Protection from these hazards is achieved using a combination of fall hazard elimination, fall prevention systems and personal fall arrest systems.

Components of the Fall Protection Program include:

- Hazard control analysis.
- Appropriate training.
- Equipment list and inspections.
- A fall assessment checklist.
- Responsibilities for fall control and protection.
- A review of applicable OSHA regulations.

Additional detail is to be added as needed.

Reference Corporate SOP No. C13 - Fall Protection Guidelines for more detailed requirements and procedures regarding slip, trip and fall hazards.

3.3.6 Confined Space Entry

In the event that D&B employees and/or subcontractors are required to enter or participate in the entrance of a permit or non-permit-required confined space, as defined by OSHA 29 CFR Part 1910.146, the HSO or HSR will be responsible for implementation of the standard procedures for confined space operations, which includes pre-entry air monitoring and the use of the buddy system for entries. Permit-required confined space entry also required that permit documentation be completed prior to entry.

Additional detail is to be added as needed.

Reference Corporate SOP No. C25 - Confined Space Operations Guidelines for more detailed requirements and procedures regarding confined space work.

3.3.7 Electrical Hazards

To control the potential for electrical hazards, operating heavy equipment will not be allowed within 15 feet of live overhead electrical wires or equipment. Ground fault circuit interrupters will be used on portable power tools. The FOM will be responsible for confirming that construction activities meet the appropriate electrical requirements outlined in OSHA 29 CFR Part 1926.

Additional detail is to be added as needed.

Reference Corporate SOP No. C10 - Electrical Safety Guidelines for more detailed requirements and procedures regarding electrical hazards.

3.3.8 Lockout/Tagout

A Lockout/Tagout Program has been established to protect employees from injuries that could result from the unexpected or unplanned start-up or movement of machinery or equipment during maintenance, installation, adjustment or servicing operations. This policy sets forth procedures designed to provide employees with the information and equipment they need to perform these tasks safely.

Additional detail is to be added as needed.

Reference Corporate SOP No. C17 - Lockout/Tagout Guidelines for more detailed requirements and procedures regarding lockout/tagout.

3.3.9 Dust Control

Dust control measures should be implemented if dust is observed at the perimeters of established construction exclusion zones during work activities. Dust control measures may include water spraying, ground cover and/or covering stockpiled soils.

Additional detail is to be added as needed.

3.3.10 Traffic/Highway Safety

Project personnel are required to wear lime-green-colored reflective safety vests when working on or adjacent to roadways, and as required per Site regulation. Safety vests must comply with ANSI 107 Class II and other applicable rules and regulations for traffic safety.

Additional detail is to be added as needed.

Reference Corporate SOP No. C08 - Roadwork/Highway Safety Guidelines for more detailed requirements and procedures regarding traffic/highway safety.

3.3.11 Excavation/Trenching

D&B has established safe operating procedures for employees working adjacent to excavation or trenching operations.

Additional detail is to be added as needed.

Reference Corporate SOP No. C15 - Excavation/Trenching Operations Guidelines for more detailed requirements and procedures regarding excavation and trenching.

3.3.12 Safe Driving Program

D&B's Safe Driving Guidelines, which comply with federal, state and local regulations, are designed to prevent vehicle accidents, injury to employees and the public, as well as reduce vehicle operating and repair costs.

Additional detail is to be added as needed.

Reference Corporate SOP No. C16 - Safe Driving Guidelines for more detailed requirements and procedures regarding D&B's safe driving program.

3.4 Chemical Hazards

Activities associated with drilling, stockpiling soil and water handling for sampling or disposal present a potential for personnel chemical exposure. In addition, when conducting operations close to roadways or heavy vehicle tracking areas, the nearby passing traffic may also cause an increase in airborne contaminants. Precautions should be taken to continuously assess the workplace environment by observation and use of real-time direct-reading instruments during operations where there exists a potential for contact with contaminants. Measures must be taken to prevent an uncontrolled release or exposure to vapor, liquid or solid contaminants by workers and/or the general public. The strategies for assessment and prevention of these hazards must be practiced on a continual basis by on-site personnel throughout completion of this project.

The chemicals of concern, as presented on Table 3-2, have been previously identified in [groundwater and soil] at the Site and/or at similar project sites. These

chemicals include [hazardous and potentially carcinogenic polycyclic aromatic hydrocarbons (PAH), aliphatic compounds, metals and cyanide compounds]. Table 3-2 identifies the primary Site contaminants of concern, as well as their associated OSHA Permissible Exposure Limits (PEL) and health hazards as they appear in the NIOSH Pocket Guide to Chemical Hazards.

Table 3-2

Permissible Exposure Limits and Health Hazards of Contaminants of Concern

Chemical	OSHA Permissible Exposure Limits	Primary Health Hazard (Target Organs)
Asbestos	0.1 f/cc	Respiratory System (RS)
Benzene	1 ppm, ST* 5 ppm	Eyes, skin, RS, blood, central nervous system (CNS) and bone marrow
Toluene	200 ppm C**300 ppm	Eyes, skin, RS, CNS, liver and kidneys
Ethylbenzene	100 ppm	Eyes, skin, RS and CNS
Xylene	100 ppm	Eyes, skin, RS, CNS, gastrointestinal (GI) tract, blood, liver and kidneys
Naphthalene	10 ppm	Eyes, skin, blood, liver, kidneys and CNS
Fluoranthene	0.2 mg/m^3	No specific hazard listed
Coal Tar Pitch (phenanthrene, anthracene, pyrene, chrysene and benzo(a)pyrene)	0.2 mg/m^3	RS, skin, bladder and kidneys
Arsenic	0.010 mg/m^3	Liver, kidneys, skin, lungs and lymphatic system
Barium	0.5 mg/m^3	Eyes, nose, throat, lungs, heart and GI tract
Cadmium	0.005 mg/m^3	RS, kidneys, prostate and blood
Chromium	0.5 mg/m^3	Eyes, skin and RS
Lead	0.050 mg/m^3	Eyes, GI tract, CNS, kidneys, blood and gingival tissue
Mercury	C**0.1 mg/m^3	Eyes, skin, RS, CNS and kidneys
Selenium	0.2 mg/m^3	Eyes, skin, RS, liver, kidneys, blood and spleen
Silica	0.050 mg/m^3 *	Respiratory System

Chemical	OSHA Permissible Exposure Limits	Primary Health Hazard (Target Organs)
Silver	0.01 mg/m^3	Nasal septum, skin and eyes
PCBs	0.5 mg/m^3 (skin)	Skin, eyes, liver and reproductive system
Hydrogen Cyanide	10 ppm (11 mg/m^3)	CNS, CVS, thyroid and blood
Cyanide (potassium or sodium cyanide, as CN)	5.0 mg/m^3	Heart, eyes, nose, throat and skin

Notes:

ST*: Short-Term Exposure Limit.
C**: Ceiling Limit.
f/cc: Fibers per cubic centimeter of air.
ppm: Parts per million.
mg/m^3: Milligrams per cubic meter.
* This is a NIOSH REL as a 10-hour TWA

Include detail, if possible, such as provided below:

Coal Tar and PAHs - A primary component of coal tar is the class of chemicals called polycyclic aromatic hydrocarbons (PAHs). PAHs are characterized as chemicals that have a very low vapor pressure unless heated to high temperatures (i.e., > 400ºF). Therefore PAH vapors are typically not considered an inhalation hazard. Contact with coal tar or coal tar oil can be a dermal hazard if contact with the skin is for prolonged periods of time. An excellent warning property of coal tar is its distinctive, pungent odor. It has a low odor threshold typically 50 to 100 ppb, much lower than the detection limits of a photoionization detector (PID) and a flame ionization detector (FID). The primary routes of exposure for the PAHs will be skin contact and inhalation of dust containing PAHs.

BTEX and VOCs - The volatile organic compounds previously identified at the Site and/or at similar project sites are benzene, toluene, ethylbenzene and xylenes

(BTEX). This group of compounds have high vapor pressures (vaporize easily) and are readily detected by air monitoring instruments (e.g., PID and FID). Since the PEL for benzene is among the lowest of VOCs, benzene is generally targeted when establishing action levels for using respiratory protection and/or establishing construction exclusion zones. Therefore, the air monitoring action levels for organic vapors used in determining the use of respiratory protection are based in part on the PEL for benzene. The primary routes of entry for the VOCs are inhalation of vapors and skin contact with VOC contaminated soil.

Benzene is a toxic colorless or light yellow liquid at room temperature. It has a sweet odor and is highly flammable. It evaporates quickly, but is heavier than air and will sink into low-lying areas in gaseous form. It dissolves only slightly in water and will float on the surface, due to its lower specific gravity, as compared to water. Benzene is a component of gasoline and crude oil, and can also be used to make other chemicals (plastics, resins, lubricants, dyes, rubbers, etc.).

Exposure to benzene can affect several parts of the body including bone marrow (blood) and the immune system. Symptoms of exposure include drowsiness, dizziness, irregular/rapid heartbeat, headaches, tremors, confusion, unconsciousness, and at very high levels, death. Exposure to foods contaminated with benzene can lead to digestive problems.

PPE to wear when working with or near benzene depends on the level of exposure. For eye and face protection, wear chemical safety goggles and a face shield when contact is possible. For skin protection, wear chemical protective clothing (e.g. gloves, aprons, boots). Suitable materials include: polyvinyl alcohol, Viton®, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), Tychem® BR/LV, Tychem® Responder, Tychem® TK. For respiratory protection, wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator. Also refer to SOP 14 for additional information on PPE.

Worker exposure to benzene is regulated by 29 CFR 1926.1128 (Benzene). The benzene standard limits worker exposure to a level of 0.5 ppm over an 8-hour TWA (action level).

Silica Dust **-** Exposure to crystalline silica may occur during the demolition or cutting of concrete, the drilling and blasting of rock, and by exposure to high levels of dust. Long-term low-level exposures and short-term high-levels of exposure to crystalline silica can result in silicosis, a disabling and ultimately fatal progressive pulmonary fibrosis. Symptoms of silicosis include coughing, shortness of breath and spots in the lung on a chest X-ray.

The generation of crystalline silica dust on construction sites is effectively controlled using water. Wet saws should be used in place of dry saws; blasting mats should be sprayed with water before removal; and, a dusty work site can be controlled by the continuing and liberal application of water. When the dust generation cannot or is not controlled by the contractor, the use of dust masks by exposed project employees is recommended. If these conditions are prevalent and project personnel are likely to be exposed in the long-term during the course of doing their job, then personal exposure monitoring shall be conducted to document exposures and amend PPE to provide adequate protection. General area air sampling may be conducted during certain contractor operations and the results used to develop potential exposure levels. Contractors are responsible to monitor their own employee exposure levels.

Asbestos **-** Asbestos is a class of naturally occurring minerals. It is mined in various parts of the world. Asbestos has been used in construction for many years due to its cheap cost and versatility. It is a good insulator of heat, cold or electricity, is a good binding agent and is not chemically reactive. Common areas where asbestos may be located/used include fireproofing, pipe insulation, wire insulation, boiler insulation, floor tiles, caulking, mastic, gaskets and roofing materials.

Asbestos becomes a hazard when it becomes airborne and is inhaled (as stated in

the definitions, friable ACM poses more of a hazard as it can become airborne more easily). There is conclusive evidence that inhalation of asbestos fibers causes mesothelioma, lung cancer and asbestosis in humans. Mesothelioma, lung cancers and asbestosis have occurred following long term, high concentration exposures to chrysotile, crocidolite, amosite, and anthophyllite, which are common forms of asbestos typically used in construction. Smoking during exposure to asbestos can exponentially increase the chances of developing tumors. A Safety Data Sheet (SDS) will be provided as part of any site-specific HASP to be drafter for any project where asbestos exposure is a potential hazard, so that project personnel may have access to information regarding asbestos exposure at all times.

The potential for exposure to asbestos will be controlled through abatement of materials prior to demolition and construction activities that may disturb ACM. Although the potential for exposure to D&B project personnel is anticipated to be minimal, project personnel shall be made aware of the hazards associated with asbestos through training and/or the dissemination of information regarding the hazards and controls of asbestos exposure. Outside contractors working on asbestos abatement shall take all necessary steps to protect D&B personnel from exposure to asbestos. On multi-contractor worksites, both the contractor and D&B will ensure that D&B employees are protected from exposure, through the use of air monitoring and proper containment.

Asbestos awareness training will be provided to those who may work in the vicinity of asbestos, but not come into direct contact, while task-specific training is required of those personnel working directly with ACM. D&B personnel will be trained to not disturb ACM unless they have proper certification and are following all applicable regulations. All training will be documented.

Worker exposure to asbestos is regulated by 29 CFR 1926.1101 (Asbestos in Construction Standard). The asbestos standard limits worker exposure to 0.1 fibers/cm^3 of air averaged over an 8-hour period and an Excursion Limit of 1.0 fibers/cm^3 over a 30-minute period. NYS DOL and DOH regulations apply for air monitoring and abatement procedures/licensing. In New York City, DEP rules apply as well.

PPE is required when asbestos may become disturbed. Please refer to SOP 14 for information on PPE.

Lead – Lead is a bluish-white, silvery or gray colored, soft, malleable metal. It has had many uses in construction: In lead-acid batteries, paint, solders and radioactive shielding. Its high density, low cost and corrosion resistance made it an ideal material for these uses.

Lead is a cumulative poison. The effects of exposure to inorganic lead dusts from paint may not develop quickly. Symptoms may include decreased physical fitness, fatigue, sleep disturbance, headache, aching bones and muscles, constipation, abdominal pains and decreased appetite. These effects are reported to be reversible if exposure ceases. Inhalation of large amounts of lead may lead to seizures, coma and death.

Lead can accumulate in the body over a period of time. Therefore, long-term exposures to lower levels can result in a build-up of lead in the body. More severe symptoms of over exposure to lead include anemia, pale skin, a blue line at the gum margin, decreased hand-grip strength, abdominal pain, severe constipation, nausea, vomiting and paralysis of the wrist joint. Prolonged exposure may also result in kidney damage. If the nervous system is affected, usually due to very high exposures, the resulting effects include severe headache, convulsions, coma, delirium and death. A Safety Data Sheet (SDS) shall be provided as part of this training/dissemination of information so that project personnel may have access to information regarding lead exposure at all times.

If construction and/or demolition activities occur at any of the WPCPs resulting in disturbance of paint or if paint removal is conducted, monitoring for lead contamination

will be required. Signs will be posted in and around the area, alerting all to the presence of lead-disturbing activities. Half-mask or full-face PAPR equipped with N99 filter cartridges shall be worn in the lead work area by D&B personnel during these activities until the monitoring results are obtained, so as to determine if the action level has been exceeded, or if after the results are obtained it is determined that concentrations are above the action level. D&B shall provide respirators and cartridges at its employees at no cost. Air monitoring, if required, will consist of obtaining personal air samples from employees who are anticipated to have the greatest risk of exposure as determined by the EHSO/RE. In addition, a minimum of two (2) samples shall be collected from the perimeter of the site. Laboratory results shall be posted at the site and be verbally shared between D&B personnel and the contractor. Additionally, D&B will ensure that its personnel will have access to areas to eat, change and shower away from lead exposure areas.

In the lead standard, OSHA limits worker exposure to 50 µg/m^3 of air averaged over an 8-hour period and has set the action level at 30 µg/m^3. The Contractor is responsible for controlling airborne lead levels and conducting air monitoring during demolition and construction to prevent exposures above the OSHA lead action level. However the potential for exposure still remains through direct contact, ingestion and inhalation during any dust or fume generating activity. If air monitoring results are above the action level, monitoring is performed every six months, until two consecutive results are found to be below the action level. In addition, employees are notified in writing (usually by posting) of air monitoring results and any corrective actions needed/taken.

If lead concentrations exceed the action level, the following procedures shall be implemented:

- The contractor will be requested to take measures to reduce airborne lead levels, including verification that they are following proper procedures or changes in work practices.
- All D&B personnel with the potential to be exposed to lead-contaminated dust or fumes will be provided with disposable protective whole body clothing.
- A decontamination area shall be provided within the designated lead control area. The decontamination area shall include washing facilities for personnel to use prior to eating, drinking or smoking.
- D&B personnel shall not leave the immediate work area wearing any protective clothing or equipment that is required to be worn during the work shift. Showers shall be provided for all employees whose airborne exposure to lead is above the PEL.
- Warning signs shall be posted at the approaches to lead control areas. The signs shall be located at such a distance that personnel may read the sign and take the necessary precautions before entering the area.
- Blood lead levels of D&B personnel on site will be tested for lead and zinc protoporphyrin if materials to be disturbed during the project are found to contain lead.

Although the potential for exposure to lead to D&B employees is considered minimal, there is still a potential for exposure through direct contact, ingestion and inhalation during any dust or fume-generating activity.

Therefore, all project personnel are trained in the hazards of lead exposure, health effects and controls of exposure to lead dust and fumes at the start of the project (and

annually thereafter) as listed above, with project-specific additions including the location and type of lead present or potentially present at the worksite.

Polychlorinated Biphenyl (PCB)/Mercury **-** PCBs are an irritant to the eyes and mucous membranes, are toxic to the liver and cause an acneform dermatitis called chloracne. Chloracne is usually persistent and affects the face, ears, neck, shoulders, arms, chest and abdomen. The most sensitive areas are below and to the outer side of the eye and behind the ears. PCBs are also a liver carcinogen in animals and are a suspected carcinogen in humans. Liver disease is often seen in association with chloracne. In humans, systemic effects include anorexia, nausea, edema of the face and hands and abdominal pain.

Exposure to low levels of mercury may cause weakness, fatigue, loss of appetite, loss of weight, insomnia, indigestion, diarrhea, metallic taste in the mouth, increased salivation and soreness of mouth and throat.

D&B project personnel are not expected to be exposed to mercury or PCBs above the action levels. However, each site must be evaluated prior to the commencement of work if the presence of PCBs or mercury is suspected. If D&B project personnel have the potential to have contact with broken fixtures, leaking ballasts or any other sources of PCBs or mercury the following equipment shall be used:

- Neoprene, butyl rubber or nitrile gloves
- Goggles or face shield
- Rubber apron

3.4.1 Exposure Pathways

A brief discussion of potential pathways of exposure to these chemical hazards, including exposure control methods, is presented below:

Inhalation - An inhalation exposure to volatile organic compounds and other gases and vapors would typically occur from exposure to gases/vapors present in the interstitial soil via the installation of vents or boreholes or during completion of excavation activities. Inhalation is the most common pathway of exposure at a construction site.

Contact with Skin and Eyes - Contaminated groundwater, soil, sediments and chemicals may come into contact with skin and eyes during work activities. Coveralls, work gloves and eye protection will be used, as necessary, to minimize and/or prevent skin and eye exposures.

Ingestion - Ingestion of contaminated materials may occur as a result of a hand-to-mouth contact (eating, drinking and smoking) in contaminated areas or prior to appropriate personal decontamination. Frequent and thorough washing of hands and face, a no smoking or eating policy in the work area, proper use of work clothing and proper personal decontamination will control the potential for ingestion of contaminated soils.

Injection – Though not common at construction sites (more commonly associated with medical facilities), contaminants may enter the body through injection, if

needles or other sharp objects are encountered at the site. Care should be taken when handling materials and if necessary, proper gloves may be required.

3.5 Biological hazards

The location of the Site is such that a limited number of biological hazards may exist. These hazards may include, but are not limited to: ticks; microbiological agents (molds and fungi); improperly disposed medical waste, such as syringes, sharps or materials contaminated with human blood or bodily fluid; improperly disposed household waste; plants such as poison ivy, oak and sumac; and animals and rodents that may inhabit the Site.

Work Clothing and levels of protection that may be used to eliminate/reduce the potential risk of chemical and biological hazards are discussed in Section 4.0.

Blood Poisoning - D&B project personnel may have potential exposures to/with bacteria or viral agents that may cause blood poisoning. Potential for exposure to bacteria may occur through open cuts and inhalation. Blood poisoning is a term used to indicate a large number of bacteria present in the circulating blood. The most common symptom of blood poisoning is the reddening of skin which advances towards the heart. For example, if the point of contact is the hand, then a red line will appear at the hand and extend up the arm towards the heart.

Signs and symptoms include swelling, stiffness and tenderness in the affected area, fatigue, chills and fever, pustules, and abscesses. If allowed to progress without treatment, the organisms may multiply and cause an overwhelming infection which can

lead to death.

Personnel protective equipment shall be worn to prevent direct contact with bacterial or viral agents.

Please refer to C27 for additional information on Bloodborne Pathogens.

Bird-related diseases - There are several diseases associated with birds and their droppings. At worksites, the most common bird is the pigeon. Contact with pigeon droppings may pose a small health risk. Three human diseases are known to be associated with pigeon droppings: Histoplasmosis, cryptococcosis, and psittacosis (source: NYC Dept. of Health and Mental Hygiene).

Histoplasmosis **-** Histoplasmosis is a fungal infection, which is acquired primarily through inhalation. The primary area of infection is the lungs. The fungus is found in decaying bird and bat guano (feces) and can be found in soils.

Individuals exposed or the first time, (primary infection) initially have poor defense mechanisms to fight the infection and the organisms can then spread throughout the body. The primary acute type of histoplasmosis can be serious and possibly fatal. Chronic histoplasmosis takes two primary forms: pulmonary infection that resembles tuberculosis and muco-cutaneous ulcers of the mouth, tongue, pharynx, gums, larynx, genitals or bladder.

The signs and symptoms of histoplasmosis range from include fatigue, fever, and chest pains. Most people, however, do not show any symptoms. Those with

compromised immune systems such as cancer patients or people living with HIV/AIDS are generally more at risk of developing histoplasmosis. The disease cannot be transmitted from person to person. In general incubation periods, vary from a few days to 3 weeks. There are specific therapies for the disease and methods of prevention. There is presently no vaccination.

Cryptococcosis **-** Cryptococcosis is another fungal disease associated with pigeon droppings and also grows in soils throughout the world. It is very unlikely that healthy people will become infected even at high levels of exposure. A major risk factor for infection is a compromised immune system. According to the US Centers for Disease Control (CDC), nearly 85 percent of cryptococcosis patients are HIV-positive.

Psittacosis **-** Psittacosis (also known as ornithosis or parrot fever) is a rare infectious disease that mainly affects parrots and parrot-like birds such as cockatiels, and parakeets, but may also affect other birds, such as pigeons. When bird droppings dry and become airborne people may inhale them and get sick.

In humans, this bacterial disease is characterized by: fatigue, fever, headache, rash, chills, and sometimes pneumonia. Symptoms develop about 10 days after exposure. Psittacosis can be treated with a common antibiotic.

Since 1996, fewer than 50 confirmed cases were reported in the United States annually. In New York City, psittacosis is very rare with less than one human case identified each year. According to the CDC, about 70% of infected people had contact with infected pet birds. Those at greatest risk include bird owners, pet shop employees, veterinarians, and people with compromised immune systems. No person-to-person

cases have ever been reported.

Cleaning Up Bird Droppings **-** Incidents of these diseases can be reduced by following the procedures below for protecting and cleaning affected spaces.

If cleanup is not going to occur, workers can protect themselves by wearing respirators with particulate filters, provided they have previously been medically cleared and fit-tested.

Before any extensive clean-up measures are taken - e.g., removing accumulations inside an air shaft - workers should be informed of the possible health risks involved, particularly those with weakened immune systems. Even though histoplasmosis, cryptococcosis, and psittacosis pose minor public health threats, they can be further minimized if safety measures are taken. Wearing protective clothing like disposable coveralls, boots, gloves, and respirators can be used for protection.

If a high-powered water hose is used to strip off dried droppings, dust control measures such as containing the area with plastic sheeting, should be taken. Wetting down the work area will prevent inhalation, reduce the risk of infection and will also prevent the spread of dust outside the work area. Those with a compromised immune system such as people living with HIV/AIDS or cancer patients should not be directly involved in the removal of the droppings. Always wash hands and any exposed skin before eating or drinking and when finished with work.

Several alternatives to using a high-powered water hose exist. One such alternative includes soaking the droppings with water and then shoveling it. The wet

material should be collected in heavy-duty plastic bags or another type of secure container and discarded with the regular trash.

Ticks - The Centers for Disease Control (CDC) has noted the increase of Lyme disease that is caused by bites from infected ticks that live in and near wooded areas, tall grass, and brush. Ticks are small, ranging from the size of a comma up to about one quarter inch. They are sometimes difficult to see. The tick season extends from spring through autumn (April through October). When embedded in the skin, they may look like a freckle. Remove ticks with small tweezers. Do not squeeze the tick's body. Grasp it where the mouthparts enter the skin and tug gently, but firmly, until it releases its hold on the skin. Save the tick in a jar labeled with the date, body location of the bite, and the place where it may have been acquired. Wipe the bite with antiseptic and seek medical attention as soon as possible.

Lyme Disease is caused by a bacterium that may be transmitted by the bite of a tick. Ticks carrying Lyme disease may be found throughout the U.S. living in grassy and wooded areas, and feeding on mammals such as mice, shrews, birds, raccoons, opossums, deer, and humans. Not all ticks are infected with the bacterium. When an infected tick bites, the bacterium is passed into the bloodstream of the host, where it multiplies. If detected early, Lyme disease can be treated with antibiotics.

Lyme Disease typically occurs from May through October and is often characterized by a slowly expanding red rash, which develops a few days to a few weeks after the bite of an infected tick. The illness can be accompanied by flu-like symptoms, such as headache, stiff neck, fever, muscle aches, chills dizziness, bone pain, and/or general malaise. At this stage, treatment by a physician is usually effective; but if left

alone, these early symptoms may disappear and more serious problems may follow. The most common late symptom of the untreated disease is arthritis; other problems include meningitis, and neurological, and cardiac abnormalities.

NOTE: Some people do not get the characteristic rash but progress directly to the later manifestations. Treatment of follow-on symptoms is more difficult than early symptoms and is not always successful. If you believe a tick has bitten you, or if any of the signs and symptoms noted above appears, contact the EHSO/RE.

Standard field gear (work boots, socks, and light-colored coveralls) provides good protection against tick bites, particularly if the joints are taped. However, even when wearing field gear, the following precautions shall be taken when working in areas that might be infested with ticks:

- Wear long pants and long sleeved shirts that fit tightly at the ankles and wrists; tape cuffs if necessary.
- Wear light colored clothing so ticks can be easily spotted.
- Tick repellents may be useful. DEET is a tick repellant, permethrin, the active ingredient found in the product Permanone, kills ticks on contact. DEET may be used on the skin; permethrin may only be applied to clothes. Spray outer clothing, particularly your pant legs and socks, BUT NOT YOUR SKIN, with an insect repellant that contains permethrin or Permanone.
- Inspect clothing frequently.
- Inspect head and body thoroughly when you return from the field, particularly on your lower legs and areas covered with hair.
- When walking in wooded areas, wear a hard hat, and avoid contact with bushes, tall grass, or brush as much as possible.
- Remove any ticks by tugging with tweezers. Do not squeeze or crush the tick. If the tick resists, cover the tick with salad oil for about 15 minutes to asphyxi-

ate it, then remove it with tweezers. DO NOT use matches, a lit cigarette, nail polish, or any other type of chemical to "coax" the tick out.

- Be sure to remove all parts of the tick's body, and disinfect the area with alcohol or a similar antiseptic after removal.
- For several days to several weeks after removal of the tick, look for the signs of the onset of Lyme disease, such as a rash that looks like a bulls-eye or an expanding red circle surrounding a light area, frequently seen with a small welt in the center.

Mites - The most common mites are chiggers or red bugs. Chiggers may be hard to avoid because they are commonly associated with grass, weeds, and similar vegetation. Intense itching and red spots result from the feeding of these tiny mites which are about 1/150 of an inch in diameter and barely visible to the naked eye. Treating the clothing with an approved repellent prior to entering infested areas may lessen chigger attacks. Rubbing alcohol or camphorated oil such as Campho-Phenique will kill the chigger and relieve the severe itching.

Insect Bites/Stings - Stinging insects include wasps and bees. Bees and other stinging insects may be present on site. Contact with stinging insects like bees, hornets and wasps may result in project personnel experiencing adverse health effects that range from being mildly uncomfortable to being life-threatening; therefore, stinging insects present a serious hazard to project personnel, and extreme caution must be exercised whenever site and weather conditions increase the risk of encountering stinging insects. Some of the factors related to stinging insects that increase the degree of risk associated with accidental contact are as follows:

- The nests for these insects are frequently found in remote wooded or grassy areas.
- The nests can be situated in trees, rocks, and bushes or in the ground, and are usually difficult to see.
- Accidental contact with these insects is highly probable, especially during warm weather conditions when the insects are most active.
- If a site worker accidentally disturbs a nest, the worker may be inflicted with multiple stings, causing extreme pain and swelling which can leave the worker incapacitated and in need of medical attention.
- Some people are hypersensitive to the toxins injected by a sting, and when stung, experience a violent and immediate allergic reaction resulting in a life-threatening condition known as anaphylactic shock. Anaphylactic shock manifests itself very rapidly and is characterized by extreme swelling of the body, eyes, face, mouth and respiratory passages.
- The hypersensitivity needed to cause anaphylactic shock, can in some people accumulate over time and exposure, therefore even if someone has been stung previously and not experienced an allergic reaction, there is no guarantee that they will not have an allergic reaction if they are stung again.

With these things in mind, and with the high probability of contact with stinging insects, all project personnel will comply with the following safe work practices:

- If a worker knows that he is hypersensitive to bee, wasp, or hornet stings, he must inform the EHSO/RE of this condition prior to participation in site activities, and instructions on appropriate care in the event that he is stung. Project personnel with serious allergies (i.e., likely to require hospitalization if stung a few times) should make the EHSO/RE aware of their condition.
- All project personnel will be watchful for the presence of stinging insects and their nests, and will advise the EHSO/RE if a stinging insect nest is located or suspected in the area.

- Any nests located on site will be flagged off and project personnel will be notified of its presence.
- If stung, project personnel will immediately report to the EHSO/RE to obtain first aid treatment and to allow the EHSO/RE to observe them for signs of allergic reaction.
- Project personnel with a known hypersensitivity to stinging insects will keep required emergency medication on or near their person at all times.

Mosquito-Borne Diseases - In late summer 1999, the first domestically acquired human cases of West Nile encephalitis were documented in the U.S. The virus, commonly referred to as the West Nile virus, is spread to humans by the bite of an infected mosquito. Based upon New York City Department of Health statistics, most people who were infected with the West Nile virus in the last two years had no symptoms or experienced mild illness such as a fever, headache and body aches before fully recovering. In outbreaks in other parts of the world, some persons also developed a mild rash or swollen lymph glands. In some individuals, particularly the elderly, West Nile virus can cause serious disease that affects brain tissue. At its most serious, it can cause permanent neurological damage and can be fatal. Encephalitis (inflammation of the brain) symptoms include the rapid onset of severe headache, high fever, stiff neck, confusion, loss of consciousness (coma), and muscle weakness. Death may result in some cases.

From April to October, when mosquitoes are most active, the following precautions are recommended:

- If outside during evening, nighttime and dawn hours when mosquitoes are most active and likely to bite, wear protective clothing, such as long pants, long-sleeved shirts, and socks.
- If outside during evening, nighttime and dawn hours, consider the use of an insect repellant containing no more than 30% DEET (N, N-diethyl-methyl-meta-toluamide).
- USE DEET ACCORDING TO MANUFACTURER'S DIRECTIONS. DEET is effective for approximately four hours. Avoid prolonged or excessive use of DEET. Use sparingly to cover exposed skin and clothing.
- Wash all treated skin and clothing after returning indoors.
- Prevent standing water by emptying dumping containers and other items that have accumulated water.
- Note that mosquitoes can also be active during the daytime.

Hantavirus - Some rodents are infected with a type of Hantavirus that causes Hantavirus Pulmonary Syndrome (HPS). In the United States, deer mice and white-footed mice in the Northeast are the rodents carrying Hantaviruses that cause HPS. Common house mice do not carry Hantavirus.

These rodents shed the virus in their urine, droppings and saliva. The virus is mainly transmitted to people when they breathe in air contaminated with the virus. This happens when fresh rodent urine, droppings, or nesting material are stirred up.

There are several other ways rodents may spread Hantavirus to people:

- If a rodent with the virus bites them, the virus may be spread in this way, but this is very rare.

- Researchers believe that you may be able to get the virus if you touched something that had been contaminated with rodent urine, droppings, or saliva, and then touched your nose or mouth.
- Researchers also suspect that if virus-infected rodent urine, droppings or saliva contaminates food that you eat, you could also become sick.

Symptoms of HPS **-** Early symptoms include fatigue, fever, and muscle aches, especially the large muscle groups – thighs, hips, back, sometimes shoulders. These symptoms are universal. There may also be headaches, dizziness, chills, and/or abdominal problems, such as nausea, vomiting, diarrhea and abdominal pain. About half of all HPS patients experience these symptoms. Because there have been so few cases of HPS, it is not clear what the incubation period is for HPS. It appears to be between one to five weeks after exposure before symptoms appear. Late symptoms include shortness of breath, as the lungs fill with fluid.

Preventive Measures **-** If there are signs of a rodent nest, make it known to the EHSO/RE. If there are signs of rodent droppings in the work area, identify this to the EHSO/RE. To clean and disinfect the area, spray a disinfectant on the area and leave a waiting time of 20 minutes. Then clean it up using chemical resistant gloves and a respirator. Bag the cleaning materials and dispose of them. Then, re-clean the area with disinfectant.

Poisonous Plants and Plant Hazards **-** Poison ivy and poison oak may be present at the site. Poison ivy thrives in all types of light and usually grows in the form of a trailing vine; however, it can also grow as a bush and can attain heights of 10 feet or more. Poison ivy has shiny, pointed leaves that grow in clusters of three; however some

variations have five leaflets. Poison oak resembles poison ivy except that the poison oak leaves are more rounded rather than jagged like poison ivy, and the underside of poison oak leaves are covered with hair.

The skin reaction associated with contacting these plants is caused by the body's allergic reaction to toxins contained in oils produced by the plant. Becoming contaminated with the oils does not require contact with just the leaves. Contamination can be achieved through contact with most parts of the plant such as the leaves, branches, stems or berries, or contact with contaminated items such as tools and clothing. The allergic reaction associated with exposure to these plants will generally cause the following signs and symptoms:

- Blistering at the site of contact, usually occurring within 12 to 48 hours after contact.
- Reddening, swelling, itching, and burning at the site of contact.
- Pain, if the reaction is severe.
- Conjunctivitis, asthma, and other allergic reactions if the person is extremely sensitive to the poisonous plant toxin.
- If the rash is scratched, secondary infections can occur. The rash usually disappears in 1 to 2 weeks in cases of mild exposure and up to 3 weeks when exposure is severe.

The best treatment appears to be removal of the irritating oil before it has had time to cause inflammation. This can be accomplished by immediately washing the affected area with a thick lather of laundry soap, or a 1:1 mixture of alcohol and water. A visual site inspection and identification of the plants should be completed prior to starting

work so that all individuals are aware of the potential exposure. Preventive measures, which can prove effective for most project personnel are:

- Avoid contact with any poisonous plants on site, and keep a steady watch to identify, report and mark poisonous plants found on site.
- Wash hands, face or other exposed areas at the beginning of each break period and at the end of each workday.
- Avoid contact with, and wash on a daily basis, contaminated tools, equipment, and clothing.
- Barrier creams, detoxification/wash solutions and orally administered desensitization may prove effective and should be tried to find the best preventive solution.
- Keeping the skin covered as much as possible (i.e., long pants and long sleeved shirts) in areas where these plants are known to exist will limit much of the potential exposure.
- Use alcohol wipes on shoes if exposure is suspected, including the soles. If the shoes are leather, apply oil afterwards to prevent the drying of the leather.

Plants Causing Skin and Tissue Injury - Contact with splinters, thorns, and sharp leaf edges is of special concern to project personnel, as is the contact with the pointed surfaces found on branches, limbs, and small trunks left by site clearing and grubbing crews. This concern stems from the fact that punctures, cuts and even minor scrapes caused by accidental contact may result in non-infectious skin lesions, and the introduction of fungi or bacteria through the skin or eye. Project personnel receiving any of the injuries listed above, even minor scrapes, shall report immediately to the EHSO/RE for initial and continued observation and first aid.

Animals - Animals (wild or other) other than birds, bats or rats may also be encountered during work. These include dogs, cats, foxes, raccoons and snakes. Any animals encountered on any site should be avoided if at all possible. They may carry rabies or other diseases or may bite or scratch if cornered or scared. Report the presence of any animals or incidents with animals to the EHSO or RE.

4.0 WORK CLOTHING AND LEVELS OF PERSONNEL PROTECTION

4.1 Work Clothing

The HSO or HSR will recommend appropriate levels of protective clothing to be worn, based on the presence and concentrations of hazardous materials that may be encountered. The levels of protection planned based on the work activities to be completed are identified in Table 4-1. In general, typical construction work clothing will be worn on this project. Table 4-1 may need to be modified as Site conditions/information change or becomes available.

4.2 Levels of Protection and PPE

The level of protection and PPE to be worn by field personnel will be defined and controlled by the HSO or HSR, in consultation with the HSO. Table 4-1 summarizes the proposed general work tasks to be completed and the respective levels of protection required when completing these tasks.

4.3 Donning and Doffing

Manufacturer's recommended procedures for donning and removing PPE will be followed in order to prevent damage to PPE, reduce and eliminate contamination migration from "contaminated" area to "clean" areas and from "contaminated" PPE to the wearer or others.

4.0 WORK CLOTHING AND LEVELS OR PERSONNEL PROTECTION

Table 4-1

Personal Protection Levels

TASK	LEVEL OF PROTECTION			
Construction Activities	**Respirators**		**PPE**	
	Initial	**Contingent**	**Initial**	**Contingent**
Drilling and Well Installation	D	C	D	C
Excavation Oversight	D	C	D	C
Sample Collection	D	C	D	C
Waste Handling	D	C	D	C
Decontamination	D	C	D**/C**	C

Note:

Levels of Protection are defined in Section 4.5.

Based on the contaminants likely to be encountered at the Site, respirator cartridges which may be utilized are as follows:

- Combination HEPA - P,O,N 100 series (dusts, fumes, aerosols) and organic vapor cartridges.

4.4 Storage and Inspection

Since storage facilities will not be readily available, only minimal quantities of PPE will be maintained at the Site. Items such as gloves, protective suits and hearing protection will be kept within an identified and suitable storage area. Respirators will be stored in plastic bags when not in use and will be protected from damage.

Employees are responsible for inspecting PPE prior to donning, during use and at the end of the shift. Defective equipment will be removed from service and reported to the HSO or HSR. Reusable equipment will be cleaned, inspected, and maintained in accordance with the manufacturer's recommendations.

Refer to Corporate SOP No. C14 Personal Protective Equipment Guidelines, Corporate SOP No. C18 Hearing Conservation Guidelines and Corporate SOP No.C23 Respiratory Protection Guidelines for more detailed requirements and procedures.

4.5 Summary of Levels of Protection

General levels of protection, including identification of appropriate respirators for each level of protection, are briefly summarized below:

Level D Protection

- Work coveralls or Tyvek, as needed.
- Gloves, as needed.
- Appropriate work boots.
- Hardhat, as required.
- Safety glasses with side shields, as needed.

Modified Level D Protection

- Polycoated tyvek disposable coveralls, or equal substitute.
- Vinyl, neoprene, nitrile rubber or butyl rubber outer gloves.
- Surgical inner gloves.
- Appropriate leather work boots with chemically resistant outer boots or chemically resistant rubber boots.
- Hardhat, as required.
- Safety glasses with side shields, as needed.

Note: Modified Level D Protection refers to the use of Level C Protection with no respirator.

Level C Protection

- Polycoated tyvek disposable coveralls, or equal substitute.

- Half-face or full-face air purifying respirator.
- Vinyl, neoprene, nitrile rubber or butyl rubber outer gloves.
- Surgical inner gloves.
- Appropriate leather work boots with chemically resistant outer boots or chemically resistant rubber boots.
- Hardhat, as required.
- Safety glasses with side shields, as needed.

Level B Protection

- Open circuit, pressure-demand SCBA or pressure-demand supplied air respirator with egress cylinder.
- Communication system.
- Chemical protective overalls and long sleeved jacket or coveralls.
- Vinyl, neoprene, nitrile rubber or butyl rubber outer gloves.
- Surgical inner gloves.
- Appropriate leather work boots with chemically resistant outer boots or chemically resistant rubber boots.
- Hardhat, as required.

Level A Protection

- Open circuit, pressure-demand SCBA or pressure-demand supplied air respirator with egress cylinder.
- Communication system.

- Totally encapsulated chemically resistant suit.
- Vinyl, neoprene, nitrile rubber or butyl rubber outer gloves.
- Surgical inner gloves.
- Appropriate leather work boots with chemically resistant outer boots or chemically resistant rubber boots.
- Hardhat, as required.

***Respirators*:**

Level D - A respirator is not required.

Modified Level D - A respirator is not required.

Level C - Full-face or half face air purifying respirator.

Level B - Open circuit, pressure-demand SCBA or pressure-demand supplied air respirator.

Level A - Open circuit, pressure-demand SCBA or pressure-demand supplied air respirator.

5.0 SITE CONTROL

A Site Control Plan has been established to restrict access to work areas where [potentially hazardous activities and contamination may be present, to select appropriate PPE for personnel working in each control zone and to prevent the accidental spread of contaminated material]. As part of this plan, a number of separate zones may be established at the Site, as follows:

- Construction Work Zone (CWZ).
- Construction Exclusion Zone (CEZ).
- Contamination Reduction Zone (CRZ).
- Construction Support Zone (CSZ).

Zone classifications may change as circumstances may warrant. The CWZ is the project work area. The CEZ will be established within the CWZ, if the air monitoring action levels will exceed the levels established for this project (refer to Section 3.0). The CRZ zone will be established within the CWZ between the CEZ and the CSZ, as determined by the HSR.

Refer to Corporate SOP No. C19 - Site Control and Work Zone Guidelines for more detailed procedures regarding work zones and site control.

5.1 Construction Work Zone

The CWZ is the project work area or immediate construction area. Physical project work activities will be completed within the CWZ. This zone is restricted Contact

and Non-Contact Project Personnel and Project Support Personnel and visitors, as defined in this HASP. Access to the Site and established construction work zone will be controlled by fencing, caution tape and/or safety cones around the equipment and work areas. In addition, equipment will be secured at the end of each day and covers will be placed over open borings, trenches or pits. Only authorized personnel will be allowed to enter established construction work zone.

Personnel including Project Support Personnel and visitors entering the CWZ will be briefed by the HSO or HSR prior to their initial entry. Contact Project Personnel entering the CWZ must meet the training and medical requirements as outlined in Sections 7.0 and 8.0. The PPE to be worn, as defined in Section 4.0, will be established by the HSO or HSR. Contact Project Personnel and equipment exiting the CWZ must be adequately cleaned/decontaminated before leaving the Site, or as required by the HSO, HSR or designee. The HSR will monitor Non-Contact Project Personnel activities performed within the CWZ.

5.2 Construction Exclusion Zones

A CEZ may be established in active work areas where potentially hazardous activities and contamination are anticipated to be encountered, observed or measured, leading to potential physical and chemical exposure to workers. The HSR will make the determination to establish a CEZ based upon work activities, work conditions, visual evidence of contamination, air monitoring or sample results and/or other knowledge of the Site that indicates an increase in the probability of worker exposure.

Typically, the CEZ will consist of an area with a 15 to 20 foot buffer area around the excavation or activity area. However, the HSR will determine the extent of the CEZ,

depending on the potential hazards and Site activities. The area will be marked using a physical barrier (i.e., flagging tape, etc.) or other means to readily identify the boundary of the zone.

Access to a CEZ will be limited to Contact Project Personnel that meet the training and medical requirements as outlined in Sections 7.0 and 8.0. Contact Project Personnel entering an established CEZ will be briefed by the HSR prior to initial entry.

The PPE to be worn is defined in Section 4.0, and will be established by the HSO or HSR. Personnel and equipment exiting the CEZ must be adequately cleaned/decontaminated before leaving the Site, or as required by the HSO, HSR or designee.

Once the operations have been completed, the CEZ will be removed by the HSR.

5.3 Contamination Reduction Zone

The CRZ is the area just outside the CEZ where Contact Project Personnel undergo decontamination. If established, this zone will be contiguous with the CEZ. The area will be marked using flagging tape or other means to readily identify the boundary of the zone. Access to this zone will be limited to Contact Project Personnel exiting the CEZ and personnel assisting with decontamination. A separate equipment decontamination area will be established as determined by the HSO, HSR or designee.

5.4 Construction Support Zone

The CSZ, if established, is the location in which administrative and other support functions essential to Site operations are conducted. Functions that need not or cannot be performed in a hazardous or potentially hazardous area is performed here. Personnel may wear normal work clothes within this zone. Potentially contaminated clothing, equipment and samples must remain in the CRZ until decontaminated.

6.0 MONITORING PROCEDURES

6.1 Monitoring during Site Operations

Air monitoring results are used by the HSR to provide data in determining when construction work zone delineation is needed and when certain levels of PPE are required. For each instrument there are site-specific action level criteria that are used by the HSR as guidelines in making field H&S determinations. Other data, such as the visible presence of contamination and/or the steady state nature of air contaminant concentration, are also used by the HSR in making field H&S decisions. Therefore it is possible that the HSO and HSR may establish CEZs and/or require a person to wear a respirator even though atmospheric air contaminant concentrations are below established action levels.

The HSR or his/her designee will perform monitoring. Air monitoring instrumentation may be utilized to monitor the worker-breathing zone, as necessary. Personal air sampling for specific airborne contaminants may be performed at the direction of and under the supervision of the HSR or FOM. The types of instruments to be utilized, based on the contaminants anticipated to be encountered, and the contaminants they can detect are summarized in Table 6-1.

Construction Exclusion Zone Monitoring

The frequency of real-time monitoring in CEZ work areas will be determined by the HSO according to the task being completed and whether potentially hazardous soil or contaminated groundwater will be contacted/disturbed. Real-time monitoring in CEZ work areas will be conducted daily and minimally under the following conditions: during

an activity which would have the highest probability of worker exposure as determined by the HSR; in the presence of visible contamination; or at the discretion of the HSR.

Table 6-1

Air Monitoring Instrumentation

Air Monitoring Instrumentation	Acronym	Contaminant(s) Monitored
Combustible Gas Indicator	CGI	Combustible Gas, Oxygen, Hydrogen Sulfide (LEL, O_2, H_2S)
Photoionization Detector	PID	Organic Vapors (e.g. Benzene, Vinyl Chloride)
Handheld Aerosol Monitor	HAM	Dust, Particulate Material
Flame Ionization Detector	FID	Organic Vapors (e.g. Benzene, Vinyl Chloride)
Colorometric Detector Tube	---	Organic Vapors (e.g. Benzene, Vinyl Chloride)
4-Gas Meter	---	Methane, Carbon Monoxide, Hydrogen Sulfide, Oxygen (CH_4, CO, O_2, H_2S)

Note:

LEL: Lower explosive limit.

Engineering controls, as discussed in Table 6-2, may be implemented to reduce worker exposure potential.

Construction Work Zone Monitoring

The frequency of real-time monitoring in restricted zones, such as an established CWZ, will be determined by the HSO. Real-time monitoring in CWZ areas will be completed under the following conditions: prior to the beginning of a new job task; prior to the beginning of a job task in a new area; periodically for a long-term job task; during an activity which would have the highest probability of worker exposure, as determined by the HSO; in the presence of visible contamination; or at the discretion of the HSR.

Background Monitoring

Real-time monitoring will occur at locations such as in the main staging area as part of determining atmospheric background levels. Background levels will be established before conducting real-time monitoring in a restricted or CWZ area.

Instrument Calibration and Maintenance

Monitoring equipment will be calibrated at least once per day before each day's use. The calibration results will be recorded. Monitoring equipment will be maintained on a schedule corresponding to the manufacturer's suggested maintenance schedule.

Table 6-2

Perimeter and Work Zone Action Levels

PERIMETER MONITORING		
Instrument	**Action level**	**Action required**
Aerosol Monitor	>2.5 mg/m^3 TWA	Implement dust control measures. If control measures do not reduce concentrations below this action level, expand exclusion zone boundaries.
PID	>1ppm above Background (BKGD) (TWA -5min)	Expand exclusion zone boundaries.
WORK ZONE MONITORING		
Instrument	**Action level**	**Level of protection or action required**
PID	5 ppm above BKGD	No Respirator (Level D).
	> 5 ppm above BKGD and 0 ppm above BKGD	Respirator (Level C). Contact HSO or designee.
	> 50 ppm above BKGD and	If levels above 50 ppm should persist for 15 minutes, the level of protection should be upgraded to Level B or work is to be halted.
CGI	10% LEL	Shut down machinery, remove personnel from work zone and ventilate.
Oxygen	19.5%	Halt work and ventilate.
Hydrogen Sulfide	>10 ppm	Notify HSO and leave work zone.
Aerosol Monitor	>2.5 mg/m^3	If levels above 2.5 mg/m^3 should persist for 15 minutes, implement dust control measures or use Level C protection.

Notes:

ppm:	Parts per million.
TWA:	Time weighted average.
LEL:	Lower explosive limit.
mg/m^3:	Milligrams per cubic meter.

6.2 Air Monitoring Locations and Action Level Criteria

The primary areas to be monitored during the project are to be the work zone, or CEZ, and its perimeter. Specific air monitoring activities proposed for this project are identified in Section 3.0. A summary of the action levels to be used in association with these air monitoring activities, as well as types of instrumentation which may be utilized at the discretion of the FOM or HSR, are presented in Tables 6-1 and 6-2.

It is important to confirm that the location and maintenance of the CEZ boundaries are adequate to protect personnel not working in the established CEZ. Volatile organic hydrocarbon and dust levels at the perimeter of the work and established CEZs will be maintained below the established action levels. To help manage this task, air monitoring will be performed in the following manner:

- Before field activities commence, the general background levels of total volatiles and total dust concentrations (when needed) will be measured upwind and in the work zone.
- During the field activities, monitoring will be conducted at the perimeter of the CEZ, the work zone and the Site perimeter (as determined by HSR).

Air monitoring action levels established for the Site, including a summary of commensurate levels of protection and actions to be taken are summarized on Table 6-3.

Table 6-3

Air Monitoring Action Levels

Action Level	Level of Protection	Action to be Taken
INTRUSIVE ACTIVITIES		
Background (BKGD).	Level D or Modified Level D (Level C PPE but no respirator)	Intrusive work will be started in Level D or Modified Level D. If air monitoring results indicate conditions above BKGD level, actions to be taken are identified below.
PID		
BKGD to 5 units above BKGD	Modified Level D	Continue working with the current level of protection.
5 units above BKGD at breathing zone and below 100 units	Level C	Halt work, evacuate area and allow area to ventilate then resume work. Should levels persist, D&B HSR or FOM will evaluate conditions prior to upgrading to Level C.
> 100 units above BKGD	Level B	Proceed with caution and monitor continuously. Should levels above 100 units persist, D&B HSR or FOM will evaluate conditions prior to upgrading to Level B. This action would require the work area protocol be amended for Level B protection, as discussed in the HASP.
DETECTOR TUBES		
Benzene >1 ppm (Conduct test when PID/FID >1 unit above BKGD or if phase product or odorous material is detected)	Level C	Halt work, evaluate condition prior to upgrading to Level C protection, as required by D&B HSR or FOM.

Action Level	Level of Protection	Action to be Taken
Benzene >25 ppm (Conduct test when PID/FID >1 unit above BKGD or if phase product or odorous material is detected)	Level B	If levels persist, upgrade to Level B protection, as required by D&B HSR or FOM.
Other colorimetric detector tubes used as determined by FOM, HSR or qualified designee when PID readings are > 1 unit above BKGD or if phase product or odorous material is detected)	Level C	Halt work, evaluate condition prior to upgrading to Level C protection, as required by D&B HSR or FOM.
DUST/AEROSOL MONITOR		
Respirable dust >100 µg/m^3 above BKGD	Current Level in Use	Implement dust suppression techniques to reduce dust levels.
Respirable dust >150 µg/m^3	Current Level in Use	Monitoring upwind BKGD levels and implement dust suppression techniques. If levels persist, halt work and contact FOM. Work can only resume if control measures can be implemented to remedy the situation.
COMBUSTIBLE GAS METER		
> 10% LEL scale		Halt work, evacuate area and allow to ventilate below 10% LEL prior to resuming work. Contact FOM.
OXYGEN		
< 20.5%		Continuous monitoring. Consider engineering controls.
< 19.5%		Evacuate work area. Institute ventilation and engineering controls. Maintain > 19.5% oxygen condition for at least 10 min. before continuing. Notify FOM.

Action Level	Level of Protection	Action to be Taken
> 22%		Continuous monitoring. Identify combustion sources.
> 23.5%		Evacuate and institute engineering controls as necessary. Oxygen level must be below 22% for at least 10 minutes before continuing. Explosive condition may be present. Notify FOM.
HYDROGEN SULFIDE		
<10 ppm		Continue monitoring.
>10 ppm		Halt work, evacuate area and allow area to ventilate below 10 ppm. Contact the FOM.
CARBON MONOXIDE		
< 25 ppm		Continue monitoring.
> 25 ppm		Halt work, evacuate area and allow area to ventilate below 10 ppm. Contact the FOM.
LEAD (Personal Samples)		
0 to 10 µg/m^3	Modified D	Continue working.
>10 µg/m^3 and <30 µg/m^3	Level C	Implement suppression activities to reduce dust levels. Use respirators with N, R, or P-100 filters. Conduct daily perimeter sampling for lead. Conduct at least weekly personal sampling for each job class.
>30 µg/m^3	Level C	Stop work, modify work procedures and increase dust suppression activities. Conduct daily personal and perimeter sampling for lead until exposures are maintained below 30 µg/m^3.
LEAD (Perimeter Samples)		

Action Level	Level of Protection	Action to be Taken
<1 µg/m^3 (above background)	Current level in use	Continue working.
>1 and <3 µg/m^3 (above BKGD)	Current level in use	Implement suppression activities to reduce dust levels. Conduct daily perimeter sampling for lead.
>3 µg/m^3 (above BKGD)	Current level in use	Stop work, modify work procedures and increase dust suppression activities. Conduct daily perimeter sampling for lead until perimeter can be maintained <1 µg/m^3.
OTHER		
Worker experiences symptoms of chemical exposure		Stop work, evacuate the area, seek medical attention and notify FOM for proper incident reporting and follow-up.

Notes:

ppm: Parts per million.
µg/m^3: Micrograms per cubic meter.

Perimeter Monitoring

Real time monitoring for the total VOCs and dust will be conducted at the Site or CEZ perimeter using a PID or FID and aerosol/dust monitor as determined by the HSO or HSR and as appropriate.

Work Zone Monitoring

Real time monitoring for the total VOCs and dust will be conducted in the work zone using a PID or FID and aerosol/dust monitor as determined by the HSO or HSR and as appropriate.

Monitoring of Personnel

Personal or area monitoring for time weighted average (TWA) measurements may be performed during some operations and activities to qualitatively detect the presence of select organic compounds. Personal monitoring will be performed as directed by the HSO or HSR. Sampling collection and analysis will be conducted according to the procedures set forth in either the NIOSH Manual of Analytical Methods or the OSHA Analytical Methods Manual. An American Industrial Hygiene Association (AIHA) accredited laboratory will be used for sample analysis.

7.0 TRAINING

7.1 Initial Site Training

The initial Site briefing will be provided on-site by the HSO or designee for Contact and Non-Contact Project Personnel and Project Support Personnel prior to initial entry onto the Site and established construction work zones. Site training will also be provided on an as-needed basis to specifically address the activities, procedures, monitoring and equipment for Site operations. Such training will include Site and facility layout, hazards and emergency services at the Site, and will detail applicable provisions contained within this HASP. This training will be documented. In addition, certain clients may have specific training requirements.

7.2 Refresher Training

Annual (and less frequent) refresher training is required for many certifications necessary for the work, including HAZWOPER, OSHA and tasks where site personnel are not performing their tasks in accordance with their training.

7.3 Contact Project Personnel Training

Contact Project Personnel designated to work in the CEZ are required to have successfully met the initial and refresher training requirements pursuant to OSHA 29 CFR 1910.120(e). Copies of training certification documentation for Contact Project Personnel are provided in Appendix A.

7.4 Supervisor Training

Supervisory personnel designated to work in a designated CEZ will be required to have successfully met the supervisory training requirement pursuant to OSHA 29 CFR 1910.120(e).

7.5 Confined Space Training

Employees will be trained to recognize confined spaces, the hazards of working in confined spaces and the requirements of properly working in confined spaces. Confined space entry will be conducted using the OSHA 29 CFR 1910.146 Confined Space Standard for General Industry as a guideline and Corporate SOP No. C25 – Confined Space Operations Guidelines.

7.6 Additional Training

In addition to required prerequisite training, ongoing training will take place in the form of pre-job and kick-off meetings, site-specific safety orientation, tailgate/toolbox talks and review of project JHAs. Subcontractors are included in these meetings, as necessary.

8.0 MEDICAL SURVEILLANCE

Contact Project Personnel engaged in on-site activities associated with potential hazardous waste or who may potentially need to utilize a respirator will have a baseline physical examination and participate in D&B's medical surveillance program. This program meets the requirements of OSHA 29 CFR 1910.120(f). Medical procedures beyond baseline physical and routine medical surveillance are not planned for this project. Medical records for employees are maintained at the corporate office and by the company's medical group. Medical records are maintained in accordance with the record keeping requirements of OSHA 29 CFR 1910.120. In addition, employee required to wear a respirator will be approved by a licensed health care provider for respirator use as defined in the OSHA Respiratory Standard 29 CFR 1910.134.

In the unlikely event of a chemical exposure, the affected employee will be sent for evaluation and treatment that may be needed to either the Corporate Medical Group, or to the designated hospital. See Appendix B for employee medical certification documentation.

Reference Corporate SOP No. C24 - Medical Surveillance Guidelines for additional information regarding D&B's medical surveillance policy.

9.0 COMMUNICATIONS

9.1 Hazard Communication

The HSO or HSR is responsible for site-specific training, maintaining and updating the Site chemical inventory list, enforcing labeling requirements, obtaining and maintaining chemical safety data sheets (SDSs) and notifying employees and contractors of the hazards associated with non-routine tasks. The HSO will inform D&B personnel of the potential hazards that may be encountered in the area where he/she will be working, should the HSO have such knowledge of these hazards.

D&B will inform the client of any previously unknown hazards encountered at the site or hazards that result from work performed by the contractor.

INESRT: Insert information here relating to hazardous chemicals known to exist at the Site and append applicable SDSs in Appendix C.

Reference Corporate SOP No. C01 - Hazard Communication Guidelines for additional information regarding hazard communication guidelines.

9.2 General Communication

A means of communication will be established prior to initiation of work at the Site. This may include two-way radios, portable telephones and/or existing nearby telephones. Project personnel will be informed of changes to the communication procedures during Site briefings.

9.0 COMMUNICATIONS

10.0 DECONTAMINATION PROCEDURES

10.1 General

Personnel and equipment that have been within established CEZ will be decontaminated, as appropriate. Decontamination facilities will be under the control of the HSO, HSR or designee. Clean-up activities may also occur for operations outside of established CEZ. Such cleanup is part of typical monitoring and sampling, construction and other support operations. Personnel working in the CEZ will not be permitted to exit the CRZ without following proper decontamination procedures. In addition, non-authorized personnel are not permitted in the decontamination or changing areas.

10.2 Personnel Decontamination

Personnel field decontamination equipment, supplies and/or facilities will exist in the CRZs, to be located at the exits to established CEZs, if established. If possible, these field decontamination facilities should be located upwind of the CEZ. The field decontamination facilities will be under the control of the HSR. Based on the extent of personnel contamination, the HSR will implement the site-specific decontamination procedures.

Full field decontamination procedures (Generally Level C), if implemented, will require personnel exiting an established CEZ to undergo a wash and a rinse process and remove their PPE. This process will consist minimally of two to three tubs on a plastic surface: one wash tub and one to two rinse tubs. Personnel exiting the established CEZ(s) will be required to wash their outer boots, outer gloves and protective clothing. This process will be accomplished with a soapy water solution and scrub brushes.

Personnel will then proceed to the next two stations, each of which consisting of a rinse tub containing clean water and a water sprayer. Personnel will stand in the tub and spray off their gloves, boots, and protective clothing with clean water from the sprayer. After the double rinse, personnel will then remove their outer boots, outer gloves, protective clothing and respiratory protection, if worn.

Once removed, disposable PPE will be collected in a drum or large plastic bag. The drum or plastic bag will be secured in order to prevent the accidental spread of contamination. Disposable PPE that has been worn in an exclusion zone must be removed and placed in the disposal container before leaving the CRZ. Disposable PPE may not be re-used.

Contaminated wash water will be collected in drums at the field decontamination area or it will be disposed on-site, as appropriate (i.e., placed in vehicle decontamination pads or other approved methods).

Cold weather field decontamination procedures, if applicable, will require the prevention of decontamination liquids (e.g., soap and water) from freezing. This may be accomplished by adding salt or other equivalent substance to the soap solution. The plastic decontamination pad may be covered with gravel or salt or other equivalent material to prevent slips, trips or falls during freezing temperatures.

10.3 Wash-up Facility

Portable wash-up materials, apparatus and/or facility may be installed in the main support area of the CWZ, if necessary. The facility will be under the control of the HSR.

Personnel may only use the "wash-up" setup after exiting the field decontamination facility, if necessary. Personnel working at the Site should wash their hands and faces prior to eating, drinking or smoking and practice good personal hygiene. Potable water, showers and changing rooms will be available at the Site, if necessary.

10.4 Instrument Decontamination

Instruments will be decontaminated whenever they have come into contact with soil or dust, as appropriate. Instrument decontamination will occur in the same area for personnel decontamination and will consist of the removal of dust or soil from the surface of the instruments.

10.5 Equipment Decontamination

Equipment decontamination will take place at Site on an as-needed basis. Water generated as part of decontamination procedures will be allowed to drain back onto the site soil collected for proper off-site transportation and disposal. Field equipment that have been contaminated will be decontaminated before leaving the project Site. The HSO, HSR or designee will be responsible for confirming that equipment is decontaminated, as needed.

Anticipated on-site equipment for this project includes:

- Flatbed trucks and trailers.
- Tracked and rubber tire bulldozers, loaders and backhoes.

- Drill rig.
- Rigging hoists and slings.
- Liquid and solid soil sampling equipment.

Reference Corporate SOP No. C22 - Containment and Disposal of Contaminated Material for additional detail regarding equipment decontamination.

11.0 DISPOSAL PROCEDURES

It is possible that solid and liquid waste from activities such as excavation, drilling, etc. may be generated. Waste material generated during the course of the project will be appropriately marked pending sampling results prior to proper off-site transportation and disposal. Disposable PPE will be bagged or drummed, classified and segregated for temporary storage on-site prior to proper off-site transportation and disposal.

Reference Corporate SOP No. C22 - Containment and Disposal of Contaminated Material for additional information regarding waste disposal procedures.

12.0 EMERGENCY PLAN/EMERGENCY CONTACT INFORMATION

Emergency situations can be characterized as a fire or explosion, an environmental release, business interruption, accident or injury to field personnel. In the event that such emergencies occur during completion of the project work, the Site will be evacuated in an orderly fashion and per the procedures below.

In the event of an emergency, D&B's Site Emergency Coordinator (SEC) or designee will coordinate the evacuation of the Site and notify the applicable organizations for the appropriate assistance. The PD, PM and HSO will be notified immediately in the event of an evacuation.

Emergency action responsibilities and phone numbers are provided below:

12.1 D&B Site Emergency Coordinator

Title	Name	Cell Number
Site Emergency Coordinator		000-000-0000
Alternate Site Emergency Coordinator		000-000-0000

12.2 Emergency Phone Numbers

Organization	Name	Phone Number
Ambulance	NA	000-000-0000

Hospital		000-000-0000
Fire		000-000-0000
Police		000-000-0000
Poison Control Center	NA	1-800-222-1222
EPA Region 2 Hotline	NA	1-800-424-8802
National Spill Response Center	NA	1-800-424-8802
NY Dig Safe	NA	1-800-272-4480

12.3 Incident Reporting Procedure

It is important to rapidly and accurately transfer information to appropriate personnel in the event of an emergency situation. This includes incidents requiring police assistance, fire department or medical emergencies. In case of an emergency, it is important that the following Incident Reporting Procedure be observed.

When reporting an emergency, provide the following information to the dispatcher:

- Caller's full name.
- The nature of the incident (i.e., "fire").
- The location of the incident (i.e., "street location and nearest intersection"). The more specific, the better.
- What you need (i.e., "fire department and first aid").

- If you are able, where you will meet emergency responders (i.e., at end of West Street, near train tracks).
- Provide a call back number (e.g., "I'll be at the scene; my cell number is 123-4567").
- Status of the situation (e.g., is the situation stabilized or "I have the fire under control").
- If anyone is injured or in need of emergency assistance (e.g., "A mechanic working on a pump was burned").

In addition, some clients have their own protocols for reporting incidents. D&B personnel should become familiar with these procedures.

Reference Corporate SOP No. C04 - Emergency Action Guidelines for additional information regarding incident reporting procedures.

12.4 Evacuation

In the event of an emergency situation, XXX will direct personnel to evacuate the Site and assemble at a designated meeting area. For efficient and safe area evacuation and assessment of the emergency situation, the SEC or designee will initiate proper action if outside services are required. The access to emergency equipment will be provided and combustion apparatus (e.g., operating machinery) will be shut down once an emergency situation has been identified, if possible.

12.5 Personnel Injury

In the event of an emergency situation, the local emergency response group will be called by the SEC or designee. In case of a life-threatening situation, emergency first aid may be applied on-site, as deemed necessary. If possible, the individual should be decontaminated and then transported to the nearest medical facility, if needed.

The local rescue squad will be contacted for transport as necessary in an emergency. Since some situations may require transport of an injured party by other means, transportation by automobile may be required.

12.6 Personnel Exposure Treatment

Skin contact:	Use copious amounts of soap and water. Wash and/or rinse affected area thoroughly, then provide appropriate medical attention.
Eye contact:	Eyes should be thoroughly rinsed with water for at least 15 minutes. Sites will be equipped with eyewash bottles, if eyewash stations are not present.
Inhalation:	Move to fresh air and, if necessary, decontaminate, if possible, and transport to hospital.
Ingestion:	Decontaminate, if possible, and transport to emergency medical facility.
Puncture wound or laceration:	Decontaminate, if possible, and transport to emergency medical facility.

12.7 Hospital Route Map and Directions

The driving directions from the Site to [INSERT HOSPITAL NAME] located at

[INSERT HOSPITAL ADDRESS] are provided below.

- Exit the Site and turn [INSERT LEFT OR RIGHT] on [INSERT STREET NAME].
- Turn [INSERT LEFT OR RIGHT] on [INSERT STREET NAME].
- Turn [INSERT LEFT OR RIGHT] on [INSERT STREET NAME].
- Hospital will be on the [INSERT LEFT OR RIGHT] side of the street.

Total travel time is approximately [INSERT TIME]. A Route to Hospital Map is provided on Figure 12-1.

12.8 Safety Equipment

Basic emergency and first aid equipment is be made available at the Site, as appropriate, and its location will be clearly identified to employees at the Site. This will include a first aid kit and other safety-related equipment. First aid kits will be stocked with supplies deemed necessary for site-specific conditions. They will be inspected periodically to ensure that all items necessary are in stock. Any missing supplies will be replaced.

Figure 12-1

Route to Hospital Map

13.0 RECORD KEEPING

The HSO, HSR or designee will maintain H&S information records for the Site. The following information will be recorded as needed:

- Weather conditions (temperature, wind speed and direction).
- Air monitoring equipment calibration records.
- Air monitoring results (date, time, location, data, instrument, person conducting sampling).
- Training records.
- Medical surveillance records.
- Health and safety audit records.
- Description of operation(s).
- Description of accident(s), if any.
- Non-compliance with the HASP, if any.

Reference Corporate SOP No. C05 - Record Keeping Guidelines for additional information regarding D&B's health and safety record keeping policy.

14.0 AUTHORIZATIONS

The HSO, HSR or designee must approve personnel authorized to enter the Site and established project work zones. Authorization will involve completion of appropriate training courses and medical examination requirements, as outlined by this HASP, as well as the signature of the individual on the HASP Acknowledgement Form provided in Appendix D which verifies compliance and complete understanding of this HASP.

APPENDIX A

EMPLOYEE TRAINING CERTIFICATION DOCUMENTATION

APPENDIX B

EMPLOYEE MEDICAL CERTIFICATION DOCUMENTATION

APPENDIX C

SAFETY DATA SHEETS

APPENDIX D

HASP ACKNOWLEDGEMENT FORM

HASP Acknowledgement Form

Each field team member will sign this section after the site-specific training has been completed and before being allowed to work on site.

I have read and understand this Site-Specific Health and Safety Plan. I will comply with all of its provisions.

Project: **[*Insert the name of the Project*]**

Name (Print)	Signature	Date

APPENDIX C

SITE-SPECIFIC HASP CHECKLIST

SITE-SPECIFIC HEALTH AND SAFETY PLAN CHECKLIST

In addition to compliance with the provisions of the Corporate Health and Safety Plan (HASP), Site-Specific HASPs must be drafted for projects where D&B employees will be completing field work. Based on project duration, complexity and potential chemical and/or physical hazards to be encountered at a given site, and as determined by D&B Program Directors/Project Managers (PDs/PMs) in consultation with D&B's Corporate Health and Safety Officer (HSO), a limited scope or comprehensive Site-Specific HASP must be drafted for projects where D&B employees will be completing field work, as follows:

- A limited scope Site-Specific HASP will be drafted for projects with short durations, limited complexities and/or limited potential for D&B employees to be exposed to chemical and physical hazards, as determined by D&B PDs/PMs in consultation with D&B's HSO. Limited scope HASPs will include basic site-specific information such as a route to hospital map, project organization, emergency contact information and a brief job/task hazard analysis. A limited scope HASP template is provided in Appendix A of the Corporate HASP.

- A comprehensive Site-Specific HASP will be drafted for projects with longer durations, greater complexities and/or greater potential for D&B employees to be exposed to chemical and physical hazards, as determined by D&B PDs/PMs in consultation with D&B's HSO. Comprehensive HASPs will include detailed site and project-specific information. Any project which involves excavations or trenching to depths exceeding four feet below grade, fall protection, confined space or hot work operations (e.g. welding) will automatically require a comprehensive HASP. A comprehensive HASP template is provided in Appendix B of the Corporate HASP.

The checklist below is intended to provide direction regarding which HASP (limited scope or comprehensive) a particular project may require based on project duration,

SITE-SPECIFIC HEALTH AND SAFETY PLAN CHECKLIST

complexity and potential chemical and/or physical hazards to be encountered at a given site. It is additionally recommended that D&B PDs/PMs discuss these requirements with D&B's HSO prior to development of the HASP for a given site in order to determine if the HASP is adequately protective of D&B employees.

If the following activities apply to a given Site and the proposed scope of work to be completed, a limited scope Site-Specific HASP must be prepared to provide sufficient site and task-specific H&S detail for D&B employees to safely and competently perform their field-related duties. These activities include:

	Yes	No
Excavation or trenching work is being completed to depths of up to 4 feet below grade.	☐	☐
Chemical hazards exist at the site, with very low to no potential for exposure.	☐	☐
Work is being completed near high pressure and/or temperature utility pipes, with very low to no potential for exposure.	☐	☐
Electrical hazards exist at the Site, with very low to no potential for exposure.	☐	☐
Walking/working on platforms, ladders or scaffolds with a potential for falls of more than 4 feet.	☐	☐
Working in a high noise level environment.	☐	☐
Being exposed to hot or cold temperatures.	☐	☐

If "yes" is selected for any activities above, a limited scope Site-Specific HASP must be prepared for the project and signed by field staff prior to initiation any field activities.

SITE-SPECIFIC HEALTH AND SAFETY PLAN CHECKLIST

If any of the following activities apply to the proposed field activities to be completed at the Site, in addition to any of the items listed above, a comprehensive HASP must be prepared to provide sufficient site and task-specific H&S detail for D&B employees to safely and competently perform their field-related duties. These activities include:

	Yes	No
Excavation or trenching work is being completed to depths of more than 4 feet below grade.	☐	☐
Chemical hazards exist at the site, with potential for exposure (inhalation, absorption, injection and ingestion).	☐	☐
Work is being completed near high pressure and/or temperature utility pipes with potential for exposure.	☐	☐
Electrical hazards exist at the Site, with potential for exposure.	☐	☐
Walking/working on platforms, ladders or scaffolds with a potential for falls of more than 4 feet.	☐	☐
Performing, participating in or overseeing a confined space entry.	☐	☐
Working in potentially hazardous atmospheres (e.g. hot work operations).	☐	☐
Respirators will or may potentially be needed.	☐	☐
Potential for working near heavy equipment and vehicles.	☐	☐
Working on or in close proximity to active roadways or vehicle routes.	☐	☐
Working in close proximity to rotating machinery and/or potential flying debris.	☐	☐
Handling or overseeing the handling of containers (drums).	☐	☐

SITE-SPECIFIC HEALTH AND SAFETY PLAN CHECKLIST

If "yes" is selected for any activities above, a comprehensive Site-Specific HASP must be prepared for the project and signed by field staff prior to initiation any field activities.

APPENDIX D

D&B CORPORATE SOPs

D&B ENGINEERS AND ARCHITECTS, P.C. 50 YEARS est. 1965

APPENDIX D

D&B CORPORATE SOP INDEX

Corporate SOP Number	Corporate SOP Name
C01	Hazard Communication Guidelines
C02	Incident Investigation and Health and Safety Reporting Guidelines
C03	Health and Safety Program Evaluation
C04	Emergency Action Guidelines
C05	Record Keeping Guidelines
C06	Compressed Gases Handling Guidelines
C07	Ladder Safety Guidelines
C08	Roadwork/Highway Safety Guidelines
C09	Heavy Equipment Guidelines
C10	Electrical Safety Guidelines
C11	Heat Stress Prevention Guidelines
C12	Cold Stress Prevention Guidelines
C13	Fall Protection Guidelines
C14	Personal Protective Equipment Guidelines
C15	Excavation/Trenching Operations Guidelines
C16	Safe Driving Guidelines
C17	Lockout/Tagout Guidelines
C18	Hearing Conservation Guidelines
C19	Site Control and Work Zones Guidelines
C20	Air Monitoring and Sampling Guidelines
C21	Container Handling Guidelines
C22	Containment and Disposal of Contaminated Material
C23	Respiratory Protection Guidelines
C24	Medical Surveillance Guidelines
C25	Confined Space Operations Guidelines
C26	Scaffolding Safety Guidelines
C27	Bloodborne Pathogens
C28	Working on or Over Water

C29	Hot Work
C30	Fire Safety

HAZARD COMMUNCATION GUIDELINES

Table of Contents

1.0 PURPOSE

To provide guidance for the implementation of a comprehensive Hazard Communication Program in order to effectively communicate the chemical hazards to be encountered at D&B office and project locations.

HAZARD COMMUNCATION GUIDELINES

2.0 SCOPE

Applies to all D&B sites.

3.0 DEFINITIONS

Affected Employees - an employee who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies.*

* Note that Hazard Communication standards apply to any employee working with or exposed to chemicals, whether they are hazardous or not.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for the implementation of the Hazard Communication Program and compliance with the OSHA 29 CFR 1910.1200 and 29 CFR 1926.59.

On-Site Health and Safety Representative (HSR) - The HSR is responsible for maintaining and updating site-specific chemical inventory list, verifying labeling is adequate, obtaining and maintaining SDS, notifying D&B personnel of the hazards associated with specific assignments and reviewing areas with D&B personnel where a potential hazard may be encountered.

D&B Employees - Observe label warning and adhere to established safety procedures.

5.0 GUIDELINES

5.1 Introduction

These guidelines should be used to communicate chemical hazards to be encountered at D&B work sites, provide personnel access to information on chemical hazards, and familiarize them with procedures for the safe handling of hazards in the workplace. A written plan shall be present at each worksite where chemicals are in use.

HAZARD COMMUNCATION GUIDELINES

5.2 Hazard Determination

Hazard assessment of chemicals used by D&B are made by the suppliers and manufacturers of these chemicals and communicated to D&B via Safety Data Sheets (SDS).

5.3 Chemical Inventory List

A list of potentially hazardous materials will be maintained in each office, included with the site-specific HASP and other applicable project documents and will contain, at a minimum, the following:

- Product names.
- Hazardous components.
- Manufacturer's identification.
- Location used.

After the initial determination, the Hazard Communication inventory list will be updated annually. New chemicals will be added to the lists when received.

5.4 Labels

5.4.1 Incoming Products

Products arriving from chemical manufacturers and/or distributors will be inspected by receiving personnel to confirm that:

- The labels and warnings are appropriate, legible, in English and prominently displayed on each container.
- The existing labels have not been removed or defaced.

HAZARD COMMUNCATION GUIDELINES

The HSO or HSR must be notified if a container arrives without a label, the label is illegible or the label does not identify the chemical, supply the name and address of the manufacturer or list hazard warnings.

This practice is to be completed before the product is used so that its contents may be assessed and labeled appropriately or returned to the supplier.

5.4.2 Transfer Containers

When a hazardous chemical is transferred from its primary container to a new one, the transfer container must be adequately labeled. At a minimum, the identity of the chemical and appropriate hazard information must be included on the label.

5.5 Safety Data Sheets

Copies of safety data sheets (SDSs) for hazardous chemicals being used on each site will be accessible to employees working at that site. Each SDS will be in English and will contain the following information:

- Manufacturer's name, addresses and telephone number.
- Name and signature of sheet's preparer.
- The date of preparation or revision of the SDS.
- Product identification using chemical, common and trade names (must include the same name on the label).
- Chemical Abstract Service (CAS) Number.
- Chemical formula.
- Chemical family.
- Hazardous ingredients of products as defined by OSHA according to toxicity, flammability and reactivity. If the hazardous chemical has not been tested as a whole, the chemical and common name(s) of all ingredients which have been

determined to be a health hazard and which comprise 1% or greater of the composition will be listed (except the chemicals identified as carcinogens will be listed if the concentration is 0.1% or greater).

- Physical data including vapor pressure, flash point, specific gravity and boiling point.

- Fire and explosion data including flammable limits in air, auto-ignition temperature, specific recommendations on the types of fire extinguisher(s) to be used and/or avoided and special fire fighting procedures.

- Health hazard information including the primary route(s) of exposure, established exposure limits (listed as the permissible exposure limit (PEL) or the threshold limit value [TLV]), potential adverse health effects of exposure, signs and symptoms of exposure, and medical conditions aggravated by exposure and whether the chemical is listed as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or by OSHA.

- Precautions for safe handling and use including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for cleanup of spills and leaks.

- Control measures including engineering controls, work practices and personal protective equipment (PPE).

- Emergency and first aid procedures.

Requests for copies of SDS by any employee will be honored within 72 hours.

SDS's will be maintained for 30 years but chemicals no longer in use may be placed in an archive file.

5.6 Training

D&B employees who may be exposed to chemicals during their work tasks or foreseeable emergencies will be trained regarding the characteristics and safe handling of hazardous chemicals in the workplace at the time of initial assignment, periodically thereafter, prior to

HAZARD COMMUNCATION GUIDELINES

assignment of non-routine tasks and whenever a new hazard, chemical, or operation is introduced into the workplace environment.

The following information will be provided in the training course:

- Requirements of OSHA 29 CFR 1910.1200.
- Location and availability of the D&B Hazard Communication Program.
- Details of the D&B Hazard Communication Program including:
    - An explanation of the labeling system and how to read labels.
    - An explanation of the SDS and how to obtain and use them to find the appropriate hazard information.
    - The location of hazardous chemicals to which employees may be exposed.
    - The name(s) of hazardous chemicals present in the work area including generic, chemical, common and trade names.
    - The physical and chemical properties of hazardous chemicals to which employees may be exposed.
    - Definition of terms (e.g., exposure, TLV, PEL, etc.).
    - Health effects of exposure to the hazardous chemicals.
    - Symptoms of exposure.
    - Methods and observations that may be used to detect the presence or release of a hazardous chemical in the workplace (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous materials when released).
    - Safe handling of hazardous chemicals.
    - Emergency procedures to follow if exposed to hazardous chemicals.

HAZARD COMMUNCATION GUIDELINES

- How to lessen or prevent exposure to hazardous chemicals through safe work practices and PPE.

5.7 Non-Routine Tasks

In the event that an employee may be required to perform tasks that are not part of normal duties, the employee will be given information about hazardous chemicals involved with such activities. This information will include:

- Specific chemical hazards.
- Protective measures the employee can take.
- Measures that D&B has taken to lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

5.8 Recordkeeping

The following records must be maintained:

- A record of Hazard Communication Employee Training Program and attendance.
- The chemical inventory list.
- SDS locations.
- This SOP.

5.9 Informing Contractors and Subcontractors

Each contractor and subcontractor will be provided with the following information:

- List of hazardous chemicals they may encounter while on the job.

HAZARD COMMUNCATION GUIDELINES

Each contractor and subcontractor will be informed of:

- Hazardous chemicals to which they may be exposed. SDS for each chemical on the list is available at their request.
- Measures that may be taken to lessen the possibility of exposure.
- Transfer container labeling system.

The contractor and subcontractor will sign a statement confirming that they have reviewed the above information. The Contractor Sign-off form is located in Appendix A of this SOP.

Contractors and subcontractors should provide SDS for any chemicals brought into a D&B site and should confirm that chemical containers are appropriately labeled. D&B employees will be informed of any potential hazards with which they might be exposed due to contractor or subcontractor operations.

5.10 Informing Visitors

Visitor access will be restricted. Visitors are required to check in with the appropriate authority. Visitors should be provided with any necessary PPE and the following information:

- Hazardous chemicals to which he/she may be exposed.
- Measures the visitor may take to lessen the possibility of exposure including the proper use of the PPE.
- D&B policies and procedures to be followed to reduce the risks.
- Emergency procedures.

6.0 REFERENCES

- OSHA 29 CFR 1910.1200.
- OSHA 29 CFR 1926.59.

APPENDIX A – CONTRACTOR SIGN-OFF FORM

Project/Name:_____

Date:_____

I, _____, as an authorized representative of

_____ have received a copy of the following information from the D&B project representative:

1. List of hazardous substances that may be encountered while on the job.

The D&B project representative has informed me of:

1. Hazardous chemicals to which I may be exposed.
2. SDSs for each chemical on the list is available on request.
3. Measures I may take to lessen the possibility of exposure.
4. First aid/emergency procedures.

I will confirm that the other representatives from our company receive this information before beginning work on the project.

If I bring any chemicals onto the D&B project site, I will verify SDSs are available on site and that the appropriate labels are affixed to containers. I will alert any D&B employees working with me of the potential hazards if there is a chance that they will come into contact with such hazards.

Name_____

Title_____

Signature_____

INCIDENT INVESTIGATION AND REPORTING GUIDELINES

Table of Contents

1.0 PURPOSE

To prevent the occurrence or reoccurrence of accidents on D&B work sites and to establish a procedure for investigation and reporting of incidents occurring during, or related to D&B work activities.

2.0 SCOPE

Applies to all incidents related to D&B work activities.

3.0 DEFINITIONS

Incident - Any work or site-related occurrence that results in, or could potentially result in, the need for medical care or property damage. Such incidents will include lost time, illness,

INCIDENT INVESTIGATION AND REPORTING GUIDELINES

medical treatment cases, unplanned exposure to hazardous or toxic materials or any other significant occurrence resulting in property damage or in "near misses."

Lost Time Accident - Illness or accident caused or related to a work activity that prevented or would prevent the injured individual from reporting to and performing full, regular work activity on one or more days following the incident.

Medical Treatment - Illness or accident caused by or related to a work activity that required professional medical treatment.

Near Miss - An incident which, if occurring at a different time or in a different personnel or equipment configuration, would have resulted in an accident. These may result from unsafe behaviors, unsafe conditions, where a safety barrier is challenged, or where injury, property damage or environmental damage could have occurred but did not.

4.0 RESPONSIBILITIES

Employees - D&B employees are responsible for reporting all incidents as soon as possible to the Health and Safety Officer, regardless of the severity, unless the incident prevents the employee from reporting (i.e., Hospitalization), whereupon the incident shall be reported by the PM or designee.

Health and Safety Officer (HSO) - The HSO is responsible for investigating and preparing an appropriate report of accidents, illnesses and incidents occurring on or related to D&B work sites. The HSO may use the form attached in Appendix A for the investigation.

Project Managers (PM) - PM's are responsible for promptly correcting identified deficiencies in personnel, training, actions or site or equipment deficiencies that were determined to cause or contribute to the incident investigated.

INCIDENT INVESTIGATION AND REPORTING GUIDELINES

5.0 GUIDELINES

5.1 Incident Investigation

Immediately (or as soon as possible) report the incident or near miss to the HSO.

Upon receiving a report of an incident, the HSO will immediately investigate the circumstances surrounding the incident and will make appropriate recommendations to prevent recurrence.

Although D&B is exempt from the requirements of OSHA 29 CFR 1904 (Recording and Reporting Occupational Incidents and Injuries), except for reporting fatalities and multiple hospitalization accidents, a record of incidents meeting the OSHA criteria of "OSHA recordable" incidents will be maintained. OSHA recordable occupational injuries or illnesses are any occupational injuries or illnesses that result in:

- Fatalities, regardless of the time between the injury and death, or the length of the illness.
- Lost workday cases, other than fatalities, that result in lost workdays.
- Nonfatal cases without lost workdays which result in:
  - Transfer to another job.
  - Termination of employment.
  - Require medical treatment.
  - Involve loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses that are reported to the employer but are not classified as fatalities or lost workday cases.

5.2 Incident Report

Details of the incident should be documented by the HSO on the Incident Report Form (form attached in Appendix A may be used). This form will be maintained by the HSO for

INCIDENT INVESTIGATION AND REPORTING GUIDELINES

at least five years for OSHA recordable cases. This form serves as an equivalent to the OSHA 301 form. Workers' compensation insurance incident forms may also be used.

5.3 Incident Follow-up Report/Root Cause Analysis

The Incident Follow-Up Report (form attached in Appendix B may be used) should be distributed with the Incident Report within one week of the incident.

5.4 Reporting of Fatalities or Multiple Hospitalization Accidents

An incident that results in a fatality or the hospitalization of three or more employees must be reported to OSHA verbally within 8 hours of receiving information on the incident. The person reporting should be the most senior member of the D&B staff at the site, or their designee. The report can be made to either the OSHA office nearest to the site of the incident, or by calling the OSHA toll-free central telephone number: 1-800-321-OSHA (1-800-321-6742). When contacting OSHA, the following information must be provided:

- The employer's name and establishment name.
- The location of the incident.
- The time of the incident.
- The number of fatalities or hospitalized employees.
- The names of any injured employees.
- The employer's contact person and his or her phone number.
- A brief description of the incident.

6.0 REFERENCES

- OSHA 1904.

APPENDIX A – INCIDENT REPORT AND INVESTIGATION

TYPE OF INCIDENT – CHECK ALL THAT APPLY			
❑ INJURY/ILLNESS	❑ VEHICLE DAMAGE	❑ PROPERTY DAMAGE	❑ FIRE
❑ SPILL	❑ AIR EMISSION	❑ HIGH LOSS POTENTIAL	❑ OTHER

GENERAL INFORMATION

OFFICE/DEPARTMENT:_____ REPORT # _____
DATE OF INCIDENT: _____ TIME (AM/PM) _____
SUPERVISOR ON DUTY: _____AT SCENE OF INCIDENT? Y__N__
DAY OF WEEK _____
LOCATION OF INCIDENT: _____
WEATHER CONDITIONS: _____
ADEQUATE LIGHTING AT SCENE?: Y____ N ___ N/A

DESCRIBE WHAT HAPPENED

(Attach additional sheet if necessary)

AFFECTED EMPLOYEE INFORMATION

NAME: _____ D&B EMPLOYEE ? Y__N ___
HOME ADDRESS:_____
SOCIAL SECURITY NUMBER:_____ AGE _____
HOME PHONE NUMBER: (_____)_____
JOB CLASSIFICATION: _____YEARS IN THAT JOB _____
YEARS WITH D&B: _____
NUMBER OF HOURS WORKED PRIOR TO INCIDENT (that day): _____
DID INCIDENT RELATE TO ROUTINE TASK FOR JOB CLASSIFICATION? Y ___ N

INJURY/ILLNESS INFORMATION

NATURE OF INJURY OR ILLNESS: _____
_____
OBJECT/EQUIPMENT/SUBSTANCE CAUSING HARM: _____
_____
FIRST AID PROVIDED?: ___ Y ___ N
IF YES, WHERE WAS IT GIVEN: (ON SITE, OTHER) _____
IF YES, WHO PROVIDED FIRST AID? _____
WILL THE INJURY/ILLNESS RESULT IN:
__ RESTRICTED DUTY __ LOST TIME ___ UNKNOWN
_____

MEDICAL TREATMENT INFORMATION

WAS MEDICAL TREATMENT PROVIDED? ____ Y ____ N
IF YES, WAS MEDICAL TREATMENT PROVIDED:
__ON SITE ___DR.'S OFFICE___HOSPITAL
NAME OF PERSON(S) PROVIDING TREATMENT: _____
ADDRESS WHERE TREATMENT WAS PROVIDED: _____

TYPE OF TREATMENT _____
_____
_____

VEHICLE AND PROPERTY DAMAGE INFORMATION

VEHICLE/PROPERTY DAMAGED: _____
DESCRIPTION OF DAMAGE: _____
_____
_____
_____

SPILL AND AIR EMISSIONS INFORMATION

SUBSTANCE SPILLED OR RELEASED: _____
ESTIMATED QUANTITY/DURATION: _____IS THIS A REPORTABLE QUANTITY? Y__N_____
RESPONSE ACTION TAKEN: _____
_____
_____
_____

ADDITIONAL INFORMATION (e.g., witnesses)

_____
_____
_____
_____
_____
_____

NOTIFICATIONS:

NAME(S) OF D&B PERSONNEL NOTIFIED: _____
_____
_____
_____

PERSONS PREPARING REPORT

EMPLOYEE NAME: (PRINT) _____SIGN: _____
EMPLOYEE NAME: (PRINT) _____SIGN: _____
SUPERVISOR'S NAME: (PRINT) _____SIGN: _____

APPENDIX B – FOLLOW-UP INVESTIGATION REPORT/ROOT CAUSE ANALYSIS

DATE OF INCIDENT: _____ DATE OF INVESTIGATION REPORT: _____

INCIDENT COST: ESTIMATED: $_____ ACTUAL: $_____

OSHA RECORDABLES: ___ Y ___ N
RESTRICTED DAYS _____ # DAYS AWAY FROM WORK _____

ROOT CAUSE ANALYSIS

IMMEDIATE CAUSES **–** ACTIONS AND CONDITIONS THAT CONTRIBUTED TO THIS EVENT

BASIC CAUSES – SPECIFIC PERSONAL OR JOB FACTORS CONTRIBUTED TO THIS EVENT

ACTION PLAN

WHAT HAS AND/OR SHOULD BE DONE TO CONTROL THE CAUSES LISTED? INCLUDE MANAGEMENT PROGRAMS FOR CONTROL OF INCIDENTS IF APPLICABLE.

ACTION	PERSON RESPONSIBLE	TARGET DATE

PERSONS PERFORMING INVESTIGATION

INVESTIGATOR'S NAME: (PRINT) _____ SIGN: _____ DATE: _____

INVESTIGATOR'S NAME: (PRINT) _____ SIGN: _____ DATE: _____

MANAGEMENT REVIEW

Project Manager: (PRINT)_____ SIGN: _____DATE: _____
COMMENTS: _____

HSC: (PRINT) _____ SIGN: _____ DATE: _____
COMMENTS: _____

NOTE: Attach additional information as necessary

EXAMPLES OF IMMEDIATE CAUSES

SUBSTANDARD ACTIONS	SUBSTANDARD CONDITIONS
1. Operating equipment without authority	1. Guards or barriers
2. Failure to warn	2. Personal protective equipment
3. Failure to secure	3. Tools, equipment, or materials
4. Operating at improper speed	4. Congestion
5. Making safety devices inoperable	5. Warning system
6. Removing safety devices	6. Fire and explosion hazards
7. Failure to use PPE properly	7. Noise exposure
8. Using defective equipment	8. Exposure to hazardous materials
9. Improper loading	9. Poor housekeeping
10. Improper lifting	10. Extreme temperature exposure
11. Improper position for task	11. Illumination
12. Improper placement	12. Ventilation
13. Servicing equipment in operation	13. Visibility
14. Under influence of alcohol/drugs	
15. Horseplay	

EXAMPLES OF BASIC CAUSES

PERSONAL FACTORS	JOB FACTORS
1. Capability	1. Supervision
2. Knowledge	2. Engineering
3. Skill	3. Purchasing
4. Stress	4. Maintenance
5. Motivation	5. Tools/equipment
	6. Work standards
	7. Wear and tear
	8. Abuse or misuse

MANAGEMENT PROGRAMS FOR CONTROL OF INCIDENTS

1. Leadership and administration	10. Health control
2. Management training	11. Program audits
3. Planned inspections	12. Engineering controls
4. Task analysis and procedures	13. Personal communications
5. Task observation	14. Group meetings
6. Emergency preparedness	15. General promotion
7. Organizational rules	16. Hiring and placement
8. Accident/Incident analysis	17. Purchasing controls
9. Personal protective equipment	

HEALTH AND SAFETY PROGRAM EVALUATION

Table of Contents

1.0 PURPOSE

To establish guidelines to evaluate D&B field personnel compliance with the Corporate Health and Safety Program.

2.0 SCOPE

Applies to D&B field personnel.

3.0 RESPONSIBILITIES

Principal in Charge of Health and Safety (PIC) - The PIC or designee, is responsible for performing the H&S evaluations as outlined in this guideline.

HEALTH AND SAFETY PROGRAM EVALUATION

4.0 EVALUATION GUIDELINES

4.1 General

Health and Safety (H&S) Program evaluations will be periodically conducted to confirm D&B employees are abiding by the requirements of the D&B Corporate H&S Program. The evaluation may be performed at any D&B work site and will include an announced and/or unannounced H&S evaluation of D&B work activities. Prime responsibility for conducting evaluations will rest with the PIC, or designee. The PIC or a designee can perform unannounced H&S evaluations as frequently as deemed necessary.

A copy of the evaluation report will be sent to the Project Director (PD) and Project Manager (PM). Copies of reports for evaluation activities will be forwarded to the Health and Safety Officer (HSO). If deficiencies in the H&S procedures are identified, the PM or the Field Operations Manager (FOM) will implement corrective action. In each instance, corrective actions of deficiencies identified in the evaluation will be described in a written report and sent to the HSO.

4.2 Areas of Evaluation

The H&S evaluation of programs in use will include, at a minimum, an annual review of the following programs, as per OSHA 29 CFR 1910.147, 1910.134, 1910.146 and 1910.120:

- Lockout/Tagout (inspections required).
- Respiratory Protection.
- Confined Space Program (for Permit Required Confined Spaces).
- Site Specific Health and Safety Plans.

4.3 Subcontractors

In addition to evaluating D&Bs HASP, D&B may also, as appropriate, perform evaluations of subcontractor EHS performance during and following the conclusion of the project. Similar criteria will be evaluated as above

HEALTH AND SAFETY PROGRAM EVALUATION

5.0 REFERENCES

- OSHA 29 CFR 1910.147, 1910.134 and 1910.120, 1910.146.

EMERGENCY ACTION GUIDELINES

Table of Contents

1.0 PURPOSE

This guideline establishes procedures on how to respond to emergencies encountered at D&B work sites as pursuant to OSHA regulations 29 CFR 1926.35 and 1910.38.

2.0 SCOPE

This is a general Emergency Action Guideline that applies to all D&B work sites. Each Site-Specific HASP will provide the specifics of the Emergency Action Plan for the site as needed.

3.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for reviewing the Emergency Action Plan to be developed by each Project Director and/or Project Manager (PD and/or PM).

EMERGENCY ACTION GUIDELINES

Health and Safety Representative (HSR) - The HSR is responsible for implementing the Emergency Action Plan including evacuation, emergency treatment, emergency transport of site personnel and notification of emergency response units.

D&B Employees - D&B employees on the site will be familiar with the emergency response procedures for the work site and for abiding by those procedures through site orientation and drills.

4.0 GUIDELINES

Emergency situations can be characterized as a fire, explosion, serious weather conditions, a hazardous environmental release or accident or injury to personnel.

4.1 Emergency Action Plan

The Emergency Action Plan must be written for each project site (unless the client site has its own), and be implemented for the conditions listed above in Section 4.0. It includes the following:

- Emergency escape procedures and designated emergency escape routes, including muster points.
- Duties and procedures to be followed by D&B employees who must remain to operate critical operations before they evacuate.
- Procedures to account for employees after emergency evacuation has been completed.
- Emergency rescue procedures including emergency phone numbers, contact people and routes of entry for emergency vehicles.
- A chain of command list, including each person's name, title and phone number.
- The signal to notify employees of an emergency and the nature of the emergency.

EMERGENCY ACTION GUIDELINES

4.2 Emergency Action Procedures

4.2.1 Notification

It is important to rapidly and accurately transfer information to appropriate personnel in the event of an emergency situation. Personnel on site are made aware during site training to initiate emergency response procedures if they witness or discover an emergency (release, injury, accident, etc.). When calling police, fire department or medical emergencies the following information should be provided to the dispatcher:

- Caller's full name.
- The nature of the incident (i.e., "fire").
- The location of the incident. (i.e., "street location and nearest intersection"). The more specific the better.
- What you need (i.e. "fire department and first aid").
- If you are able, where you will meet emergency responders (i.e. at end of West Street, near train tracks).
- If applicable, a call back number or your pager number (e.g., "I'll be at the scene; my pager number is 123-4567").
- Status of the situation (e.g., is the situation stabilized or "I have the fire under control").
- If anyone is injured or in need of emergency assistance (e.g., "a mechanic working on a pump was burned").
- The HSR will cede control of site safety to outside emergency responders (fire, police).

4.2.2 Evacuation

In the event of an emergency situation, personnel in both the restricted and non-restricted areas will evacuate and assemble at a pre-designated location identified in the Site-Specific Emergency Action Plan. The HSR or a designee will have authority to initiate proper action if outside services are required. No unauthorized person will be allowed to enter the site once the emergency evacuation signal has been given. The HSR

or a designee will confirm that access for emergency equipment is provided and that unnecessary apparatus (e.g., operating machinery) has been shut down once the signal has been given. Once the safety of personnel is established the Fire Department and other emergency response groups will be notified by telephone of the emergency.

4.2.3 Personnel Injury

The potential for toxic and hazardous chemical exposures and hazardous situations that cause injuries and illnesses will vary from site to site. Medical treatment may range from bandaging of minor cuts and abrasions to life-saving techniques. In many cases, essential medical help may not be immediately available. If necessary, personnel with required training and certification may apply first aid treatment techniques. If possible, move or assist the injured to a "safe" area, decontaminate and transport the individual to the nearest medical facility, if needed. If immediate first aid is supplied at the site, consult the SDS for treatment procedures for the specific chemical exposure.

The ambulance/rescue squad will be contacted for transport as necessary. Some situations may require transport of an injured party by automobile. Maps and directions indicated the best route to the hospital are to be provided in the Site-Specific HASP. The PM will complete an incident report for the accident or injury.

4.3 Fire

In the event of a fire, personnel in both restricted and non-restricted areas will evacuate and assemble at a pre-designated location identified in the Site-Specific Emergency Action Plan. Portable fire extinguishers will be available on the job site as required by OSHA 29 CFR 1926. 150(a)(1), if there is a potential fire hazard. Personnel who may be directed to use fire extinguishers will be trained.

4.4 Chemicals Spills

Releases may involve gases, liquid or solids. The spill area should be confined to avoid the spread of the spilled material and contact with shoes, clothing or vehicle tires. Minor chemical spills may be cleaned up by appropriately trained D&B personnel utilizing the appropriate absorbents and PPE. If the spill is major or of highly toxic nature, only trained qualified personnel may address the emergency. If a major spill occurs, D&B personnel will evacuate and the spill response team, identified in the Site-Specific HASP, will be contacted.

EMERGENCY ACTION GUIDELINES

4.5 Serious Weather Conditions

If dangerous weather conditions are expected, the following should be considered prior to work initiation:

- Check the extended forecast for the work area to prepare for possible severe weather situations.
- Coordinate with the local authorities to determine safe areas or public severe weather storm shelters that can be used in an emergency.
- Use an AM/FM radio, NOAA Weather Radio or telephone to get updated information on storms in the area.
- Contact the local National Weather Service office or American Red Cross chapter for updates on storm conditions.
- Keep a lookout for signs of approaching severe weather, such as increasing wind, flashes of lightning and sound of thunder.

If serious weather conditions (tornados, thunderstorms) develop, personnel will proceed to the designated shelters.

5.0 TRAINING

6.0 REFERENCES

- 29 CFR 1910.38 Emergency Action Plans.
- 29 CFR 1926.35 Construction - Employee Emergency Action Plans.
- NFPA 101-2000, Life Safety Code.

RECORD KEEPING GUIDELINES

Table of Contents

1.0 PURPOSE

To establish guidelines for the retention of H&S records.

2.0 SCOPE

RECORD KEEPING GUIDELINES

Applies to all D&B work sites.

3.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for reviewing and approving generated documents and confirming that the records are complete.

Health and Safety Coordinator (HSC) – Maintains training records and fit test results

Human Resources (HR) – Maintains employee medical records, and records of illnesses and injuries.

4.0 RECORDS AND REPORTS

4.1 General

H&S related records and reports are required to document and monitor program compliance to company policy and procedures. The H&S records and reports include:

- Site-Specific Health and Safety Plan.
- Accident/Incident Reports.
- H&S training records.
- Audit reports and related corrective action documentation.
- Medical Surveillance Program and personal monitoring records.
- Instrument calibration records.

4.2 Site-Specific H&S or Project H&S Checklist

RECORD KEEPING GUIDELINES

A Site-Specific HASP will be developed prior to the beginning of field activities for each project and reviewed by the HSO. The original of each completed Site-Specific HASP will be placed in the project file. A copy should accompany the field team and be readily available at the work site. Copies of the Site-Specific HASP will be made available to D&B employees when site-specific training is provided.

4.3 Incident Reports

D&B is exempt from the requirements of OSHA 29 CFR 1904.2 (Recording and Reporting Occupational Injuries and Illnesses, OSHA 300 log), except for reporting fatalities and multiple hospitalization accidents. However, a record of incidents meeting the OSHA criteria of "OSHA recordable" incidents will be maintained.

OSHA recordable occupational injuries or illnesses are any occupational injuries or illnesses that result in:

- Fatalities, regardless of the time between the injury and death, or the length of the illness.
- Lost workday cases, other than fatalities, that result in lost workdays.
- Nonfatal cases without lost workdays, which result in:
  - Transfer to another job or restricted work assignment.
  - Termination of employment.
  - Required medical treatment.
  - Loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses that are reported to the employer but are not classified as fatalities or lost workday cases.

An Incident Report should be completed within 24 hours by the Project Manager (PM) or a designee for every personal injury, accidental damage to property or near miss, which could have resulted in personal injury or illness. The original Incident Report and

RECORD KEEPING GUIDELINES

Investigation Findings are placed in the Project File. Please see Appendix D and E for appropriate forms.

4.4 Personnel Training Records

Personnel training records are required to document personnel qualifications and capabilities and to determine compliance to D&B training requirements. Each training session should be documented by a Training Attendance Sheet. The Instructor should prepare the report and include the date of training, location, a list of attendees, their signatures and a description of the material covered. The original report should be filed in the project file and a copy sent to the HSO.

4.5 Health and Safety Audit Reports

The H&S Audit Report must include details on each deficiency, even if the deficiency is corrected immediately during the audit, and a proposed or implemented solution. The HSO will approve and implement the solution. The Audit Report will be dated and signed by the Auditor and HSO. The original report will be placed in the Program File with copies sent to the HSO and PM.

4.6 Medical Surveillance Reports

The employer will maintain the original medical record and employee monitoring records with a copy maintained by the medical consultant. OSHA 29 CFR 1910.1020 requires retention of these records to termination of employment plus 30 years. The firm's Human Resources Department should maintain a copy of the employee's Disclosure Agreement and Physician's Statement. These records are maintained in a confidential file. Only the employee or their assigned representative may access these files.

4.7 Instrument Calibration Records

RECORD KEEPING GUIDELINES

A maintenance and calibration program is essential to verify the continued proper operation of used instrumentation. The three elements of this program are: (1) normal upkeep of equipment, (2) service and repair (when required) and (3) recordkeeping, documenting maintenance and repair activities.

Field personnel using monitoring or sampling equipment are responsible for performing the required maintenance and calibrations. Field personnel should also maintain and transfer records of calibration to the appropriate equipment custodian and report any instances of malfunctioning or improperly calibrated or used equipment to the PM and the HSO.

Records of calibration will be retained by the equipment custodian for the life of the monitoring or sampling equipment. Records of calibration should be filed in the project file at end of project. Please see Appendix F for Calibration Logs.

5.0 REFERENCES

- OSHA 29 CFR 1910.120.
- OSHA 29 CFR 1910.1020.

APPENDIX A – PHYSICIAN'S STATEMENT

For Employee or Applicant of D&B

Participant Name:_____ Date of Exam:_____

Date of Birth:_____ Social Security Number:_____

Type of exam: (baseline, annual, or other):_____

The individual named above has:

1. undergone a physical examination and has been found medically
   ( ) qualified for hazardous waste site work
   ( ) not qualified for hazardous waste work
   and
2. undergone a physical examination as per OSHA 29 CFR 1910.134 and has been found medically
   ( ) qualified to use a respirator
   ( ) not qualified to use a respirator

Physician's Signature_____

Printed Name of Physician_____

Physician's Address_____

Physician's Telephone Number_____

Physician's State License Number_____

Note: Copies of test results are maintained and available at

_____

OSHA 1910.134 (b)(10) states that persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment.

The local physician will determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

If it is the opinion of the examining physician that an examinee is unqualified to perform hazardous waste site work or to wear a respirator, the physician should append a further report to this statement which details reasons for this opinion.

SUMMARY PROFILE

Employee Name: _____ Exam Date: _____

The Examining Physician and/or Medical Consultant has reviewed the medical information regarding the aforementioned employee, and the following has been established:

A ( ) There is no medical abnormality which will interfere with the duties of the individual.

B ( ) Medical condition exists which will not interfere with job responsibilities. The individual has been advised of this finding.

C ( ) The examination disclosed a medical abnormality which may require special consideration by the company.

D ( ) Deferred pending further evaluation. Employee will need outside medical records or additional subspecialty evaluation before a final determination can be made.

_____
Signature of Reviewing Physician

APPENDIX B – INCIDENT REPORT AND INVESTIGATION

TYPE OF INCIDENT – CHECK ALL THAT APPLY

☐ INJURY/ILLNESS ☐ VEHICLE DAMAGE ☐ PROPERTY DAMAGE ☐ FIRE
☐ SPILL ☐ AIR EMISSION ☐ HIGH LOSS POTENTIAL ☐ OTHER

GENERAL INFORMATION

OFFICE/DEPARTMENT:_____ REPORT # _____
DATE OF INCIDENT: _____ TIME (AM/PM) _____
SUPERVISOR ON DUTY: _____AT SCENE OF INCIDENT? Y ☐ N ☐
DAY OF WEEK _____
LOCATION OF INCIDENT: _____
WEATHER CONDITIONS: _____
ADEQUATE LIGHTING AT SCENE?: Y ☐ N ☐ N/A ☐

DESCRIBE WHAT HAPPENED

(Attach additional sheet if necessary)

AFFECTED EMPLOYEE INFORMATION

NAME: _____D&B EMPLOYEE ? Y ☐ N ☐
HOME ADDRESS:_____
SOCIAL SECURITY NUMBER:_____ AGE _____
HOME PHONE NUMBER: (_____)_____
JOB CLASSIFICATION: _____YEARS IN THAT JOB _____
YEARS WITH D&B: _____
NUMBER OF HOURS WORKED PRIOR TO INCIDENT (that day): _____
DID INCIDENT RELATE TO ROUTINE TASK FOR JOB CLASSIFICATION? Y ☐ N ☐

INJURY/ILLNESS INFORMATION

NATURE OF INJURY OR ILLNESS: _____

_____

OBJECT/EQUIPMENT/SUBSTANCE CAUSING HARM: _____

_____

FIRST AID PROVIDED?: Y ☐ N ☐
IF YES, WHERE WAS IT GIVEN: (ON SITE, OTHER) _____
IF YES, WHO PROVIDED FIRST AID? _____
WILL THE INJURY/ILLNESS RESULT IN:
RESTRICTED DUTY ___ LOST TIME ___ UNKNOWN

_____

MEDICAL TREATMENT INFORMATION

WAS MEDICAL TREATMENT PROVIDED? Y ☐ N ☐
IF YES, WAS MEDICAL TREATMENT PROVIDED:
___ON SITE ___DR.'S OFFICE___HOSPITAL
NAME OF PERSON(S) PROVIDING TREATMENT: _____
ADDRESS WHERE TREATMENT WAS PROVIDED: _____

TYPE OF TREATMENT _____

_____

_____

VEHICLE AND PROPERTY DAMAGE INFORMATION

VEHICLE/PROPERTY DAMAGED: _____
DESCRIPTION OF DAMAGE: _____

_____

_____

_____

SPILL AND AIR EMISSIONS INFORMATION

SUBSTANCE SPILLED OR RELEASED: _____
ESTIMATED QUANTITY/DURATION:_____
IS THIS A REPORTABLE QUANTITY?_____

RESPONSE ACTION TAKEN: _____

_____

_____

_____

ADDITIONAL INFORMATION (e.g., witnesses)

_____

_____

_____

_____

_____

_____

NOTIFICATIONS:

NAME(S) OF D&B PERSONNEL NOTIFIED: _____

_____

_____

_____

PERSONS PREPARING REPORT

EMPLOYEE NAME: (PRINT) _____SIGN: _____
EMPLOYEE NAME: (PRINT) _____SIGN: _____
SUPERVISOR'S NAME: (PRINT) _____SIGN: _____

APPENDIX C – FOLLOW-UP INVESTIGATION REPORT

DATE OF INCIDENT: _____ DATE OF INVESTIGATION REPORT: _____

INCIDENT COST: ESTIMATED: $_____ ACTUAL: $_____

OSHA RECORDABLES: Y ☐ N ☐
RESTRICTED DAYS _____ # DAYS AWAY FROM WORK _____

CAUSE ANALYSIS

IMMEDIATE CAUSES **–** ACTIONS AND CONDITIONS THAT CONTRIBUTED TO THIS EVENT

BASIC CAUSES, – SPECIFIC PERSONAL OR JOB FACTORS CONTRIBUTED TO THIS EVENT

ACTION PLAN

WHAT HAS AND/OR SHOULD BE DONE TO CONTROL THE CAUSES LISTED? INCLUDE MANAGEMENT PROGRAMS FOR CONTROL OF INCIDENTS IF APPLICABLE.

ACTION	PERSON RESPONSIBLE	TARGET DATE

PERSONS PERFORMING INVESTIGATION

INVESTIGATOR'S NAME: (PRINT) _____ SIGN: _____DATE:_____

INVESTIGATOR'S NAME: (PRINT) _____ SIGN: _____DATE:_____

MANAGEMENT REVIEW

Project Manager: (PRINT)_____ SIGN: _____DATE: _____
COMMENTS: _____

_____

HSC: (PRINT) _____ SIGN: _____DATE: _____
COMMENTS: _____

_____

NOTE: Attach additional information as necessary

EXAMPLES OF IMMEDIATE CAUSES

SUBSTANDARD ACTIONS	SUBSTANDARD CONDITIONS
1. Operating equipment without authority	1. Guards or barriers
2. Failure to warn	2. Personal protective equipment
3. Failure to secure	3. Tools, equipment, or materials
4. Operating at improper speed	4. Congestion
5. Making safety devices inoperable	5. Warning system
6. Removing safety devices	6. Fire and explosion hazards
7. Failure to use PPE properly	7. Noise exposure
8. Using defective equipment	8. Exposure to hazardous materials
9. Improper loading	9. Poor housekeeping
10. Improper lifting	10. Extreme temperature exposure
11. Improper position for task	11. Illumination
12. Improper placement	12. Ventilation
13. Servicing equipment in operation	13. Visibility
14. Under influence of alcohol/drugs	
15. Horseplay	

EXAMPLES OF BASIC CAUSES

PERSONAL FACTORS	JOB FACTORS
1. Capability	1. Supervision
2. Knowledge	2. Engineering
3. Skill	3. Purchasing
4. Stress	4. Maintenance
5. Motivation	5. Tools/equipment
	6. Work standards
	7. Wear and tear
	8. Abuse or misuse

MANAGEMENT PROGRAMS FOR CONTROL OF INCIDENTS

1. Leadership and administration	10. Health control
2. Management training	11. Program audits
3. Planned inspections	12. Engineering controls
4. Task analysis and procedures	13. Personal communications
5. Task observation	14. Group meetings
6. Emergency preparedness	15. General promotion
7. Organizational rules	16. Hiring and placement
8. Accident/Incident analysis	17. Purchasing controls
9. Personal protective equipment	

APPENDIX D – INSTRUMENTATION CALIBRATION LOG

Client:_____ Project Location:____

Date:_____ Project Number:____

Weather: Temperature range ___^{O}F to ___^{O}F. Relative Humidity:

Low	Moderate	High

_____

_____

Personnel/Trades:_____

_____

INSTRUMENT CALIBRATION

Time	Instrument	ID Number	Calibration Media	Initial Reading	Calibration Reading	Initials

Signature:_____

APPENDIX E – RESPIRATORY PROGRAM EVALUATION CHECKLIST/QUESTIONNAIRE

Employee Name _____
Title _____

Description of Work Activities:

_____

_____

_____

1. What jobs/activities require the use of respiratory protection?

2. Is respiratory protection used every time that it is required?

3. What type of respiratory protection is used?

4. Where is the respiratory protection stored?

5. How is the respiratory protection cleaned and maintained?

6. What was the date of the last fit test?

7. When did employee last receive respiratory protection training?

8. Are other employees that are required to use respiratory protection using it properly/effectively?

List any problems/concerns/comments:

COMPRESSED GASES HANDLING GUIDELINES

Table of Contents

1.0 PURPOSE

The objective of these guidelines is to provide general reference information regarding the handling of compressed gases.

2.0 SCOPE

Applies to D&B work sites where compressed gases are handled, used and/or stored.

COMPRESSED GASES HANDLING GUIDELINES

3.0 DEFINITIONS

Compressed Gas - As defined by the DOT, any material or mixture in a container having pressure exceeding 40 pounds per square inch at 130^0F; or any liquid flammable material having a vapor pressure exceeding 40 pounds per square inch at 100^0F, as determined by ASTM Test D-323.

Containers - Vessels, such as tanks, cylinders, or drums, used for transportation or storing gases.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for revising these guidelines to include new OSHA updates. The HSO is also responsible for confirming that proper training is made available to D&B employees regarding proper handling of compressed gases and that a Site-Specific HASP incorporates these guidelines, as necessary.

Health and Safety Representative (HSR) - The HSR or his/her designee (such as the Field Operations Manager) is responsible for the correct implementation of compressed gases handling procedures in the field.

5.0 GUIDELINES

5.1 General Information

DOT regulations apply to the construction, filling, identification, maintenance and transportation of compressed gas cylinders.

OSHA regulations apply to the safety and health of employees in the manufacture, storage, handling and usage of compressed gases.

COMPRESSED GASES HANDLING GUIDELINES

5.2 Safety Devices

Most gas cylinders are equipped with safety devices to protect the cylinder against excessive temperature and pressure. These devices consist of fusible plugs, rupture disks or pressure relief valves. These safety relief devices will release all or part of the cylinder contents at temperatures as low as 125^0F to 170^0F. For this reason, cylinders should not be stored near sources of high temperature.

5.3 Valve Connections

Connecting a compressed gas cylinder with equipment not specifically designed for that gas may result in serious hazards. Standard valve outlet connections have been established for valves used with compressed gas cylinders. These standard connections are designed so that valve connections for one gas will not fit the connections for incompatible gases. NEVER ATTEMPT TO ALTER OR MODIFY THE OUTLET THREADS OR ADAPT A DIFFERENT FITTING.

5.4 General Rules

- If cylinders are equipped with protective caps, such caps must be kept on the cylinders at all times, when cylinders are not in use.
- Cylinders must be stored and/or transported in an upright position.
- A suitable hand dolly or similar device is to be used in transporting cylinders; these cylinders should be chained or secured with 3" nylon binder in an upright position.
- Secure cylinders in an upright position to suitable cylinder carts, walls where chains/clamps are installed to secure them, or racks designed to contain cylinders (rope is not acceptable to secure cylinders at any time).

COMPRESSED GASES HANDLING GUIDELINES

- Never lift a cylinder by its valve or protective cap, or with chains, slings, or magnets. A crane may be used when a safe cradle or platform is provided to hold the cylinder.
- Never drop cylinders or permit them to strike each other when handling or transporting them.
- Protect cylinders from objects that will produce a cut or abrasion in the surface of the metal.
- Never use cylinders for rollers, supports, or for any purpose other than to contain gas.
- Never hammer, pry, or use a wrench on a stuck cylinder valve. If the valve will not open by hand, mark the cylinder and return to the supplier at once.
- Keep cylinders away from live electrical circuits.
- Never strike an arc or tap a welding electrode on a cylinder.
- Keep cylinders away from sparks and molten metal when welding, cutting or machining.

5.5 Use of Cylinders

- Never use a cylinder unless it is labeled in accordance with DOT regulation 172.400.
- Do not rely just on the color of the cylinder to identify cylinder content.
- When in doubt regarding the proper handling of a gas cylinder or its contents, consult the supplier of the gas cylinder.
- If a cylinder develops a leak while in use, it should be removed to a safe open place. The cylinder should be barricaded and secured upright, if possible, and the supplier should be notified.

COMPRESSED GASES HANDLING GUIDELINES

- When the gas cylinder is not in use, keep valves tightly closed.
- Do not deface or remove any markings, labels, decals, tags, or stencil marks applied by the supplier and used for identification of cylinder content.
- Do not change, modify, tamper, or repair pressure relief devices.
- Damage observed that might impair the safety of the cylinder must be brought to the attention of the supplier, and the cylinder should be taken out of service immediately, if the damage is significant.
- Before returning an empty cylinder, verify the following:
    - The valve is closed.
    - The protective cap is in place.
    - The cylinder is tagged with an "EMPTY" cylinder tag.
    - The cylinder is placed in a rack, secured, and easily accessible for pick-up.
- Never test for leaks with an open flame (use a leak detector).
- A compressed gas cylinder should never be subjected to a temperature above $125^{O}F$.
- A direct flame should never be permitted to come in contact with any part of a compressed gas cylinder.
- Do not allow grease, oil or other combustible material to touch any part of a cylinder.
- If the hose on a manifold system exceeds 18 inches and if not shielded from personnel, both ends should be firmly anchored to prevent "whipping."

5.6 Regulators and Piping

COMPRESSED GASES HANDLING GUIDELINES

- The regulator and piping must be suited for design conditions and for the corrosive nature of the gas.
- A safety valve or rupture disc should be provided to protect the downstream equipment in case of regulator failure.
- Piping upstream of the safety device should be pressure tested with inert gas (such as nitrogen) at full cylinder pressure.

  NOTE: Do not use nitrogen to test piping in a breathing air system.
- After removing valve caps, carefully open valve slightly for an instant to clear openings of dust and dirt, except for hydrogen or fuel gas.
- Wipe the outlet with a clean, dry, lint-free cloth after the valve opening has been cleared.
- Verify that the threads on regulators or other auxiliary equipment are the same as those on the cylinder valve outlet, never force connections that are not made to fit each other and do not use oil or grease on these connections.
- Regulators and pressure gauges provided for use with a particular gas, must not be used on cylinders containing a different gas.
- Stand to one side, with the regulator pointing away from you, while opening the cylinder valve very slowly.
- Never use wrenches or tools, except those provided or approved by the manufacturer.
- Never hammer the valve wheel in attempting to open or close the valve.
- Check that connections are tight and remain so.

5.7 Oxygen Cylinders

COMPRESSED GASES HANDLING GUIDELINES

- Never permit oil, grease or any other readily combustible substance to come in contact with oxygen cylinders, valves, regulators, gauges or fittings.
- Oxygen cylinders with regulators attached should always be opened very slowly.
- Combustible material should not be stored immediately adjacent to oxygen cylinders.
- Do not allow oxygen cylinders to stand under lines or other places where oil can drip on the cylinder, its valve or attachments.
- Never allow anyone to use oxygen or any compressed gas from a compressed gas cylinder to remove dust or debris from the body or as a sweeping, cleaning medium.
- Never use oxygen to operate air tools.

5.8 Storage of Cylinders

- Store cylinders with protective caps in place.
- Store cylinders only in designated areas and segregate cylinders containing different products.
- Store empty cylinders separately and tag them with an “empty” tag.
- Cylinders should be protected against excessive rise in temperature.
- Cylinders should never be exposed to continuous moisture.
- Post “NO SMOKING” signs around fuel gas and oxygen storage areas.
- Never store cylinders near highly flammable substances such as oil, gasoline or waste.

COMPRESSED GASES HANDLING GUIDELINES

- Do not store cylinders near elevators or gangways, or locations where heavy objects may strike or fall on them.
- Cylinders containing flammable or toxic gases should be stored in well-ventilated storage areas.
- Oxygen cylinders must be stored in a separate location at least 20 feet from cylinders of combustible gases or separated by a non-combustible fire-resistive barrier 5 feet high.

6.0 Training

Employees who are required to use or transport compressed gases will be provided appropriate training and information on the hazards and proper handling methods.

7.0 References

- OSHA 1910.101.
- Compressed Gas Association Pamphlets S-1.1-1963 and 1965 addenda and S-1.2-1963.

LADDER SAFETY GUIDELINES

Table of Contents

1.0 PURPOSE

These guidelines have been established to protect D&B employees from injuries that could result from improper use of ladders on work sites.

2.0 SCOPE

These guidelines apply to D&B work sites where ladders are used.

3.0 DEFINITIONS

A-Frame ladder – A portable ladder that opens into an "A" shape, made by two similarly-sized beams, arranged in a 45 degree or less angle, attached at the top.

LADDER SAFETY GUIDELINES

Cleat - A ladder crosspiece of rectangular cross section placed on edge upon which a person may step while ascending or descending a ladder.

Competent Person - A person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Extension trestle ladder - A self-supporting portable ladder, adjustable in length consisting of a trestle ladder base and a vertically adjustable extension section, with a suitable means for locking the ladders together.

Fixed-ladder - A ladder that cannot be readily moved or carried because it is an integral part of a building or structure.

Individual-rung/step ladders - A ladder without a side rail or center rail support. Such ladders are made by mounting individual steps or rungs directly to the side or wall of the structure.

Job-made ladder - A ladder that is fabricated by employees and is not commercially manufactured.

Point of access - Areas used by employees for work related passage from one area or level to another.

Portable ladder - A ladder that can be readily moved or carried.

Side-step fixed ladder - A fixed ladder that requires a person getting off at the top to step to the side of the ladder side rails to reach the landing.

Through fixed ladder - A fixed ladder that requires a person getting off at the top to step between the side rails of the ladder to reach the landing.

LADDER SAFETY GUIDELINES

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for developing and revising guidelines on use of ladders, in accordance with OSHA 29 CFR 1926.1053, and confirming that training is available for each D&B employee who will use ladders at work sites.

On-Site Health and Safety Representative (HSR) - the HSR or a designee is responsible for verifying that ladders are used correctly, in accordance with this guideline, by D&B employees at the site.

5.0 GUIDELINES FOR LADDER SAFETY

5.1 General

According to regulations OSHA 29 CFR 1926.1053, a ladder will be provided at work points of access where there is a break in elevation of 19 inches (48 cm) or more, and no ramp, runway, sloped embankment or personnel hoist is provided.

Ladders will be capable of supporting the following loads without failure:

- Self-supporting portable ladder should be able to support at least four times the maximum intended load, except that each extra-heavy-duty type 1A metal or plastic ladder will sustain at least 3.3 times the maximum intended load.
- Portable ladder that is not self-supporting should support at least four times the maximum intended load, except that each extra-heavy-duty type 1A metal or plastic ladders will sustain at least 3.3 times the maximum intended load.
- Fixed ladder should be able to support at least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments (the number and position of additional concentrated loads of 250 pounds (114 kg) each, determined from anticipated usage of the ladder, will also be included), plus anticipated loads caused by ice buildup, winds, rigging, and impact loads

resulting from the use of ladder safety devices. Each step or rung will be capable of supporting a single concentrated load of at least 250 pounds (114 kg) applied in the middle of the step or rung.

- Ladders will not be loaded beyond the maximum intended load for which they were built, or beyond their manufacturer's rated capacity.

5.2 Portable Ladders

The following requirements apply to the use of portable ladders, including job-made ladders:

- When portable ladders are used for access to an upper landing surface, the ladder side rails should extend at least 3 feet (.9 m) above the upper landing surface to which the ladder is used to gain access.
- Ladder should be secured at its top to a rigid support that will not deflect, if a 3-feet extension is not possible because of the ladder's length.
- Non-self-supporting ladders will be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder (the distance along the ladder between the foot and the top support).
- Wood job-made ladders with spliced side rails will be used at an angle such that the horizontal distance is one-eighth the working length of the ladder.
- Rungs must be uniformly spaced, parallel and level.
- Ladders will be used only on stable and level surfaces unless secured to prevent accidental displacement.
- Ladders will not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement.

LADDER SAFETY GUIDELINES

- Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways, will be secured to prevent accidental displacement, or a barricade will be used to keep the activities or traffic away from the ladder.
- The area around the top and bottom of ladders will be kept clear.
- The top of a non-self-supporting ladder will be placed with the two rails supported equally unless it is equipped with a single support attachment.
- Portable ladders with structural defects, will either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and will be withdrawn from service until repaired.

5.3 Fixed Ladders

The following requirements apply to the use of fixed or permanent ladders:

Fixed ladders at their point of access/egress will have a step-across distance of not less than 7 inches (18 cm) nor more than 12 inches (30 cm) as measured from the centerline of the steps or rungs to the nearest edge of the landing area. If the normal step-across distance exceeds 12 inches (30 cm), a landing platform will be provided to reduce the distance to the specified limit.

- Fixed ladders will be used at a pitch no greater than 90 degrees from the horizontal, as measured to the back side of the ladder.
- Fixed ladders without cages or wells will have a clear width to the nearest permanent object of at least 15 inches (30 cm) on each side of the centerline of the ladder.
- Fixed ladders will be provided with cages, wells, ladder safety devices, or self-retracting lifelines where the length of climb is less than 24 feet (7.3 m) but the top of the ladder is at a distance greater than 24 feet (7.3 m) above lower levels.

LADDER SAFETY GUIDELINES

- Where the total length of a climb equals or exceeds 24 feet (7.3 m), fixed ladders will be equipped with one of the following:
    - Ladder safety devices.
    - Self-retracting lifelines, and rest platforms at intervals not to exceed 150 feet (45.7 m).
    - A cage or well, and multiple ladder sections with each ladder section not to exceed 50 feet (15.2 m) in length. Ladder sections will be offset from adjacent sections, and landing platforms will be provided at maximum intervals of 50 feet (15.2 m).
- The side rails of through or side-step fixed ladders will extend 42 inches (1.1 m) above the top of the access level or landing platform served by the ladder.
- For through-fixed-ladder extensions, the steps or rungs will be omitted from the extension and the extension of the side rails will be flared to provide not less than 24 inches (61 cm) nor more than 30 inches (76 cm) clearance between side rails. Where ladder safety devices are provided, the maximum clearance between side rails of the extensions will not exceed 36 inches (91 cm).
- For side-step fixed ladders, the side rails and the steps or rungs will be continuous in the extension.
- Individual-rung/step ladders, except those used where their access openings are covered with manhole covers or hatches, will extend at least 42 inches (1.1 m) above an access level or landing platform either by the continuation of the rung spacing as horizontal grab bars or by providing vertical grab bars that will have the same lateral spacing as the vertical legs of the rungs.

5.4 General Work Practices

The following are basic work practices that should be adhered to by employees when using ladders:

LADDER SAFETY GUIDELINES

- When ascending or descending a ladder, the user will face the ladder.
- Each employee will use at least one hand to grasp the ladder when progressing up and/or down the ladder.
- An employee will not carry any object or load that could cause the employee to lose balance and fall.
- Ladders will be maintained free of oil, grease and other slipping hazards.
- Ladders will be used only for the purpose for which they were designed.
- Ladders will be inspected by a competent person for visible defects on a periodic basis.
- Ladder repairs will restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use.
- Refrain from working from the ladders themselves; use work platforms or other means to accomplish tasks.

5.5 Training

Each employee using ladders on a site should be trained by a competent person to recognize hazards related to ladders and minimize these hazards. Training should include as applicable:

- The nature of fall hazards in the work area.
- The correct procedures for erecting, maintaining and disassembling the fall protection systems to be used.
- The proper construction, use, placement and care in handling of ladders.
- The maximum intended load-carrying capacities of ladders.

LADDER SAFETY GUIDELINES

Retraining will be provided for each employee as necessary so that the employee maintains the understanding and knowledge of safe procedures when using ladders.

6.0 REFERENCES

- OSHA 29 CFR 1926 Subpart X – Ladders.

ROADWORK HIGHWAY SAFETY GUIDELINES

Table of Contents

1.0 PURPOSE

To establish safe work practice guidelines for D&B operations to be conducted in areas of vehicular traffic (roadways, parking lots, etc.) on D&B work sites.

2.0 SCOPE

Applies to D&B employees who may be exposed to vehicular traffic hazards when performing work on a D&B work site.

3.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for implementing and confirming the safe work practices outlined in this guideline are followed.

ROADWORK HIGHWAY SAFETY GUIDELINES

D&B Employees - D&B employees performing work under a D&B contract will be familiar with the requirements of this guideline and follow the established practices.

4.0 GUIDELINES

4.1 Planning Ahead

- Apply for applicable permits or permission from state, county, township or municipal governments. Develop a traffic control plan as required by the State, County, Township or Municipal governments.

- In coordination with the local authorities, determine the time when the traffic volume is typically lowest for the proposed work area. Attempt to schedule work during this period. Avoid working during "rush hour" if at all possible.

- Evaluate the need for police traffic control. It is the HSO's or designee's responsibility to arrange for police coverage if necessary.

4.2 Work Practices

- Observe applicable requirements of Department of Transportation having jurisdiction in the project area (see Section 5.0 for references).

- Park employee vehicles as far away from other vehicular traffic as possible.

- Put parking brakes on and use emergency warning flashers.

- Utilize traffic cones, triangles, flashing lights, and/or barricades in front of and to the rear of the parked vehicle to alert oncoming traffic from both directions.

ROADWORK HIGHWAY SAFETY GUIDELINES

- Place warning signs on roadways to alert oncoming traffic. The signs should indicate "Caution, Work in Progress" or contain a similar message.
- If sewers or manholes that are located in a public street must be entered:
  - Notify the local authorities.
  - Provide "flag person" to direct traffic.
  - Barricade the opening.
  - Provide communication for individuals entering the sewer or manhole to keep appraised of traffic conditions.
  - Comply with Permit-Required Confined Space entry regulations, as appropriate (refer to D&B SOP No. C25).
- Observe local and DOT regulations.

4.3 Personal Protective Equipment

Individuals working exposed to vehicular traffic must wear an ANSI 107 compliant lime-green reflective warning vests appropriate to the working conditions and other PPE appropriate for the hazards of the work to be completed.

5.0 REFERENCES

- OSHA 29 CFR 1926.200.
- ANSI/ISEA 107 Standard for High Visibility Safety Apparel.
- Manual on Uniform Traffic Control Devices.

HEAVY EQUIPMENT/HAND & POWER TOOLS GUIDELINES

Table of Contents

1.0 PURPOSE

These guidelines have been established to protect D&B employees from injuries that could result from working on sites with or near heavy equipment, such as earth moving equipment, excavation equipment and drill rigs. D&B employees are not expected to be working with the equipment.

2.0 SCOPE

These guidelines are provided to D&B employees on work sites where heavy equipment will be used, to aid in hazard recognition.

3.0 RESPONSIBILITIES

Health and Safety Officer (HSO) – The HSO is responsible for developing and revising guidelines for employees working with or near heavy equipment.

HEAVY EQUIPMENT/HAND & POWER TOOLS GUIDELINES

On-Site Health and Safety Representative (HSR) – The HSR or a designee is responsible for confirming D&B employees' adherence with safe work practices when working with or near heavy equipment at the sites.

D&B Employees – D&B employees are responsible for adhering to the safety policies on site and maintaining vigilance when working around heavy equipment.

4.0 GUIDELINES FOR HEAVY EQUIPMENT SAFETY

4.1 General

The type of heavy equipment that D&B employees may encounter on the job sites will typically include material handling and earth moving equipment, such as front loaders, backhoe, bulldozers, excavators, drill rigs and similar equipment. The following are general rules that apply to heavy equipment on the sites when not in operation:

- Equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, will have appropriate lights or reflectors.
- Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks will be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them.
- Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, will be either fully lowered or blocked when being repaired or when not in use and controls in a neutral position, with the motors stopped and brakes set.
- Whenever the equipment is parked, the parking brake will be set.
- Equipment parked on inclines will have the wheels chocked and the parking brake set.

HEAVY EQUIPMENT/HAND & POWER TOOLS GUIDELINES

4.2 Overhead Power Lines

When working or moving heavy equipment in the vicinity of power lines or energized transmitters, the following must be observed, except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work:

- Contact the electrical utility company or licensed electrician to determine the voltage of overhead power lines.
- For lines rated 50 kV or below, the minimum clearance between the lines and any part of the equipment or load will be 10 feet, unless client-specific clearance requirements are more stringent.
- For lines rated over 50 kV, the minimum clearance between the lines and any part of the equipment or load will be 10 feet plus 0.4 inch for each 1 kV over 50 kV, or twice the length of the line insulator (connecting the power line to the tower), but never less than 10 feet, unless client-specific clearance requirements are more stringent.
- For cranes in transit with no load and boom lowered, the equipment clearance will be a minimum of 4 feet for voltages less than 50 kV, and 10 feet for voltages over 50 kV, up to and including 345 kV, and 16 feet for voltages up to and including 750 kV, unless client-specific clearance requirements are more stringent.
- A person will be designated to observe clearance of the equipment and give timely warning for operations where it is difficult for the operator to maintain the desired clearance by visual means, unless client-specific clearance requirements are more stringent.

4.3 Operations

Following is a summary of basic safety requirements when working with or near the heavy equipment identified in Section 4.1:

- Heavy equipment will be equipped with seat belts.

HEAVY EQUIPMENT/HAND & POWER TOOLS GUIDELINES

- Operators will wear seat belts when operating equipment.
- No employer will move or cause to be moved construction equipment or vehicles upon any access roadway or grade, unless the access roadway or grade is constructed and maintained to accommodate safely the movement of the equipment and vehicles involved.
- Earthmoving equipment will have a service braking system capable of stopping and holding the equipment fully loaded.
- Bi-directional machines, such as rollers, front-end loaders, bulldozers, and similar equipment, will be equipped with a horn, distinguishable from the surrounding noise level, which will be operated as needed when the machine is moving in either direction.
- Earthmoving or compacting equipment which has an obstructed view to the rear will not be used in reverse gear, unless the equipment in operation has a reverse signal alarm distinguishable from the surrounding noise level or an employee signals that it is safe to do so.
- Scissor points on front-end loaders should be guarded during normal operation.
- Heavy equipment shall have functioning backup alarms. Those working at the site shall listen for the backup alarms and be aware of their surroundings.

5.0 HAND & POWER TOOLS

D&B personnel may employ hand and power tools during their work tasks, as well as work around contractors using them. The following are guidelines when working with or around hand and power tools:

- All cords and tools must be maintained in good condition.
- The grounding plug must not be removed from the plug.
- Do not pull plugs by the cord, or carry tools by the cord.

HEAVY EQUIPMENT/HAND & POWER TOOLS GUIDELINES

- Ensure guarding is in place, where appropriate for use and when not in use.
- Use the right tool for the task.
- Ensure that proper PPE is worn with tools, where appropriate. This includes, but is not limited to, gloves, respirators and safety glasses.
- Remove from service any tools that are not in proper working condition. If they cannot be repaired on site, tag them or lock them out as necessary.

6.0 REFERENCES

- OSHA 29 CFR 1926 Subpart O – Motor Vehicles, Mechanized Equipment, and Marine Operations.
- OSHA 29 CFR 1926 Subpart CC – Cranes & Derricks in Construction.

ELECTRICAL SAFETY GUIDELINES

Table of Contents

1.0 PURPOSE

These guidelines have been established to protect D&B employees from injuries that could result from electrical hazards at various project sites.

2.0 SCOPE

These guidelines apply to all D&B work sites where electrical equipment and installations that provide electric power and light are used.

ELECTRICAL SAFETY GUIDELINES

3.0 DEFINITIONS

Arc Flash - An arc flash is a phenomenon where a flashover of electric current leaves its intended path and travels through the air from one conductor to another, or to ground. The results are often violent and when a human is in close proximity to the arc flash, serious injury and even death can occur.

Refer to Attachment A for further information on arc flash.

Ground-Fault Circuit Interrupters (GFCI) - Fast-acting circuit breaker which senses approximately 5 mA circuit imbalance, and automatically stops the flow of power from the circuit.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO must confirm that ground-fault protection procedures are developed and that the GFCI or Assured Equipment Grounding Conductor Program are available for the work sites.

On-Site Health and Safety Representative (HSR) - The HSR, or a designee, will be responsible for the implementation of general electrical safety and Ground-Fault Protection guidelines as specified in this guideline.

Authorized Employees - D&B Authorized Employees, if designated, are responsible to be knowledgeable in Ground-Fault Protection.

5.0 GUIDELINES FOR ELECTRICAL SAFETY

5.1 General

OSHA 29 CFR 1926.404 through 408 requires that employers must provide either GFCI or an Assured Equipment Grounding Conductor Program to employees to protect them from ground-fault hazards at work sites. These requirements are in addition to any other requirements for equipment grounding conductors.

ELECTRICAL SAFETY GUIDELINES

Electrical equipment must be selected following the provisions of the National Electric Code (NEC).

Electrical equipment to be used in hazardous locations (explosive, flammable or combustible atmospheres) will be selected based on Articles 500 through 503 of the current version of the National Electric Code. These articles include both wiring components and equipment, including portable equipment operated with batteries.

5.2 Ground-Fault Circuit Interrupters

GFCI can be used successfully to reduce electrical hazards on the sites. GFCIs monitor the current-to-the load for leakage to ground. When this leakage exceeds 5 mA ± 1 mA, the GFCI interrupts the circuit.

120-volt, single-phase 15- and 20-ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure must have approved GFCI.

Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5 kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with GFCI.

5.3 Assured Equipment Grounding Conductor Program

An Assured Equipment Grounding Conductor Program on construction sites covers cord sets, receptacles which are not a part of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This program should comply with the following minimum requirements:

- A written description of the program included in the Site-Specific HASP.
- At least one competent person to implement the program.

ELECTRICAL SAFETY GUIDELINES

- Daily visual inspections of extension cords and equipment connected by cord-and-plug for external defects, such as deformed or missing pins or insulation damage and for indications of possible internal damage.
- Two tests as required by OSHA:
  - Continuity tests of equipment grounding conductors, performed on receptacles, extension cords and cord-and-plug connected equipment.
  - Test receptacles and plugs to confirm that the equipment grounding conductor is connected to its proper terminal.

The required tests must be performed before the first use, after any repairs, after suspected damage and at 3-month intervals. Equipment found damaged or defective will not be used until repaired or replaced.

Performed tests should be recorded. This test record will identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test and will indicate the last date it was tested or the interval for which it was tested. This record will be kept by means of logs, color coding, or other effective means and will be maintained by a designated individual until replaced by a more current record.

5.4 Temporary Lighting

Below are the general requirements for temporary lighting:

- Light bulbs for general illumination must be protected from breakage and metal shell sockets must be grounded.
- Temporary lights must not be suspended by their cords, unless they are so designed.
- Portable lighting used in wet or conductive locations, such as tanks or boilers, must be operated at no more than 12 volts or must be protected by GFCI. Illumination must be provided if D&B personnel are working in areas with energized electrical parts

ELECTRICAL SAFETY GUIDELINES

5.5 Extension Cords and Adapters

Only three wire adapters should be used. Adapters should have a wide neutral blade, and be grounded to the tab under the cover screw on the bottom of the adapter and not with a flexible pigtail (a single piece of electrical wire that is used to connect two or more wires).

Generally, extension and flexible cords should:

- Be of the three-wire type.
- Be designed for hard or extra hard usage (e.g., types S, ST, and SO) when used with temporary lights.
- Not be fastened with staples, hung from nails, or suspended by wire.
- Not be used if worn or frayed.
- Be protected by GFCI.
- Be approved by the Underwriters Laboratories.

5.6 Working on or near exposed energized parts

There are many hazards associated with working on or near exposed energized equipment. In addition to contact with energized parts, arc flash hazards may exist, which can kill or seriously injure anyone working nearby such equipment.

The following guidelines have been established for D&B employees working on or near energized parts:

- Only qualified employees may work on or with exposed energized lines or parts of equipment.

ELECTRICAL SAFETY GUIDELINES

- Only qualified employees may work in areas containing unguarded, uninsulated energized lines or parts of equipment operating at 50 volts or more.
- Electric lines and equipment shall be considered and treated as energized unless they have been deenergized and tested in accordance with § 1926.961.
- Utilize a buddy system. No one should be working alone.
- Do not take any conductive object near exposed energized parts unless you are insulated (rubber insulating gloves/gloves and sleeves).
- Do not wear clothing that can melt onto skin or that could ignite and continue to burn when exposed to flames or heat energy. Generally, natural materials, such as cotton and wool, are best. Only wear non-conductive apparel unless covered or otherwise insulated.
- If D&B personnel will be in confined spaces (refer to SOP 25) or enclosed areas with live electrical components, protective shields, protective barriers or insulating materials shall be used, as necessary.
- Practice safe digging procedures for below grade utilities. This includes calling 811 or 1-800-DIG-SAFE to locate underground utilities.
- Utilize hand cleaning/digging when working within approximately two (2) feet of the underground utility. Also rely on geophysical survey and other resources that can delineate the location of underground utilities.
- If working on ladders, the ladders shall have non-conductive sides.
- When working near overhead utilities, perform work at least 10 feet away from energized power lines of up to 50,000 volts (50 kV). For power lines exceeding 50 kV, maintain distances of at least 15 feet. This includes personnel and equipment Refer to Table S5 on approach distances.

ELECTRICAL SAFETY GUIDELINES

5.7 General Work Practices

Hazards are created when cords, cord connectors, receptacles and cord and plug-connected equipment are improperly used and maintained. Work spaces, walkways and similar locations should be clear of cords. Receptacles, cord sets, and cord- and plug-connected equipment should be protected from contact with water. Listed, labeled or certified equipment should be installed in accordance with instructions included in the labeling or certification. Cords with missing ground prongs shall be removed from service. Cords that feel hot should not be used. Cords with exposed insulation or wires should be taken out of service.

Observe the guidelines listed in Section 5.6 when working on or near energized parts.

6.0 REFERENCES

- OSHA 29 CFR 1926.403 through 408.
- OSHA 29 CFR 1926.960.

APPENDIX A – UNDERSTANDING ARC FLASH

Understanding "Arc Flash"

Simply put, an arc flash is a phenomenon where a flashover of electric current leaves its intended path and travels through the air from one conductor to another, or to ground. The results are often violent and when a human is in close proximity to the arc flash, serious injury and even death can occur.

Arc flash can be caused by many things including:

- Dust
- Dropping tools
- Accidental touching
- Condensation
- Material failure
- Corrosion
- Faulty Installation

Three factors determine the severity of an arc flash injury:

- Proximity of the worker to the hazard
- Temperature
- Time for circuit to break

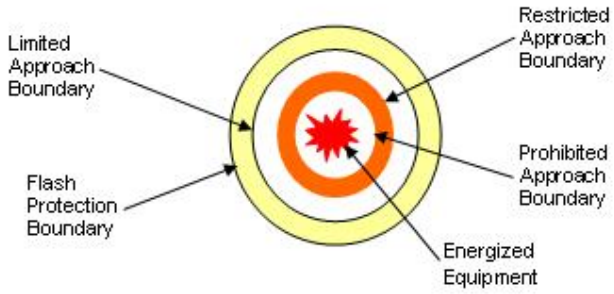
Because of the violent nature of an arc flash exposure when an employee is injured, the injury is serious – even resulting in death. It's not uncommon for an injured employee to never regain their past quality of life. Extended medical care is often required, sometimes costing in excess of $1,000,000.

Typical Results from an Arc Flash

- Burns (Non FR clothing can burn onto skin)
- Fire (could spread rapidly through building)
- Flying objects (often molten metal)
- Blast pressure (upwards of 2,000 lbs. / sq.ft)
- Sound Blast (noise can reach 140 dB – loud as a gun)
- Heat (upwards of 35,000 degrees F)

This material was produced under grant number SH-16615-07-60-F-12 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Approach / Protection Boundaries
The National Fire Protection Association (NFPA) has developed specific approach boundaries designed to protect employees while working on or near energized equipment. These boundaries are:



- Flash Protection Boundary (outer boundary)
- Limited Approach
- Restricted Approach
- Prohibited Approach (inner boundary)

Flash Protection Boundary (outer boundary): The flash boundary is the farthest established boundary from the energy source. If an arc flash occurred, this boundary is where an employee would be exposed to a curable second degree burn (1.2 calories/cm^2). The issue here is the heat generated from a flash that results in burns.

Limited Approach: An approach limit at a distance from an exposed live part where a shock hazard exists.

Restricted Approach: An approach limit at a distance from an exposed live part which there is an increased risk of shock.

Prohibited Approach (inner boundary): A distance from an exposed part which is considered the same as making contact with the live part.

This distance is not common between equipment. Some equipment will have a greater flash protection boundary while other equipment will have a lesser boundary.

Ways to Protect the Workers
There exists a number of ways to protect workers from the threat of electrical hazards. Some of the methods are for the protection of qualified employees doing work on electrical circuit and other methods are geared towards non-qualified employees who work nearby energized equipment.

This material was produced under grant number SH-16615-07-60-F-12 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Here are a few of the protective methods:

- De-energize the circuit
- Work Practices
- Insulation
- Guarding
- Barricades
- Ground Fault Circuit Interrupters (GFCI)
- Grounding (secondary protection)

If You Must Work on Energized Circuits
If it has been determined that deenergizing a circuit is not feasible and the employee must work "hot", the employer shall develop and enforce safety-related work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts.

The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

These safety related work practices could include:

- Energized Electrical Work Permit
- Personal Protective Equipment
- Insulated Tools
- Written Safety Program
- Job Briefing

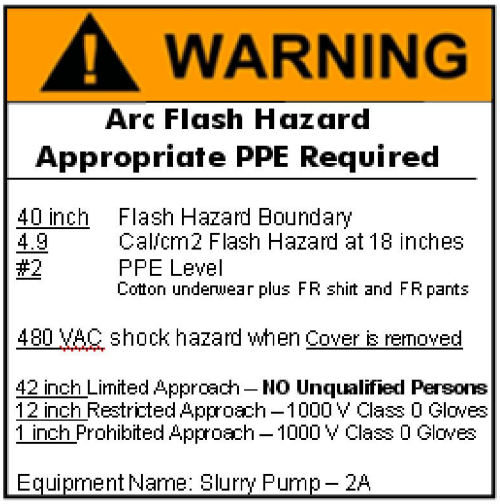
Fast Fact: The most effective and fool-proof way to eliminate the risk of electrical shock or arc flash is to simply deenergize the equipment.

Understanding the Arc Flash Warning Labels
Each piece of equipment operating at 50 volts or more and not put into a deenergized state must be evaluated for arc flash and shock protection. This evaluation will determine the actual boundaries (i.e. prohibited, limited, restricted etc) and will inform the employee of what PPE must be worn.

Once the evaluation is complete an Arc Flash Hazard warning label must be affixed to the equipment and readily accessible to employees who may work on the energized equipment.

This material was produced under grant number SH-16615-07-60-F-12 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Minimum arc flash label example



Detailed (preferred) arc flash label example

The Employees Obligation

Employees must follow the requirements of the Arc Flash Hazard label by wearing the proper personal protective equipment (PPE), use of insulated tools and other safety related precautions. This includes not working on or near the circuit unless you are a "qualified" worker.

Qualified person: One who has received training in and has demonstrated skills and knowledge in the construction and operation of electric equipment and installations and the hazards involved.

Additional requirements for qualified persons. Qualified persons (i.e. those permitted to work on or near exposed energized parts) shall, at a minimum, be trained in and familiar with the following:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
- The skills and techniques necessary to determine the nominal voltage of exposed live parts, and
- The clearance distances specified in 1910.333(c) and the corresponding voltages to which the qualified person will be exposed.

This material was produced under grant number SH-16615-07-60-F-12 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

HEAT STRESS PREVENTION GUIDELINES

Table of Contents

1.0 PURPOSE

To establish procedures for the implementation and monitoring of a heat stress prevention program.

To describe symptoms which characterize excessive exposure to heat. Recognition of these symptoms necessitates prompt corrective action to prevent injury or death.

2.0 SCOPE

This guideline applies to D&B personnel who may be exposed to environments which may contribute to heat stress, especially when PPE is required.

HEAT STRESS PREVENTION GUIDELINES

3.0 DEFINITIONS

Acclimatization - Acclimatization is the process of the body becoming accustomed to extremes in temperature.

ACGIH TLV Heat Stress and Heat Strain - Heat Stress TLV is intended to protect workers from the severest effects of heat stress and injury and to describe exposures to hot working conditions under which it is believed that nearly all workers can be repeatedly exposed without adverse health effects. The TLV objective is to prevent the deep body core temperature from exceeding 38°C (100.4°F).

Work-Rest Regimen - This is a ratio of time spent working versus time spent resting. The ratio applies to one-hour periods. For example, a work-rest regimen of 75% work, 25% rest corresponds to 45 minutes work and 15 minutes of rest each hour.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for establishing procedures to identify heat stress conditions and prevent heat related injuries.

Site Personnel - Site personnel must be alert to signs and symptoms of heat stress for themselves or those working with them. Personnel must also be aware of appropriate emergency corrective actions.

5.0 GUIDELINES

Acclimatization to heat involves a series of physiological and psychological adjustments that occur in an individual during the first weeks of exposure to hot environmental conditions.

5.1 Effects of Heat Stress

Hot weather can cause physical discomfort, a decrease in work efficiency, and personal injury. Wearing personal protective equipment puts a worker at considerable risk of developing heat stress since protective clothing increases retention of heat within the body.

A number of interacting factors, including environmental conditions, clothing, workload, and the individual characteristics of the worker contribute to heat stress. Heat stress is

HEAT STRESS PREVENTION GUIDELINES

one of the most common (and potentially serious) illnesses at hazardous waste sites. Therefore, heat stress evaluation procedures, including regular monitoring and other preventive measures, is essential to the H&S of personnel conducting field work.

Early symptoms of heat stress may include fatigue, irritability, anxiety, and decreased concentration, dexterity or movement. If not recognized or treated, heat stress may become a serious medical condition.

Heat-related problems include:

- Heat Rash: Caused by continuous exposure to hot and humid air and aggravation of the skin by chafing clothes. This decreases the ability to tolerate heat as well as being a nuisance.

- Heat Cramps: Caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle cramps and pain in the extremities and abdomen.

- Heat Exhaustion: Caused by increased stress on various organs to meet increased demands for body cooling. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness; or fatigue.

- Heat Stroke: Heat stroke, the most severe form of heat stress, is considered a life threatening condition and, as such, must be treated as an emergency. Any person suffering from heat stroke must be cooled down immediately and brought to a hospital. Decontamination procedures, if warranted, should not be implemented prior to treatment. Signs and symptoms are: red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; or coma.

It is important to note that individuals vary in their susceptibility and their reactions to heat-related conditions. Factors that may predispose someone to a heat condition include:

- Lack of physical fitness.
- Lack of acclimatization.
- Age.
- Dehydration.
- Obesity.

HEAT STRESS PREVENTION GUIDELINES

- Alcohol and drug use.
- Infection.
- Sunburn.
- Diarrhea.
- Chronic disease.

5.2 First Aid/Medical Treatment

The following first aid and medical treatments are recommended:

- Heat Rash: Apply mild drying lotions and recommend wearing clean, dry clothing between heat exposures.
- Heat Cramps: Administer commercially available electrolyte-balanced liquids (e.g., Gatorade). Seek medical attention if serious.
- Heat Exhaustion: Remove to cooler environment, rest in reclining position. Drink plenty of fluids.
- Heat Stroke: Immediate and rapid cooling by immersion in water with massage, or wrapping in a wet sheet and fanning. Avoid overcooling. These steps are to be taken while waiting for emergency response to arrive, or while transporting the victim to an emergency medical facility. This is a ***LIFE-THREATENING*** situation.

5.3 Heat Stress Prevention

One or more of the following can help prevent or reduce heat stress:

- Drinking water will be available to the workers to encourage frequent small drinks, i.e., one cup every 15-20 minutes (about 150 ml or 1/4 pint).
    - The water will be kept reasonably cool (55-60°F) and will be stored outside any suspected or identified contaminated areas.

HEAT STRESS PREVENTION GUIDELINES

  - Workers will be encouraged to maintain well balanced diets. If workers are unacclimatized, a commercially available product such as Gatorade® or Exceed® may be used for electrolyte replacement.

- Cooling devices may be used to aid natural body ventilation. These devices, however, add weight, and their use should be balanced against worker efficiency.

- Provide air-conditioned shelter or shaded areas to protect personnel during rest periods.

- Install mobile showers and/or hose-down facilities to reduce body temperature and cool protective clothing.

- Conduct operations in the early morning or evening.

- Rotate shifts of workers.

- Add additional personnel to work teams to allow for work-rest regimes.

- Mandate work slowdowns in extreme heat conditions.

5.4 Heat Stress Monitoring

In some cases where employees may be required to wear PPE that will increase the potential for heat related illnesses, heat index measurements or biological monitoring, such as body temperature or weight monitoring, may be needed. In these cases, a heat alert will be developed and written into the site-specific HASP for the project. The specifics of the plan will be described in the HASP since each site will have specific needs.

The HSO is responsible for determining the monitoring methods, coordinating the monitoring, and setting appropriate action levels for heat stress prevention.

6.0 Training

The workers will be instructed in hot weather procedures. The orientation program will include as a minimum, instruction in:

HEAT STRESS PREVENTION GUIDELINES

- Proper cooling procedures and appropriate first aid treatment.
- Proper clothing practices.
- Proper eating and drinking habits.
- Recognition of impending heat exhaustion.
- Recognition of signs and symptoms of impending heat stroke.
- Safe work practices.

7.0 REFERENCES

- ACGIH TLV Booklet.

COLD STRESS PREVENTION GUIDELINES

Table of Contents

1.0 PURPOSE

To establish procedures for the implementation and monitoring of a cold stress prevention program and to describe symptoms which indicate excessive exposure to cold temperatures.

2.0 SCOPE

These guidelines apply to D&B personnel who may be exposed to environments which could create cold stress injuries.

COLD STRESS PREVENTION GUIDELINES

3.0 DEFINITIONS

ACGIH TLV Cold Stress - Cold Stress Threshold Limit Values (TLVs) are intended to protect workers from the most severe effects of cold stress and cold injury and to describe exposures to cold working conditions under which it is believed that nearly all workers can be repeatedly exposed without adverse health effects. The TLV objective is to prevent the deep body core temperature from falling below 36°C (96.8°F) and to prevent cold injury to body extremities.

Deep Body Temperature - The core temperature of the body as determined by rectal temperature measurements. For a single, occasional exposure to a cold environment a drop in core temperature to no lower than 35°C (95°F) is permissible.

Equivalent Chill Temperature (ECT) - An index describing the effect of the cooling power of moving air on exposed flesh, commonly referred to as "wind chill." The effect of wind velocity at a certain temperature is expressed as the equivalent cooling effect of a lower temperature with still air.

Frostbite - Local tissue damage caused by exposure to cold temperatures. Severe occurrence may lead to deep tissue damage, gangrene or possible loss of the affected area.

Hypothermia - Lowering of the body core temperature due to exposure to cold. Severe hypothermia may result in death.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO or his/her designee is responsible for establishing procedures to identify cold stress conditions and determining control methods to prevent cold-related injuries.

Site Personnel - Site personnel will be alert to signs of development of cold stress

symptoms in themselves and in those working with them, and will be aware of emergency corrective action.

5.0 GUIDELINES

5.1 Introduction

If properly protected, personnel can work efficiently in cold environments. Cold injuries are classified as either localized, as in frostbite or generalized, as in hypothermia. Physical conditions that worsen the effects of cold include allergies, vascular disease, excessive smoking and drinking and specific drugs and medications.

5.2 Contributing Factors

Factors contributing to cold injury include exposure to humidity and high winds, duration of exposure, contact with wetness or metal, inadequate clothing, age and general health of the individual, including circulation and diet. Wind-chill temperature or the combination of wind speed and air temperature is a better indicator of thermal condition than temperature alone. The wind increases the rate of cooling. The table below shows the cooling power of wind on exposed flesh.

Wind Speed (mph)	Actual Temperature Reading (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Chill Temperature (ECT) (°F)											
0	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-64	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145

COLD STRESS PREVENTION GUIDELINES

40	26 10 -6 -21	-37 -53 -69	-85 -100 -116 -132 -148
Wind speed greater than 40mph have little additional effect	LITTLE DANGER in <1 hr with dry skin. Maximum danger of false sense of security	INCREASING DANGER Danger from freezing of exposed flesh within one minute	GREAT DANGER Flesh may freeze within 30 seconds
	Trenchfoot and immersion foot may occur at any point on this chart		

The greatest incremental increase in wind chill occurs when a wind of 5 mph increases to 10 mph. In addition, water conducts heat 240 times faster than air; thus, the body cools suddenly when chemical-protective equipment is removed and the clothing underneath is wet from perspiration.

5.3 Frostbite

Local injury resulting from the cold is called frostbite. Frostbite of the extremities can be categorized by degrees of damage:

- Frostnip or incident frostbite - This condition is characterized by a sudden blanching or a whitening of the skin.
- Superficial frostbite - The skin has a waxy or white appearance and is firm to the touch, but the tissue beneath is resilient.
- Deep frostbite - Tissues are cold, pale, and solid; extremely serious injury.

Factors that contribute to frostbite include handling solvents, tight footwear, use of alcohol, wet clothing, high altitudes and race. African-Americans are three to six times more likely to get frostbite than Caucasians.

The skin of a potential frostbite victim should never be rubbed. The rubbing action can result in permanent tissue damage. For frostnip, the skin should be warmed by applying firm pressure with a hand or other warm body part.

COLD STRESS PREVENTION GUIDELINES

Professional medical help should be sought for frostbite cases since it is difficult to assess the degree of damage. First aid responders can begin to warm the affected part by skin to skin contact or by submerging in warm water. Care should be taken, because the skin is easily burned due to loss of feeling in the affected part. It is important to note that pain will occur when the thawing begins.

5.4 Hypothermia

Hypothermia is the general lowering of the body temperature. It can occur from exposure to conditions well above freezing. This condition can occur when a worker is immersed in cold water or is exposed to cool, high winds. Individuals who are in a state of physical exhaustion, or have had insufficient food are particularly susceptible to hypothermia.

The first symptoms of hypothermia are uncontrollable shivering and the sensation of cold. The heartbeat then slows and sometimes becomes irregular, the pulse weakens and the blood pressure changes. Other symptoms are slurred and slow speech, memory lapses, incoherence, drowsiness, poor judgment, mental confusion and apparent exhaustion. See table below for additional clinical symptoms of hypothermia.

Core Temperature		**Clinical Signs**
°C	°F	
37.6	99.6	"Normal" rectal temperature
37	98.6	"Normal" oral temperature
36	96.8	Metabolic rate increases in an attempt to compensate for heat loss
35	95.0	Maximum shivering
34	93.2	Victim conscious and responsive, with normal blood pressure
33	91.4	Severe hypothermia below this temperature
32 31	89.6 87.8	Consciousness clouded; blood pressure becomes difficult to obtain; pupils dilated but react to light; shivering ceases
30 29	86.0 84.2	Progressive loss of consciousness; muscular rigidity increases; pulse and blood pressure difficult to obtain; respiratory rate decreases
28	82.4	Ventricular fibrillation possible with myocardia irritability
27	80.6	Voluntary motion ceases; pupils nonreactive to light; deep tendon and

COLD STRESS PREVENTION GUIDELINES

		superficial reflexes absent
26	78.8	Victim seldom conscious
25	77.0	Ventricular fibrillation may occur spontaneously
24	75.2	Pulmonary edema
22 21	71.6 69.8	Maximum risk of ventricular fibrillation
20	68.0	Cardiac standstill
18	64.6	Lowest accidental hypothermia victim to recover

When a person is mildly hypothermic, he/she should be moved indoors where it is warm, wet clothing removed and a warm beverage provided. The body must be rewarmed slowly. In a more severe case, emergency medical services should be requested immediately. While transporting the person, or awaiting the arrival of the emergency unit, the following steps should be taken to try to prevent further heat loss:

Actions to take:

- Keep the person dry, remove wet clothing.
- Apply external heat.
- Have person breathe warm moist air.
- Handle the person gently.
- Remain alert of any complications.

Actions to avoid:

- Do not give hot liquids.
- Do not allow person to exercise.

COLD STRESS PREVENTION GUIDELINES

6.0 COLD STRESS PREVENTION

The best protection against hypothermia and frostbite is prevention. Prevention includes proper work practices, protective clothing and proper diet.

6.1 Work Procedures

The following is recommended to prevent cold related injuries:

- Temperature and wind monitoring at the site.
- Work periods with frequent breaks for rewarming.
- Supply of warm beverages.
- Bare skin should not contact metal objects.
- The buddy system should always be in use.
- Clothing that becomes damp or wet should be changed.
- Shelter when working outside for prolonged periods.

If work is performed continuously at 20°F ECT or below, heated warming shelters should be made available for use by employees during warm-up breaks. A work-warming regimen can be established using the TLV booklet. This table assumes that workers are properly clothed for periods of work at temperatures below freezing.

For work at or below 10°F ECT, the following should apply:

- The worker will be under constant protective observation (buddy system or other direct supervision).
- The work rate should not be so high as to cause sweating that will result in wet

clothing; if heavy work must be done, rest periods must be taken in heated shelters and the opportunity for changing into dry clothing will be provided.

- Provisions will be made to allow employees to become accustomed to the required protective clothing as well as to their working environment.

- The working conditions and weight and bulkiness of clothing will be included in estimating the required work performance and weights to be lifted by the worker.

- The work will be arranged in such a way that sitting still or standing still for long periods is minimized. Unprotected metal chair seats will not be used. The worker should be protected from drafts to the greatest extent possible.

6.2 Personal Protective Equipment Requirements

Clothing should be worn loosely, in layers, and selected for the type of work to be performed. The loose clothing and layers provide maximum protection because layers of warm air are trapped between the clothing layers. This method of dressing also allows the outer layer to be removed during heavy manual work, or if the weather warms up. The layer closest to the skin should keep the skin dry and allow the perspiration to escape.

The outer layers of clothing are for insulation and should be made of wool, goose down, or synthetic fiber-filled materials. Wool absorbs significant amount of body moisture before losing its ability to insulate, making it preferable to cotton. Gore-Tex® and polypropylene are often recommended for use next to the skin.

If clothing becomes damp or wet from the work activity or perspiration, it should be changed. Waterproof outerwear should be worn if there is precipitation.

Up to 50% of heat loss occurs through the head, ears and back of the neck. For this

reason, appropriate head covering are an important clothing item.

Hands should be protected. The hands and fingers are susceptible to frostbite if unprotected.

Footwear should be waterproof and reach well up the leg when working outside in snow or wet areas. The soles and upper part of the boots should provide good insulation as well. A combination of working boots and rubber overboots is a cost-effective method of providing insulation. The footwear should not be too constricting and the socks should allow evaporation of perspiration.

7.0 TRAINING

The workers will be instructed in cold weather procedures. The training program will include at a minimum instruction in:

- Proper rewarming procedures and appropriate first aid treatment.
- Proper clothing practices.
- Proper eating and drinking habits.
- Recognition of impending frostbite.
- Recognition of signs and symptoms of impending hypothermia or excessive cooling of the body even when shivering does not occur.
- Safe work practices.

8.0 REFERENCES

- ACGIH TLV Booklet.

FALL PROTECTION GUIDELINES

Table of Contents

1.0 PURPOSE

This Fall Protection Standard Operating Procedure (SOP) serves as a guideline to protect D&B personnel from injuries associated with falls from elevations, pursuant to OSHA 29 CFR 1926.500, 1926.502 and 1926.503. Protection from fall hazards is achieved using a combination of fall hazard elimination, fall prevention and personal fall arrest systems.

FALL PROTECTION GUIDELINES

2.0 SCOPE

This SOP applies to D&B personnel who are exposed to fall hazards of six feet or greater. Fall elimination, prevention, or protection is also required at heights less than six feet if work or activities are performed above dangerous equipment such as open vessels, moving equipment, or objects which pose hazards. This SOP applies to construction work activities only. It does not apply to non-construction work activities, work on scaffolds, or the use ladders.

3.0 DEFINITIONS

Aerial Lifts - Mechanical devices such as articulated boom personnel lifts, manlifts, scissor lifts and bucket trucks used for access to heights.

Anchorage - A secure point of attachment for lifelines, lanyards or deceleration devices.

Body Harness - Multiple straps which are secured about the wearer in a manner which distributes the fall arrest forces over the thighs, pelvis, waist, chest and shoulders, with a means for attaching it to other components of a personal fall arrest system.

Buckle - Any device for holding the body belt or body harness closed around the employee's body.

Connector - A device which is used to couple (connect) parts of the personal fall arrest system and positioning device system together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

Competent Person - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate the hazard.

FALL PROTECTION GUIDELINES

Controlled Access Zone - An area in which certain work may take place without the use of guardrail systems, personal fall arrest systems or safety net systems, and access to the zone is controlled.

Dangerous Equipment - Equipment which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

Deceleration Device - Any mechanism, such as a rope grab, rip-stitch lanyard, specially woven lanyard, tearing or deforming lanyards, self-retracting lifelines, etc., which serve to slow the fall and limit the amount of force experienced by an employee during a fall arrest.

Deceleration Distance **-** The vertical distance a falling person travels, excluding lifeline elongation and free-fall distance, from the point at which the deceleration device begins to operate until the fall is stopped. It is measured as the distance between the location of a person's body belt or body harness attachment point at the moment of activation and the location of the attachment point after the person comes to a complete stop.

Designated Access Zone - An area or space which is defined by a perimeter barrier erected to warn employees when they approach an unprotected side or edge, and serves to designate areas where work may be performed without additional fall protection.

Different Level Fall - An accident in which an employee falls below the level on which he/she was standing or walking on (e.g., a fall below foot level).

D-Ring - Attachment point(s) on a belt or harness for a device or lanyard.

Fall Arrest System - A system of anchorage, body support (body harness) and connecting means (lanyard, lifeline, harness) that are designed and tested to function together in preventing injuries or deaths from falls. Fall arrest systems generally assume a maximum weight of 310 pounds per person, including tools and equipment.

Fall Elimination - Planning a task or activity in a manner which avoids exposure to heights and fall hazards.

FALL PROTECTION GUIDELINES

Fall Prevention - The provision of same-level barriers, such as guardrails and warning lines, which prevent falls from occurring.

Free Fall - The act of falling prior to activation of the personal fall arrest system.

Free Fall Distance - The vertical distance between the body harness attachment point at the time of a fall and the attachment point at activation of the personal fall arrest system.

Guardrail System - A barrier erected to prevent employees from falling to lower levels.

Hole - a gap or void of two inches or more in its least dimension, in a floor, roof or other walking/working surface.

Infeasible - Work that it is impossible to perform using a conventional fall protection system (i.e. guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.

Lanyard - A flexible line of rope, wire rope, or strap which has a connector at each end for connecting the body harness to a deceleration device, lifeline or anchor point. A shock-absorbing lanyard has a "built-in" deceleration device.

Leading Edge - The edge of a floor, roof, or framework for a floor or other walking/working surface which changes location as additional floor, roof, or decking is constructed. The leading edge is considered to be an unprotected side and edge during periods when it is not actively and continuously under construction.

Lifeline - A flexible line for connection to an anchor point at one end which hangs vertically (vertical lifeline) or for connection to anchorage's at both ends to stretch horizontally (horizontal lifeline), which serve as a means for connecting other components of a personal fall arrest system to the anchorage.

Opening - A gap or void 30 inches or more high and 18 inches or more wide in a wall or partition, through which employees can fall to a lower level.

FALL PROTECTION GUIDELINES

Personal Fall Arrest System - A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline or suitable combinations of these.

Positioning Device System - A body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall and work with both hands free while leaning. A positioning device cannot be used for fall protection.

Qualified Person - A qualified person is one who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to fall protection.

Rope Grab - A deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

Safety Monitoring System - A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

Self-retracting Lifeline/Lanyard - A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Slip - A same level fall caused by inadequate friction between the foot or footwear and the walking/working surface.

Snap Hook - A self-closing connecting device with a gatekeeper latch or similar arrangement that will remain closed until manually opened. May be single action or double action.

Toeboard - A low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.

FALL PROTECTION GUIDELINES

Unprotected Sides and Edges - Any side or edge (except at entrances to points of access of a walking/working surface, e.g., floor, roof, ramp or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.

Walking Working Surface - Any surface, whether horizontal or vertical, on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

Warning Line System - A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt or safety net system to protect employees in the area.

Work Area - Portion of a walking/working surface where job duties are being performed.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO has overall responsibility for the D&B Fall Protection Program. The HSO will be responsible for revising the Fall Protection Program to include new OSHA updates. The HSO is also responsible for confirming that Fall Protection training is available for D&B Authorized Personnel. The HSO may conduct site inspections to verify that D&B personnel employ Fall Protection measures, as required.

Health and Safety Representative (HSR) - The HSR has primary responsibility for the implementation of the Fall Protection Program, as required at each project. The HSR should be able to identify different types of fall hazard situations associated with the job site and maintain the appropriate supply of fall arrest equipment and hardware and confirm that authorized personnel correctly use fall control methods when required.

Authorized Personnel - Authorized Personnel perform tasks which expose them to fall hazards and are therefore authorized to use personal fall arrest systems. Authorized Personnel will be able to identify types of fall hazards associated with each project, be knowledgeable in the methods used to eliminate, prevent and arrest falls and be knowledgeable in the use of personal fall arrest equipment.

FALL PROTECTION GUIDELINES

D&B Personnel - D&B Personnel are responsible for keeping aisleways, work platforms, and other working surfaces in their work areas in orderly condition, clean and dry, and kept free from holes and loose materials.

5.0 GUIDELINES

5.1 Circumstances Which Require Fall Protection

Once it has been determined that the walking/working surface on which the employees are to work has the strength and structural integrity to support employees safety, the HSO, HSR or a designee must evaluate the walking/working surface to determine whether there is a fall hazard. D&B requires either a guardrail system or personal fall arrest system in the following circumstances where the employee will be working six feet or higher above a lower level:

- Unprotected sides and edges.
- Leading edges.
- Hoist areas.
- Holes (if the hole creates a tripping hazard, a cover should be used).
- Open sides of ramps, runways and other walkways.
- Excavations.
- Wall openings.
- Situations where the employee is working above dangerous equipment and has the potential to fall into the machine.

FALL PROTECTION GUIDELINES

5.2 Fall Protection Systems and Practices

To assess the fall hazards at D&B project locations and to implement preventive measures, the HSO, HSR or a designee can use the Fall Hazard Assessment Checklist, presented in Appendix A. Fall Hazard Control Analysis Guide, presented in Appendix B, can be used to outline the engineering, administrative and personal protective controls that are designed to protect D&B personnel exposed to fall hazards.

The following fall protection systems may be used, as determined by the HSO, HSR or a designee.

5.2.1 Protection from Falling Objects

When employees are exposed to falling objects, D&B requires that each employee wear a hard hat. One of the following measures could also be implemented, as determined by the HSO or HSR:

- Erect toeboards, screens or guardrail systems to prevent objects from falling from higher levels.
- Barricade the area where the falling object hazard may exist, prohibit employees from entering the area, and keep objects far enough away from the edge on the higher level so that they will not go over the edge

5.2.2 Guardrail Systems

The top edge of the guardrail must be 42 inches (+ or – 3 inches) above the walking/ working surface. When there is not a wall at least 21 inches high, there must also be a midrail, screen, mesh or intermediate vertical member (not more than 19 inches apart). At the bottom is a toe board at least 3 1/2 inches in vertical height, with no more than ¼ inch clearance above the floor level. Construction and load-testing of the guardrail system must be according to the specifications outlined in OSHA 29 CFR 1926.502(b).

FALL PROTECTION GUIDELINES

5.2.3 Personal Fall Arrest Systems

Personal fall arrest system may consist of anchorage, connectors, body harnesses, deceleration device and lifelines. The system must not allow an employee to free-fall more than six feet or contact a lower level. The personal fall arrest system must be inspected prior to each use for wear, damage and other deterioration. The attachment point of the body harness should be in the center of the wearer's back near shoulder level or above the wearer's head. The components of a fall arrest system may not be used as for hoisting materials. Required strengths, tolerances, and testing requirements for personal fall arrest systems are specified in OSHA 29 CFR 1926.502(d).

5.2.3.1Rescue Plan

There must be a plan in place for prompt rescue of employees in the event of a fall. This plan must include the needed equipment and personnel to affect a rescue. This plan should be documented in the Site-Specific HASP or the H&S Checklist, as appropriate.

Note: Body belts are not permitted to be used as fall arrest system.

5.3 Inspection Checklists

To verify that each piece of equipment used for fall protection is properly maintained and ready for use, inspections must be performed and documented. Equipment Inspection Checklist is presented in Appendix D.

5.4 Fall Protection Plan

Where it has been demonstrated that it is infeasible or creates a greater hazard to use conventional fall protection as described in section 5.2 (during leading edge work or precast concrete erection work), a Fall Protection Plan (FPP) can to be used. FPP must be prepared and implemented to meet the requirements of OSHA 29 CFR 1926.502(k), and the requirements listed below:

FALL PROTECTION GUIDELINES

- The FPP must be developed specifically for the site where the work is being performed and must be updated to reflect current conditions.
- Any changes to the FPP must be approved by a qualified person.
- A copy of the FPP and approved changes must be kept at the job site.
- The implementation of the FPP must be supervised by the HSO, HSR or a designee.
- The FPP must document the reasons why conventional fall protection is infeasible or why their use would create a greater hazard.
- The FPP must include a written discussion of other measures taken to reduce or eliminate fall hazards for those employees who are not protected by conventional fall protection systems.
- Where no other measures to reduce or eliminate fall hazards have been implemented, a Safety Monitoring System must be used (see Section 5.5).
- The FPP must identify each location where conventional fall protection methods cannot be used. These locations must then be classified as controlled access zones.
- The FPP must identify, by name, the employees who are designated to work in controlled access zones. No other employees may enter controlled access zones.
- In the event of a fall or some other related, serious incident, D&B will investigate the circumstances to determine if new practices, procedures or training need to be incorporated into the FPP.

5.5 Safety Monitoring System

When conventional fall protection systems are not feasible as described in section 5.4, D&B employees will be protected using a Safety Monitoring System. The Safety Monitoring System must comply with the following requirements:

FALL PROTECTION GUIDELINES

- The HSO, HSR or a designee will monitor the safety of site personnel.
- The HSO, HSR or a designee will warn the personnel when it appears that they are unaware of a fall hazard or acting in an unsafe manner.
- The HSO, HSR or a designee will be on the same walking/working surface and within visual sighting distance of the employee being monitored.
- The HSO, HSR or a designee will be close enough to communicate orally with the employee.
- The HSO, HSR or a designee will not have other responsibilities which could take the monitor's attention from the monitoring function.
- Areas where a Safety Monitoring System is in use is a controlled access zone.

5.6 Training Requirements

D&B employees who might be exposed to fall hazards must have adequate training which will enable them to recognize the hazards of falling and will train them in the procedures to be followed to minimize these hazards. The training must be conducted by a competent person qualified in the following areas:

- The nature of fall hazards in the work area.
- Correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems to be used.
- The use and operation of guardrail systems, personal fall arrest systems, safety nets, warning lines, safety monitoring systems, controlled access zones and other protection.
- The role of each employee in the Safety Monitoring System.
- The limitations on the use of mechanical equipment during work on sloped walking/working surfaces.

FALL PROTECTION GUIDELINES

- Correct procedures for handling and storage of equipment and materials and erection of overhead protection.
- The roles of employees in the FPP.

Employees should be retrained when:

- Inadequacies in the employee's knowledge or use of fall protection systems or equipment indicate that he/she has not retained the requisite understanding or skill.
- There are changes at the worksite which render previous training obsolete.
- Changes in the types of fall protection systems or equipment used renders previous training obsolete.

Employees must be trained prior to operating manlifts or aerial lifts. Training must be specific to the type of manlift used.

6.0 REFERENCES

- OSHA 29 CFR 1926, Subpart M.

Performed by:_____

Date:_____

APPENDIX A – FALL HAZARD ASSESSMENT CHECKLIST

Use the following checklist to identify potential fall hazard situations at the site. If a listed hazard is present at your facility, mark "yes" on the checklist and describe the location(s) where the hazard is identified. Attach additional sheets if necessary if there is not enough space on the checklist to note all locations of a particular identified fall hazard. If a listed hazard is not present at your site, mark "no" on the checklist and proceed to the next item.

NOTE: When filling out this checklist, you must consider both ***routine and non-routine tasks*** (maintenance or repair of equipment, troubleshooting, inspections, etc.).

Potential Fall Hazard	Yes	No	Location(s)
General			
Fall hazards from open pits, tanks, vats, ditches, etc. OSHA 29 CPR [1910.22(c)].			
Floor and Wall Openings and Holes			
1. Stairway floor openings OSHA 29 CPR [1910.23(a)(1)].			
2. Ladderway floor opening or platform OSHA 29 CPR [1910.23(a)(2)].			
3. Hatchway and chute floor openings OSHA 29 CPR [1910.23(a)(3)].			
4. Skylight floor openings OSHA 29 CPR [1910.23(a)(4)].			
5. Pit and trapdoor floor openings OSHA 29 CPR [1910.23(a)(5)].			
6. Manhole floor openings OSHA 29 CPR [1910.23(a)(6)].			
7. Temporary floor openings OSHA 29 CPR [1910.23(a)(7)].			

Potential Fall Hazard	Yes	No	Location(s)
8. Floorholes into which persons can accidentally walk OSHA 29 CPR [1910.23(a)(8)].			
9. Doors or gates which open directly into a stairway OSHA 29 CPR [1910.23(a)(10)].			
10. Wall openings with drops of more than 4 feet OSHA 29 CPR [1910.23(b)(1)].			
11. Chute wall openings with drops of more than 4 feet OSHA 29 CPR [1910.23(b)(2)].			
12. Window wall opening at stairway landings, floors, platforms, or balconies from which there is a drop of more than 4 feet and where the bottom of the opening is less than 3 feet above the platform or landing OSHA 29 CPR [1910.23(b)(3)].			
13. Temporary wall openings OSHA 29 CPR [1910.23(b)(4)].			
14. Hazard of material falling through a wall hole, and the lower edge of the near side of the hole is less than 4 inches above the floor and the far side of the hole is more than 5 feet above the next lower level OSHA 29 CPR [1910.23(b)(5)].			
15. Open-sided platforms 4 feet or more above the adjacent floor or ground level OSHA 29 CPR [1910.23(c)(1)].			
16. Runways with open sides 4 feet or more above the floor or ground level OSHA 29 CPR [1910.23(c)(2)].			
17. Open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment regardless of heights OSHA 29 CPR [1910.23(c)(3)].			
18. Flights of stairs with 4 or more risers OSHA 29 CPR [1910.23(d)(1)].			

Fixed Industrial Stairs

Potential Fall Hazard	Yes	No	Location(s)
1. Exposed (open sides) stairways and stair OSHA 29 CPR platforms [1910.24(h)].			
2. Enclosed stairways OSHA 29 CPR [1910.24(h)].			

Fixed Ladders

1. Ladders of more than 20 feet to a maximum unbroken length of 30 feet OSHA 29 CPR [1910.27(d)(1)(ii)].			
2. Ladder landings OSHA 29 CPR [1910.27(d)(1)(iii)].			
3. Landing platforms OSHA 29 CPR [1910.27(d)(2)(ii)].			
4. Ladders of more than 20 feet in unbroken length on towers, water tanks, and chimneys OSHA 29 CPR [1910.27(d)(5)].			

Scaffolding

1. Scaffolding with open sides more than 10 feet above the ground or the floor OSHA 29 CPR [1910.28(b)(15)].			
2. Crawl boards or chicken ladders OSHA 29 CPR [1910.28(t)(2)].			

Mobile Ladder Stands

1. Mobile ladder stands with more than 5 steps or 60 inches vertical height to the top step OSHA 29 CPR [1910.29(f)(4)].			

Powered Platforms for Building Maintenance

1. Work performed on roofs during building maintenance OSHA 29 CPR [1910.66(e)(3)].			
2. Elevated track system 4 feet or more above a safe surface and traversed by carriage supported equipment OSHA 29 CPR [1910.66(e)(6)].			
3. Working platforms of suspended units OSHA 29 CPR [1910.66(f)(5)(i)(G)].			

Potential Fall Hazard	Yes	No	Location(s)
4. Working platforms suspended by 2 or more wire ropes where the failure of 1 rope will cause the platform to upset OSHA 29 CPR [1910.66(f)(5)(ii)(M)].			
5. Employees on working platforms OSHA 29 CPR [1910.66(j)].			

Permit-Required Confined Spaces

1. Entrance covers removed where an employee could fall into a confined space OSHA 29 CPR [1910.146(c)(5)(ii)(B)].			
2. Use of tripod and winch to lower employees into confined spaces OSHA 29 CPR [1910.146(d)(4)(ix)].			

Other

1. Any other walking/working surface with an unprotected side or edge 6 feet or more above a lower level OSHA 29 CPR [1926.501(b)(1)].			
2. Hoist areas 6 feet or more above a lower level OSHA 29 CPR [1926.501(b)(3)].			
3. Excavations 6 feet or more in depth which are not readily seen because of plant growth or other visual barriers.			

Other(s):_____

APPENDIX B – FALL HAZARD CONTROL ANALYSIS GUIDE

Fall Hazard	Engineering Controls	Administrative Controls	Personal Protective Equipment
Working on top of vertical or horizontal tanks.	1. For new construction, the access areas on horizontal or vertical tanks (both operation and maintenance) should be identified and located for easy access during the design phase. If employees must access the top of a tank, then an appropriate guardrail should be specified in the design. 2. Existing tanks should be evaluated to determine if access points, such as vents, openings, motors, piping, etc, which are routinely accessed are protected by an adequate guardrail. If not currently protected, then personnel working in the unprotected area must use fall protection equipment. The facility should evaluate the situation to determine if a guardrail is appropriate. 3. When safety harnesses and lanyards are to be utilized, the appropriate anchor point will be predetermined and marked.	1. Personnel accessing the top of tanks must be instructed on fall protection prior to access according to the guidelines established in this manual. Training should include knowing when they need PPE and when they do not. 2. Personal fall protection equipment will be inspected prior to and after use. Inspection must be documented using the Fall Protection Equipment Inspection Checklist provided as Appendix D.	1. When accessing the top of tanks and the nature of work will be outside of a protective guardrail, a fall arrest system must be used.

Fall Hazard	Engineering Controls	Administrative Controls	Personal Protective Equipment
Working on an elevated pipe or conduit Rack or Chase.	1. Where routine maintenance or regular access is required, elevated work platforms should be installed with a standard guardrail with access by either a ladder or stair.	1. Personnel must be properly trained in the use of fall protection equipment prior to use according to the guidelines established in this program. 2. Personal fall protection equipment will be inspected prior to and after use. Inspection must be documented using the Fall Protection Equipment Inspection Checklist provided as Appendix D.	1. Provide a personal fall arrest. 2. Should a horizontal lifeline system not be appropriate, a designated anchor point meeting the OSHA requirements, as outlined in this program, should be available to attach a shock-absorbing lanyard. 3. Fall protection equipment must be selected from the equipment list contained in this program or equivalent to the equipment specified.

Fall Hazard	Engineering Controls	Administrative Controls	Personal Protective Equipment
Open Sided Roof or Platform.	1. Material and personnel access points to elevated platforms must be equipped with guarding. When material access points are not used, either a fixed or movable guardrail must be used. The guardrails must be capable of withstanding a 200-pound force. 2. When material access points are being utilized and a guardrail has been removed, an evaluation to determine if operators are required to be in the fall hazard zone should be conducted. If personnel can operate the material hoist from outside the zone, they are not required to wear fall protective equipment.	1. Personnel required to work in the fall hazard area must be trained prior to the work according to the training guidelines established by this program. 2. Personal fall protection equipment will be inspected prior to and after use. Inspection must be documented using the Fall Protection Equipment Inspection Checklist provided as Appendix D.	1. Personnel required to be in a fall hazard zone must wear a body harness and shock-absorbing lanyard of appropriate length but not longer than 6 feet attached to an approved and designated anchor point. 2. Fall protective equipment must be selected from the equipment list contained in this program or equivalent to the equipment specified.

Fall Hazard	Engineering Controls	Administrative Controls	Personal Protective Equipment
Using Manlifts or Mobile Personnel Lifting Equipment.	1. Purchase, lease or rent lifts that have personal cage areas conforming to OSHA requirements.	1. Any associate who operates a powered platform or manlift, must have been instructed and have demonstrated proficient operating ability before being allowed to operate in the facility. 2. Prior to operation, the powered platform/manlift must be inspected to verify that safety features of the lift are working properly, including brakes, access gates, etc. A checklist must be completed prior to usage according to the checklist provided as Appendix D. 3. Personal Protective Equipment will be inspected prior to and after use. Inspection must be documented using the Fall Protection Equipment Inspection Checklist provided as Appendix D.	1. While working from a telescoping boom platform or manlift, personnel must wear a safety harness with a shock-absorbing lanyard of appropriate length but not longer than 6 feet. The lanyard must attach to an approved and designated anchor point at the same height as the D-ring on the harness. The midrail should never be used as the anchor point. 2. Fall protective equipment must be selected from the Fall Protection Equipment Inspection Checklist provided as Appendix D or equivalent to the equipment specified.

No. 5

Fall Hazard	Engineering Controls	Administrative Controls	Personal Protective Equipment
Entry or exit from a vertical confined space.	1. Reconfigure the confined space to allow access at the level of the work to be performed.	Confined Space training is mandatory for entering a confined space. Awareness training is not acceptable.	1. During entry and exit an approved tripod and combination hoist mechanism rated for fall protection must be used. 2. Fall protective equipment must be selected from the Fall Protection Equipment Inspection Checklist provided as Appendix D or equivalent to the specified equipment.

APPENDIX C – GUIDELINES FOR ANCHOR POINTS

An anchor point is a secure point of attachment for a personal fall arrest system. It must be independent from the means supporting or suspending a worker.

Anchor points:

- Must be able to support a weight of at least 5,000 pounds of force for each worker attached.
- Should be located at a height that reduces free fall to 6 feet or less. Factors to consider are deceleration distance (shock-absorbing lanyard) and elongation lanyard stretching.
- Should be located so that if a free fall occurs, and attached worker will not collide with equipment or structure or contact any lower level.

The lanyard is connected to an anchor point using a self-locking snap hook or to a tie-off strap. The tie-off point should be at or above the D-ring on the back of the worker's harness. This will limit the free fall distance to the length of the lanyard.

Anchoring plan:

Every anchor point must pass each of the following nine tests for safe usage:

1. Height
   - ✓ Does the anchor point height reduce free fall to the shortest distance possible?
   - ✓ Is the anchor point away from possible collisions with the body or the head?
   - ✓ Is the anchor point unaffected by the local environment, or contamination such as paint over-spray?
2. Location
   - ✓ Is swing fall reduced to a reasonably safe minimum in order to reduce the potential for collision injury and to allow for self-recovery?
   - ✓ Is the anchor point continuous by design, to accomplish the task without intermittent fall hazards?

- ✓ Is the anchorage reachable, to permit connection without a hazard?

3. Shape
   - ✓ Is the anchor point compatible with the attachment method of the deceleration device? Many shapes are not attachable with snap hooks, including certain eyebolt shapes.
   - ✓ Will the likely method of attachment cause damage or failure to the deceleration device? Looping a lanyard around an angle iron could cut the lanyard in a fall.
   - ✓ Will the likely method of attachment be to a bolt hole? Snap hooks can detach from slotted bolt holes with as little as 2 pounds of steady force.
   - ✓ Can the attachment method allow sliding-down falls or permit cutting the line?
   - ✓ Will the attachment method of a lanyard to a flanged edge without closure of the snap hook gate be prohibited?

4. Strength
   - ✓ Has the anchor point been identified by a competent person for its intended use?
   - ✓ Is the anchor point still reliable after long exposure to the elements, such as salt air?
   - ✓ Will a tie-back point prevent any additional free fall if a primary anchor point fails?

5. Usage
   - ✓ How many workers can be safely attached to the same common anchor point? This is an engineering question, if the answer is more than one worker.
   - ✓ Are the load-bearing suspension line and the lifeline attached to separate support systems?
   - ✓ Is trying knots prohibited for providing anchor point attachments? Knots aren't reliable without a strict worker training system and an approved method of tying them.
   - ✓ Has wrapping a line around a typical structural member such as an I-beam been tested by the company for sufficient strength?

- ✓ Is it prohibited to attach snap hooks to each other or to a lifeline or lanyard? Doing so results in hazards such as roll-out and loss of strength.
- ✓ Will the snap hook be used for attaching to the structure or for pulling back?
- ✓ Will the method of use cause workers to disconnect themselves at heights because they can't reach their task?

6. Stability
   - ✓ Has attachment to the lip of an I-beam been prohibited? A snap hook may slip off with an angled pull and cause system failure.
   - ✓ Has attaching a lifeline to a projection been prohibited? The lifeline can detach by movement off the end.

7. Independence
   - ✓ Are the anchor points independent? The independence of each anchor point from the main work-positioning anchor support is an important principle. Where tripods, building, or structure itself are concerned, it is important to address the kind of failure that would likely produce an injury. Anchor point design should address all predictable scenarios.

8. Protection while moving
   - ✓ If horizontal lifelines are sued to allow protected movement, have they been engineered for this purpose? A horizontal line may be intended as a hand line or perimeter cable. Termination of lines or butting them with mechanical clips can be dangerous under dynamic conditions.
   - ✓ Do the horizontal lines allow enough sag under the dynamic conditions of a fall to permit the worker to avoid colliding with an obstruction or the ground?
   - ✓ A horizontal life line must be designed by a qualified person.

9. Labeling
   - ✓ Can the anchor point be marked for future recognition and limited specific use? Anchor points for a specific activity should be identified on the Maintenance Job Procedure for that task.

Inspector:_____

Inspection Date:_____

APPENDIX D – EQUIPMENT INSPECTION CHECKLIST

Type	Manufacturer	Model No.	Serial No.
Harness			
Lanyard			
Anchor Strap			
Carabiner			

Inspection of fall protective equipment must be conducted before and after each use. This checklist is designed to document and confirm that components have been inspected as required and that no defective or damaged components have been found. Should defective or damaged parts be found, the entire piece of fall protective equipment must be removed from service and tagged **"OUT OF SERVICE - DO NOT USE"** until the components can be either repaired or discarded.

Part	Condition	Acceptable	Unacceptable
Personal fall arrest systems (*Harness, buckles, D-rings, straps, keepers, etc.*)	Metal connectors, snap hooks, D-rings etc., must not show signs of damage, including: broken, distorted, sharp edges, burrs, cracks, worn parts, or corrosion. *Note: Make sure buckles work freely.*		
	The harness and straps must not show signs of damage including: frayed, cut or broken fibers; tears, abrasions, mold, burns, or discoloration, pulled or cut stitches, knots, excessive soiling or paint buildup. *Note: Broken stitches or exposed fall indicator stitching may be an indication the harness has been shock-loaded during a fall and must be discarded.*		
	The harness must have an original label indicating the manufacturers intended load capacity.		
Shock-absorbing lanyards	The lanyards must not show signs of damage or stress or shock loading including: rust or staining, chemical or heat damage, or degradation. The lanyard must also have complete and legible labels including the manufacturer name and rated		

	capacity. *Note: Broken stitches or exposed fall indicator stitching may be an indication the harness has been shock loaded in a fall and must be discarded.*		

Inspector:_____

Inspection Date:_____

Vehicle Mounted Platforms and Manlifts

Type	Manufacturer	Model No.	Serial No.

Inspection of vehicle mounted platforms must be completed prior to operation each day or each shift. The inspection must be documented using this form. If any condition is found to be defective or damaged, then the vehicle mounted platform or manlift may not be used until the defective or damage component has been repaired or replaced. During the time when the platform or lift is being repaired or waiting repair, the unit is to be tagged **"OUT OF SERVICE - DO NOT USE"**. Safety harnesses and lanyards used in conjunction with unit operation must be inspected according to the Fall Protection Equipment Checklist.

Part	Condition	Acceptable	Unacceptable
Tires	Tires are in good condition and are not flat or loosely attached to unit.		
Hydraulic System	There are no visible hydraulic leaks or hydraulic fluid on ground around unit.		
Controls	The controls are labeled clearly and correct. The controls work as intended.		
Guardrails	The guardrails and toeboards around the personnel platform area are intact, secure and welds not cracked or broken.		
Platform Gate	The gate is self-closing and works properly. Latching mechanism works and securely fastens gate.		
Outriggers (if equipped)	The outriggers are free from recognized damage and move easily. The support pads are intact and not damaged.		

Brakes	The brakes have been tested and work properly.		
Horn	The horn is functional and can be heard over nearby operating equipment		

Inspector:_____

Inspection Date:_____

Horizontal Lifeline Systems

Location:_____

Inspection of the horizontal lifeline system must be conducted before and after each use. The checklist is designed to document and confirm that components have been inspected as required and that no defective or damaged components have been found. Should defective or damaged parts be found the piece must be removed and replaced with new part. The damaged or defective piece must be made unusable and discarded. If the wire rope is damaged, the entire horizontal lifeline should be tagged **"OUT OF SERVICE - DO NOT USE**". The inspection of safety harnesses and lanyard must be documented using the Fall Protection Equipment Checklist.

Part	Condition	Acceptable	Unacceptable
Hardware *(Hardware includes: end anchors, links, terminals, brackets and connectors)*	Hardware items must not show signs of damage, including: broken, distorted, sharp edges, burrs, cracks, worn parts, or corrosion.		
Wire Rope	Wire rope must not be damaged, including: six (6) or more broken wires in one rope lay or three (3) or more broken wires in one strand, corrosion, permanent kinks, burn marks, bird caging or exposed core.		

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

Table of Contents

1.0 PURPOSE

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

To establish guidelines for selection and use of Personal Protective Equipment (PPE) for use at D&B work sites.

2.0 SCOPE

Applies to decisions regarding PPE selection and use by D&B personnel during D&B project field tasks.

3.0 DEFINITIONS

Degradation - The loss of or change in the fabric's chemical resistance or physical properties due to exposure to chemicals, or ambient conditions (e.g., sunlight).

Penetration - The movement of chemicals through zippers, stitched seams or imperfections (e.g., pinholes) in a protective clothing material.

Permeation - The process by which a chemical dissolves in and/or moves through a protective clothing material on a molecular level.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for confirming that training is provided to applicable D&B employees in proper use of PPE. The HSO may conduct site inspections to confirm that D&B personnel use proper PPE. The HSO will use these guidelines in conducting PPE assessments and selecting PPE for job tasks.

Health and Safety Representative (HSR) - The HSR has the responsibility for verifying that employees use appropriate PPE correctly, as required at each project. The HSR should be able to identify different types of hazards associated with the job site and maintain adequate supply of appropriate PPE.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

D&B Employee - Employee is responsible for wearing the appropriate PPE, as determined by the HSO or HSR.

5.0 GUIDELINES

A certified hazard assessment will be completed for each job. Efforts will be made to reduce or eliminated exposure to on-site hazards, through employment of engineering and/or administrative controls. Use of PPE should be a last resort. When engineering and administrative controls are not feasible, not effective or cannot be used in lieu of PPE due to regulations, appropriate PPE will be used. Employees should also wear PPE when it is reasonably expected that the use of the PPE would prevent injury. Specific clients may have their own PPE requirements for working on their sites. According to OSHA Standards 29 CFR 1910 and 29 CFR 1926, the following body areas require special protection:

- Eyes and face.
- Head.
- Ears.
- Skin.
- Hands, arms, and feet.
- Respiratory system.

The use of PPE itself can create worker hazards, such as heat stress, physical and psychological stress, impaired vision and impediment in mobility and communication. For any given situation, equipment and clothing should be selected to provide protection. Over-protection as well as under-protection can be dangerous and should be avoided.

D&B will provide all necessary PPE to its employees at no cost, with the following exceptions:

- Non-specialty prescription safety eyewear that are worn off of project sites

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

- Non-specialty safety-toe protective footwear that are worn off of project sites
- Replacement PPE if lost or intentionally damaged by the employee

5.1 Types of PPE

The following types of PPE form the basis for the protective clothing:

- Head Protection - Regulated by OSHA 29 CFR 1910.135 and 1926.100; specified in ANSI Z89.1, Safety Requirements for Industrial Head Protection. Head protection equipment includes hard hats, hard hat liners, hoods and protective hair coverings.

- Eye and Face Protection - Regulated by OSHA 29 CFR 1910.133(a) and 1926.102; specified in ANSI Z87.1, Eye and Face Protection. Eye and face protection equipment includes face shields, safety glasses, splash hoods, goggles and sweatbands.

- Ear Protection - Regulated by OSHA 29 CFR 1910.95 and 1926.101; specified in 41 CFR Part 50-204.10. Ear protection equipment includes earplugs and earmuffs.

- Foot Protection - Regulated by OSHA 29 CFR 1910.136 and 1926.96; specified in ANSI Z41.1, Safety Toe Footwear. Foot protection equipment includes safety boots and overboots.

- Hand (and Arm) Protection - Not specifically regulated. Hand and arm protection equipment includes inner disposable gloves, overgloves and sleeves.

- Protective Clothing - Not specifically regulated. Protective clothing equipment includes fully encapsulating suits, non-encapsulating suits, aprons, leggings, sleeve protectors, blast and fragmentation suits, radiation

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

contamination protective suits, flame/fire retardant coveralls, flotation gear and cooling garments.

Note: **Respiratory protection is addressed in a separate SOP: D&B Corporate No. C23**.

5.1.1 Foot Protection

Foot protection will be required when there is a reasonable probability of injury without the protection, and conform to the following:

- Shoes shall be Class 75 for men, equivalent to Class 50 for women, and shall meet the specifications of American National Standard for Safety Toe Footwear, ANSI Z41.1-1967. The class, which defines the minimum requirements for compression and impact, shall be stamped by the manufacturer on the shoe interior.

- Specifically constructed shoes may be required for specific work environments. For example, reinforced soles, inner soles of flexible metal, or steel shanks are to be used for construction work and other work with the potential for protruding hazards.

- Overboots may be required for chemical protection.

5.1.2 Eye and Face Protection

Eye protection equipment includes protection against impact, penetration, molten metal splashes, chemical splashes, dusts, glare, and injurious light radiation (infrared and ultraviolet). It does not include the special protection required to prevent damage from x-rays, gamma rays, and high energy particulate radiation such as alpha, beta or neutron.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

- Eye and face protective equipment must meet the standard established by the Occupational Safety and Health Act as detailed in the American National Standard for Eye and Face Protection, ANSI Z87.1.

- The protective equipment must be appropriately selected for the hazard.

- Employees requiring correction (prescription) lenses should be provided with glasses with the sideshields. The HSO should be consulted regarding the prescription safety glasses.

- Employees who do not require corrective lenses should be provided with plain safety glasses with safety shields.

Note: As adopted by the American Optometric Association concerning the use of contact lenses in industrial environments, contact lenses may be worn in some hazardous environments with appropriate covering safety eyewear. Contact lenses of themselves do not provide eye protection in the industrial sense. Ocular hazards are greater in some environments than others and workers should be concerned as to the advisability of wearing the lenses in a given environment.

5.1.3 Head Protection

Head protection (hard hats) is required where employees are subject to head injuries from falling of flying or moving objects, from splashing hazardous chemicals and other liquids, from limited electric shock and burns, and from bumps caused by working in limited space where the head may come in contact with equipment or objects or when other individuals are working above them.

- The hardhat suspension will be changed when it shows signs of wear and will be kept in clean and sanitary condition.

- The protective equipment must be appropriately selected for the hazard.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

- Head protection equipment must meet the standard established by the Occupational Safety and Health Act as detailed in the American National Standard for Safety Requirements for Industrial Head Protection, ANSI Z89.1.

- Head protection, when not assigned to an individual, will be sanitized after each use or disposable head covering will be utilized.

5.1.4 Hearing Protection

Adequate hearing protection should be used when personnel is exposed to a noise level of/or greater than 90 dBA as an 8-hour time-weighted average.

Hearing protectors should be worn according to manufacturer's specifications and as trained. Procedures should be implemented to assure proper cleaning, maintenance and use. See D&B SOP No. 18 for additional information.

5.1.5 Hand Protection

Hand protection should be used when there is a potential for skin absorption of harmful substances, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns and temperature extremes.

The hand protection must be appropriately selected for the type of hazard that may be encountered. The selection process should include an evaluation of the tasks to be performed, conditions, duration of hand protection to be used and the identified hazards.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

5.2 Chemical Protective Clothing

Chemical protective equipment is used to minimize or eliminate chemical contact. The selection depends on accurate assessment of the hazardous conditions, cost, availability, compatibility with other equipment and performance.

5.2.1 Chemical Protection Selection Criteria

The most important factor in selecting PPE is determining the chemicals to which D&B employees are likely to be exposed. Once the chemical(s) have been identified and the type of work to be performed has been considered, the most appropriate clothing should then be selected.

Garments are selected for use by their resistance to permeation, degradation, and penetration. No material protects against all chemicals and combinations of chemicals, or is an effective barrier to prolonged chemical exposure.

Charts are available from most manufacturers indicating the resistance of their products to degradation, permeation or penetration. When permeation tables are available, they should be used in conjunction with degradation tables.

Limited permeation data for mixtures is currently available. Chemical mixtures can be significantly more aggressive towards PPE materials than any single component alone. Even small amounts of a rapidly permeating chemical may provide a pathway that accelerates the permeation of the chemicals.

Selection should be based upon the most hazardous chemicals, potential for skin contact and absorption, and expected concentrations. Sometimes layering of several different types of protective materials or using a material laminated of two or more materials affords the best protection.

When selecting PPE, the following criteria should be evaluated:

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

- Concentration of the chemical.
- Physical State - The physical state of a chemical determines the exposure route and potential for toxicity.
- Length of Exposure - The length of time a material is exposed to a chemical increases the probability of breakthrough. It should be kept in mind that during permeation testing, usually a pure (100% composition) liquid is placed in direct contact with the material producing a worst-case situation.
- Abrasion - The use of leather gloves and a heavy apron over regular protective clothing will prevent damage to the PPE and protect against exposures during manual material handling.
- Dexterity required performing necessary tasks.
- Ability to decontaminate.
- Climatic Conditions - Protective clothing add a burden of additional weight, restriction of movement, as well as limiting natural cooling, contributing to heat stress. Some material act differently when they are very hot or very cold.

5.2.2 Types of Protective Material

The following materials are generally used in protective garments:

- Cellulose or paper.
- Natural and synthetic fibers:
  - Tyvek.
  - Nomex.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

- Elastome:
  - Polyethylene.
  - Saran.
  - Polyvinyl chloride.
  - Neoprene.
  - Butyl rubber.
  - Chlorapel.
  - Viton.

5.3 Use of PPE

The proper use of PPE includes the following:

- The protective equipment must be appropriately selected for the chemical hazard.
- Protective clothing should be inspected for wear, tears, etc. before each use.
- Chemical protective clothing must be adequately decontaminated after each use.

5.3.1 Donning and Doffing

Exact procedures for removing PPE ensembles must be established, practiced and followed in order to prevent damage, reduce or eliminate migration from the work area and a transfer of contaminants to the wearer and/or others.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

5.4 Training

Training in PPE use is necessary. This training:

- Allows the user to become familiar with the equipment in a non-hazardous situation.
- Instills confidence of the user in the equipment.
- Makes the user aware of the limitations and capabilities of the equipment.
- Increases the efficiency of operations performed by workers wearing PPE.

Training should be completed prior to PPE use in a hazardous environment and repeated as necessary (changing conditions, not using or not using properly). All training will be documented.

At a minimum, the training program should include:

- The proper use and maintenance of selected PPE, including capabilities and limitations.
- The nature of the hazards and the consequences of not using the PPE.
- The human factors influencing PPE performance.
- Hands on instruction in inspecting, donning, checking, fitting and using PPE.
- Wearing PPE in a test atmosphere to evaluate its effectiveness.
- The user's responsibility for decontamination, cleaning and maintenance of PPE.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

- Emergency procedures and self-rescue in the event of PPE failure.

5.5 Inspection

An effective PPE inspection program includes the following:

- Inspection and operational testing of equipment received from the factory or distributor.
- Inspection of equipment as it is issued to workers.
- Inspection after use or training and prior to maintenance.
- Periodic inspection of stored equipment.

Detailed inspection procedures, where appropriate, are usually available from the manufacturer.

Records should be kept of inspection procedures. Individual identification numbers should be assigned to reusable equipment and records should be maintained by that number. Each inspection should record the ID number, date, inspector, and any unusual conditions or findings. Periodic review of these records should be conducted to identify potential weaknesses in the PPE program.

5.6 Storage

PPE must be stored properly to prevent damage or malfunction due to exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures, and impact.

- Potentially contaminated clothing should be stored in an area separate from regular clothing.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

- Potentially contaminated clothing should be stored in a well-ventilated area.
- Different types and materials of clothing and gloves should be stored separately to prevent issuing the wrong material by mistake.
- Protective clothing should be folded or hung in accordance with manufacturers' recommendations.

5.7 Additional Considerations

- If hard hats are necessary, chinstraps or lanyards should be used if the tasks may cause the hard hat to fall off.
- In cold temperatures, natural material clothing should be worn under the protective clothing. Protective clothing should be removed prior to allowing a person "to get warm." Applying heat, such as a space heater, is not recommended as the heat may drive the contaminants through.
- In hot weather, cotton undergarments should be worn to absorb perspiration.
- Body protection should be taped to the boots to prevent contaminants from running into the boot. Gloves should be taped to prevent substances from entering the top of the glove. Aprons should be taped across the back for added protection.
- Atmospheric conditions such as precipitation, temperature, wind direction, wind velocity and pressure effect the behavior of air contaminants or the potential for volatile material becoming airborne.
- Levels of protection should be selected based on the job function.
- Defective equipment will be taken out of service and replaced.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

6.0 DECONTAMINATION

All D&B personnel wearing PPE will undergo a decontamination procedure which varies according to the chemicals encountered, concentrations, level of PPE (A, B, C or D). A specific procedure is established for a projects requiring employee decontamination. This procedures details decontamination of non-permeable clothing and other reusable PPE, and disposal of used disposable PPE along with procedures for employee decontamination. No employee entering a contaminated area will be permitted to leave the area without first following the decontamination procedure and being properly decontaminated. All disposable PPE will be properly disposed of during the decontamination process. Showers and changing rooms will be available if necessary under the decontamination procedures. All non-authorized personnel will be prohibited in the decontamination/changing areas.

These procedures will be monitored by a site health and safety representative.

7.0 REFERENCES

- Subpart O (OSHA 29 CFR 1926.600 through 1926.606).

APPENDIX A – Construction and Hazardous Waste PPE Requirements

CONSTRUCTION

PPE required for construction services will be specific to each site. Personnel should be provided with a hard hat, steel toe safety shoes, safety glasses or other PPE, as appropriate. The Site-Specific HASP to be developed for each project should be referred to in determining the type of protection that is necessary.

HAZARDOUS WASTES

Protection Levels

Protection levels are generally based on the levels defined by EPA, such as Levels A, B, C and D, as described below. Each ensemble should be tailored to the specific situation. The type of equipment used and the overall level of protection should be reevaluated periodically. Provisions should be made to upgrade or downgrade levels of protection.

Reasons to upgrade:

- New information indicating presence of dermal hazards.
- Occurrence or likely occurrence of gas or vapor emission.
- Change in work task that will increase contact or potential contact with hazardous materials.
- Request of the individual performing the task.

Reasons to downgrade:

- New information indicating that the situation is less hazardous than was originally thought.
- Change in site conditions that decrease the hazard.

- Change in work task that will reduce contact with hazardous materials.

Level A Protection

The following conditions suggest a need for Level A protection:

- Confined facilities where probability of skin contact is high.
- Sites containing known hazards which are absorbed through the skin.
- Sites with insufficient information to rule out hazards which are absorbed through the skin.
- Atmospheres immediately dangerous to life and health including skin absorption route.
- Site exhibiting signs of acute mammalian toxicity (e.g., dead animals, illnesses associated with past entry into site by humans).
- Sites at which sealed drums of unknown materials must be opened.
- Total atmospheric readings on the PID, FID and similar instruments indicate 500 ppm to 1,000 ppm of unidentified substances.
- Extremely hazardous substances (e.g., cyanide compounds, concentrated pesticides, DOT Poison "A" materials, suspected carcinogens, and infectious substances) are known or suspected to be present, and skin contact is probable.

Level A protection minimally consists of the following items:

- Open circuit, pressure-demand SCBA or pressure-demand supplied air respirator with egress cylinder.
- Totally encapsulated suit.
- Gloves, inner (surgical type).

- Gloves, outer (chemical protective).
- Boots, chemical protective, steel toe and shank.
- Communication system.

Level B Protection

Level B protection is selected when the highest level of respiratory protection is needed, but conditions do not warrant Level A.

The following conditions suggest a need for Level B protection:

- The type and concentration of substances has been identified and requires the highest level of respiratory protection, but exposure to the few unprotected areas of the body (i.e., the back of the neck) is unlikely.
- IDLH atmospheres, but the substance or concentration does not present a severe skin hazard.
- The type and concentrations of substances that do not meet the selection criteria permitting the use of air purifying respirators.
- It is unlikely that the work being done will generate high concentrations of vapors, gases or particulates that will affect the skin or result in skin contact.

Personal Protective Equipment for Level B minimally includes:

- Open circuit, pressure-demand SCBA or pressure-demand supplied air respirator with egress cylinder.
- Chemical protective overalls and long-sleeved jacket or coveralls.
- Gloves, inner (surgical type).
- Gloves, outer (chemical protective).

- Boots, chemical protective, steel toe and shank.
- Communication system.

Level C Protection

Level C is selected when air purifying respirators offer adequate respiratory protection and skin contact is unlikely.

Personal Protective Equipment for Level C minimally includes:

- Full face piece air-purifying respirator.
- Emergency escape respirator (carried, optional).
- Chemical protective overalls and long-sleeved jacket or coveralls.
- Gloves, inner (surgical type).
- Gloves, outer (chemical protective).
- Boots, chemical protective, steel toe and shank.

Level D Protection

Level D is the basic work uniform.

Personal Protective Equipment for Level D includes:

- Coveralls.
- Safety boots/shoes.
- Safety glasses with side shields.
- Hard hat with optional face shield.

Level E Protection

Level E protection is used when radioactivity above 10 mR/hr is encountered on a hazardous waste site. Procedure is to immediately evacuate to a safe distance (2 mR/hr level). A health physicist must be consulted to determine personal protective clothing.

EXCAVATION/TRENCHING OPERATIONS GUIDELINES

Table of Contents

1.0 PURPOSE

To establish safe operating procedures for D&B employees working in or near excavation or trenching operations at D&B work sites.

2.0 SCOPE

Applies to D&B employees exposed to excavation or trenching hazards at D&B work sites.

3.0 DEFINITIONS

Adjacent Area - The horizontal surface area surrounding the excavation, which extends outward from the excavation edge up to a distance that is half the depth of the excavation.

EXCAVATION/TRENCHING OPERATIONS GUIDELINES

Competent Person - A competent person is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate the hazard.

Excavation - Any manmade cavity or depression in the earth's surface, including its sides, walls or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation.

Protective System - A method of protecting employees from cave-ins, from material that could fall or roll from the excavation face or into an excavation from above, or from collapse of adjacent structures. These include shoring, shielding, sloping or equivalent.

Trench - A narrow excavation made below the earth's surface. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for revising the Trenching and Excavation program to include new OSHA updates. The HSO is also responsible for confirming that trenching and excavation training is available for applicable D&B employees. The HSO or a designee may conduct site inspections of trenching and excavations that D&B employees may be exposed to.

Site Personnel - D&B personnel must follow these procedures when working in or around an excavation or trench.

5.0 GUIDELINES

D&B personnel may be providing oversight on projects where excavation and trenching operations are being undertaken. ***D&B personnel will never be placed in the role of the designated "competent person," making decisions on the safety conditions and procedures of the excavation and trenching operations***. D&B personnel should identify the contractor/subcontractor/sub-consultant "Competent Person." D&B personnel will also understand the basic H&S requirements for excavating and trenching to protect themselves and other D&B personnel.

EXCAVATION/TRENCHING OPERATIONS GUIDELINES

D&B site personnel will ensure that the contractor has contacted "Call Before You Dig", to assist in identifying the type and location of any underground utilities.

D&B site personnel will also ensure that the contractor's competent person has classified the soil type prior to trenching/excavation work, and determined the most effective means to protect personnel working inside.

5.1 Hazards Associated With Excavation/Trenching

The principle hazards associated with excavation/trenching are:

- Suffocation, crushing or other injury from falling material.
- Damage/failure of installed underground services and consequent hazards.
- Tripping, slipping or falling. Housekeeping in and around excavations will reduce slip, trip fall hazards. Guardrails will be installed if personnel need to cross the trench/excavation.
- No one is permitted underneath overhead loads or where digging may cause loads to fall onto personnel beneath.
- Possibility of explosive, flammable, toxic or oxygen-deficient atmosphere in excavation. Air monitoring will be conducted in the trench/excavation to ensure the safety of personnel. Refer to Section 6 of the HASP.
- In some cases, trenches/excavations will be made in the vicinity of traffic. D&B and contractor personnel will ensure that the trench/excavation and personnel are protected from traffic and that traffic is protected from the construction activities.

5.2 Requirements for Protective Systems

Excavation Protective Systems will be employed when:

- There is a potential for cave-in.

EXCAVATION/TRENCHING OPERATIONS GUIDELINES

- The excavation is 5 or more feet in depth, as determined by the competent person, pursuant to OSHA 29 CFR Part 1926.652.
- The excavation is less than 5 feet deep but is made in unstable soil.

Protective systems may not be required for excavations made entirely in stable rock, as determined by the competent person.

5.3 Inspections

The designated "competent person" from the contractor/subcontractor/sub-consultant will perform inspections pursuant to OSHA 29 CFR 1926.651 k(1) when any of the below employee exposure to hazards are reasonably anticipated:

- Each day before employees enter the excavation.
- After every rainstorm.
- As needed throughout the shift.
- As soil conditions change.

During the inspection the "competent person" must:

- Verify the protective system is adequate for the soil classification and the external loads placed on the adjacent area.
- Evaluate the excavation, the adjacent area and the protective system, for the following:
  - Hazardous atmosphere.
  - Potential situations that could lead to cave-in.
  - Indications of failure of a protective system.
  - Cracks in the ground parallel to the top of the excavation.
  - Accumulation of water, from rain or groundwater infiltration.

EXCAVATION/TRENCHING OPERATIONS GUIDELINES

- Any other hazardous conditions.

- Verify that ladders or other means of access/egress to excavations are provided at:
  - Maximum spacing of 100 feet on the perimeter of open excavations.
  - Maximum spacing of 25 feet for trench excavations greater than 4 feet in depth.

5.4 Entering the Excavation

D&B employee will ***NOT*** enter an excavation unless the D&B site supervisor has coordinated with the contractor/subcontractor/sub-consultant competent person to verify that the excavation has been inspected and is safe.

6.0 TRAINING

Employees who are potentially exposed to the hazards of excavation and trenches should be provided with appropriate training to identify hazards and proper control methods.

7.0 REFERENCES

- OSHA 29 CFR 1926 Subpart P – Excavations.

SAFE DRIVING GUIDELINES

Table of Contents

1.0 PURPOSE

To establish procedures for the implementation of a safe driving program for D&B employees.

2.0 SCOPE

This policy applies to D&B employees while operating a company vehicle or a personal vehicle on company business.

SAFE DRIVING GUIDELINES

3.0 DEFINITIONS

Company Vehicle - A vehicle owned, leased or rented by D&B and provided to a D&B employee for use.

Personal Vehicle - A vehicle owned or leased by a D&B employee for their personal transportation that may be used for company business.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO will at least annually review the driver's qualifications for compliance with this program, as appropriate.

D&B Employees - D&B employees will follow these guidelines while driving a company vehicle or while driving a personal vehicle on company business.

5.0 GUIDELINES

5.1 Pre-trip Inspection

The following checklist is provided to promote safety and proper vehicle maintenance:

- Ensure that the vehicle has valid registration and inspection.
- Confirm the headlights, taillights and turn signals are working properly.
- Check the fuel, oil and engine coolant levels.
- Check tire pressure and condition, make sure hubcaps are tight, if so equipped.
- If pulling a trailer, check the trailer hitch and safety chain in addition to the trailer lights and tires.
- Confirm equipment is secured.

SAFE DRIVING GUIDELINES

- Verify that the windshield and side windows are clean and that rear view mirror is clean and adjusted for proper vision.
- Start the engine and observe instruments, gauges and indicating lights for proper operation.
- Check the brake system for proper operation.
- Check windshield wipers and horn.
- Fasten the seat belt.

5.2 Vehicle Operation Standards

The standards of operation are designed to prevent vehicle accidents, comply with federal, state, and local regulations, prevent injury to employees and the public and reduce vehicle operating and repair costs.

5.2.1 Proper Vehicle Usage

- Only authorized persons may operate or ride in D&B vehicles.
- Vehicles, drivers and operation must comply with local, state and federal regulations.
- Driver and all passengers will always wear seat belts.
- Proper vehicle usage is the responsibility of the driver.

5.2.2 Safe Operation

The principle causes of accidents are excessive speed, following too closely, not keeping your eyes on the road, and backing. Most accidents occur in intersections. Tips to avoid accidents at intersections include:

SAFE DRIVING GUIDELINES

- Look to the left, then the right and again to the left before crossing intersections.
- Establish eye contact with other drivers or pedestrians.
- Watch out for traffic lights that have been green for some time. Anticipate the change.
- No texting while driving. D&B discourages the use of handless phone conversations as well, as this can cause distracted driving.

5.2.3 Fueling Operation

Do not refuel the vehicle with the engine running. The vehicle must be attended during the fueling operation.

5.2.4 Driver Qualifications

Drivers must meet the following qualifications:

- Vehicle operators must have a valid driver's license, which is appropriate for the type of vehicle being driven.
- Operating a vehicle under the influence of drugs or alcohol is strictly prohibited.

5.3 Vehicle Maintenance

Vehicles must be maintained in good working condition. Preventative maintenance will be conducted in accordance with the vehicle manufacturer's recommendation.

5.4 Accidents

Report accidents to the HSO as soon as possible.

SAFE DRIVING GUIDELINES

5.5 Parking

When parked along a public street, warning triangles or cones should be placed in front of and behind the vehicle. The parking brake should be set.

5.6 Chemical Transportation

If chemicals are transported, DOT regulations requiring placarding must be observed. Appropriate spill response materials should be available.

6.0 REFERENCES

- Subpart O (OSHA 29 CFR 1926.600 through 1926.606).

LOCKOUT/TAGOUT GUIDELINES

Table of Contents

1.0 PURPOSE

Lockout/Tagout guidelines have been established to protect D&B employees from injuries that could result from the unexpected or unplanned start-up or movement of machinery or equipment during inspections, maintenance, installation, adjustment or servicing operations. These guidelines provide D&B personnel with information regarding the hazards and control measures associated with the release of such hazardous energy pursuant to OSHA 29 CFR 1910.147.

LOCKOUT/TAGOUT GUIDELINES

If D&B is expected to take measures to control hazardous energy for site-specific operations, then a written energy control procedure must be prepared for each site and included in the Site-Specific HASP. Such procedures will include steps for equipment shutdown, isolation, application of locks and tags, dissipation of stored energy, verification of equipment isolation, removal of locks and tags and restoration of energy to machines.

The components of the Lockout/Tagout Program include:

- Energy control procedures, if applicable.
- Employee notification.
- Contractor activities.
- Employee training.
- Periodic audits of the energy control procedures, if applicable.

2.0 SCOPE

These guidelines apply to D&B employees who perform activities (such as surveying, construction, installation, set-up, adjustment, inspection, maintenance and repair) where a hazardous energy release potential exists. This applies to any source of electrical, hydraulic, pneumatic, potential (stored), chemical, thermal or other energy.

3.0 DEFINITIONS

Affected Employee - An employee who performs job duties in an area in which lockout or tagout is performed. An affected employee **does not** perform servicing or maintenance on machines or equipment and **is not** responsible for implementing energy control procedures or applying locks or tags.

Authorized Employee - An employee who performs servicing or maintenance on machines or equipment and who implements energy control procedures, including the application of locks or tags.

LOCKOUT/TAGOUT GUIDELINES

(Note: A single employee may be both authorized and affected if he/she performs servicing or maintenance under Lockout/Tagout on a machine or equipment he/she normally operates).

Capable of Being Locked Out - An energy isolating device is considered to be capable of being locked out if it meets **one** of the following criteria:

- It is designed in such a way so that a lock can be attached.
- It is designed with any other integral part through which a lock can be affixed.
- It has a locking mechanism built into it.
- It can be locked without dismantling, rebuilding or replacing the energy isolating device or permanently altering its energy control capability. (For example, although many valves are not designed with an integral locking device, they can be secured with chains, blocking braces, or wedges, which can then be locked).

Energized - Machines and equipment are energized when they are connected to an energy source or they contain residual or stored energy.

Energy-Isolating Device - A mechanical device that physically prevents the transmission or release of energy, including, but not limited to: manually operated circuit breakers; disconnect switches; valves and blocks. The term does not apply to pushbuttons, selector switches or other control circuit devices.

Energy Source - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

Energy Control Procedure - A written procedure which contains the information and steps an Authorized Employee needs to follow in order to safely isolate equipment to perform servicing or maintenance under Lockout/Tagout. Note, only Authorized Employees are permitted to use the energy control procedures.

LOCKOUT/TAGOUT GUIDELINES

Lockout - The act of padlocking and tagging an energy-isolating device in the off or safe position. In cases where more than one employee is involved, provision will be made so that each Authorized Employee can affix his/her own lock and tag.

"Other" Employees - D&B employees who are not Authorized or Affected Employees.

Tagout - The act of placing an energy-isolating device in the off or safe position and placing a tag on it to indicate that the equipment **may not** be operated until the tag is removed.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO has an overall responsibility for the Lockout/Tagout Program. The HSC will coordinate Lockout/Tagout training for authorized and affected employees, if necessary, and assess authorized employees' knowledge of the Lockout/Tagout Program.

On-Site Health and Safety Representative (HSR) - The HSR will:

- Be knowledgeable about the types and magnitude of hazardous energy sources and the hazards associated with the unexpected or unplanned start-up or movement of machinery or equipment during maintenance, installation, adjustment or servicing operation.
- Be knowledgeable in the methods to control hazardous energy, verify that each authorized and affected D&B personnel has received Lockout/Tagout training before they begin work in an area where energy control procedures are used.
- Verify that D&B personnel correctly obtain, review and apply the appropriate energy control procedures, when required, and maintain adequate supply of Lockout devices and equipment.
- Be responsible for developing new or modify existing energy control procedures for each job site, if required, and attached them to the Site-Specific HASP.
- Coordinate Lockout/Tagout operations, which involve outside contractors.

LOCKOUT/TAGOUT GUIDELINES

Authorized Employees - D&B Authorized Employees, if designated, are responsible to correctly apply energy control procedures, including the application of locks or tags. Authorized employees will:

- Be knowledgeable about the types and magnitude of hazardous energy and the hazards employed with the unexpected or unplanned start-up or movement of machinery or equipment during maintenance, installation, adjustment or servicing operations.
- Be knowledgeable in the methods used to control hazardous energy (Energy control procedures).
- Notify affected employees prior to application of Lockout/Tagout devices and after the devices are removed.
- Coordinate the Lockout/Tagout activities when a Lockout/Tagout operation continues beyond one shift.

Affected and "Other" Employees - These employees are generally responsible for operating or working near machines upon which Lockout/Tagout operations are performed. Affected employees will:

- Understand the purpose of energy control procedures and the importance of not attempting to start-up or use machines that have been locked or tagged.
- Recognize when energy control procedures are being implemented.

Please note that since D&B does not maintain electrical equipment at project sites (they belong either to the client or the contractor), D&B does not conduct periodic inspections of energy control procedures aside from how D&B employees are affected. This will be documented.

5.0 GUIDELINES FOR LOCKOUT/TAGOUT

LOCKOUT/TAGOUT GUIDELINES

5.1 General

It is anticipated that for most jobs, D&B personnel will not be responsible for developing energy control procedures. However, when working in the areas of potential hazardous energy release, employees must recognize the types and magnitudes of hazardous energy sources and the hazards associated with the unexpected or unplanned start-up or movement of machinery or equipment. They must also observe safe work practices.

Only authorized employees are permitted to implement the energy control procedures.

5.2 Work Practices

Following is a typical sequence to implement the Lockout/Tagout procedures.

- Prepare for Shutdown - Authorized employees must review the applicable energy control procedure. If a specific energy control procedure does not exist for a machine, the Lockout/Tagout event will not be conducted until the HSO or designee develops or obtains an appropriate equipment-specific procedure.

- Notify Affected Employees - Authorized employees must verbally notify affected employees prior to application of lockout or tagout devices.

- Shut Down Machinery or Equipment.

- Isolate Machinery or Equipment from Energy Source - Place manually operated circuit breakers, disconnect switches, valves and related equipment into the "off" or safe position. Place blocks where necessary to physically isolate the machinery or equipment from its energy source to prevent the transmission or release of energy.

- Apply Lockout and/or Tagout Devices - Each authorized employee or outside contractor involved in the work which requires the use of Lockout/Tagout must personally place his/her lock and identification tag on each identified energy isolating device. The tag must be filled out with the authorized employee's name, the date it was placed, and the reason for the Lockout/Tagout operation. Each authorized employee must maintain

possession of the key to his/her lock during the entire work operation. Where an energy-isolating device is not designed to accept a lock, a signed and dated tag may be used according to procedures specified in Section 5.4. After applying locks and tags, the energy isolating devices must be tested to make certain they cannot be moved into the "on" position.

- Release Stored Energy in air lines, water lines, etc by bleeding off excess pressure. Bleed-off valves must be locked and/or tagged out in the open position. Disconnected lines must be tagged out. Restrain potential energy using safety blocks.

- Verify that Machinery or Equipment is De-energized - Using normal operating controls, attempt to start the machinery or equipment to make sure that it has been completely de-energized.

5.3 Release from Lockout/Tagout

Upon completion of work requiring the use of Lockout/Tagout procedures, the following sequence can be used to restore machinery or equipment to service:

- Check Equipment - Following completion of the work, the authorized employees who performed the work must inspect the area around the machinery or equipment to verify that tools or other non-essential items have been removed, machine guards have been reinstalled, and the machinery or equipment components are operationally intact and safe to energize.

- Check Work Area - The authorized employees who performed the work must inspect the work area to make certain employees are safely positioned away from the machinery or equipment.

- Removal of Lockout/Tagout Devices - Locks and/or tags must be removed from each energy isolating device by the authorized employee or outside contractor who placed it. If the authorized employee or outside contractor is not available to remove his/her own lockout/tagout device, use the Emergency Lock or Tag Removal Procedures described in Section 5.7.

LOCKOUT/TAGOUT GUIDELINES

- Restore Energy to Machinery/Equipment - Place manually operated circuit breakers, disconnect switches, valves, etc. into the "on" position. Remove safety blocks.

- Notify Affected Employees - Authorized employees must verbally notify affected employees following removal of locks and tags and the re-energization of the machinery or equipment.

5.4 Use of a Tagout System Only

In cases where machinery or equipment **is not** capable of being locked out, it will be necessary to use a completed "Do Not Operate" tag to provide the highest level of safety available without the use of locks. The tag must be filled out with the authorized employee's name, the date it was placed, and the reason for the Tagout operation. Note that tags alone **may not** be used as a substitute when the use of locks is specified in the applicable energy control procedure. Only authorized employees are permitted to implement tagout. The following conditions apply to the use of tags without locks:

- Only authorized D&B employees are permitted to place a "Do Not Operate" tag.

- The tag must be placed at the same location that a lock would have been attached with a self-locking plastic or nylon tie wrap capable of withstanding at least 50 pounds of force.

- The lockout tag can only be removed by the authorized employee who installed it. If the authorized employee is not available to remove his/her own tag, use the emergency lock or tag removal procedures in section 5.7.

5.5 Energy Control Procedures

Generally, energy control procedures are developed by the client or the owner of the equipment and made available to D&B project personnel. If such procedures are not available, D&B can develop, if required, a site-specific written energy control procedure, which will contain the steps and techniques to be used by authorized employees to properly de-energize machinery and equipment prior to the initiation of work.

LOCKOUT/TAGOUT GUIDELINES

When the operations involve more than one authorized employee or outside contractor, provision must be made to allow each individual to place his/her lock and tag on each energy isolating device identified in the applicable energy control procedure.

5.6 Shifts or Personnel Change

When Lockout/Tagout must continue beyond one shift or when there is personnel change, the following procedures apply:

- At the end of the shift, each authorized employee who is leaving work must remove his/her "Do Not Operate" tag(s) from each energy isolating device. Each oncoming authorized employee must affix his/her own personal "Do Not Operate" tag(s) on the padlock(s) to which his/her key corresponds and maintain possession of the padlock key(s).
- Verify that machinery or equipment is de-energized using the procedures described in Section 5.2.
- Proceed with operations.

5.7 Emergency Lock or Tag Removal

In the event that the authorized employee or outside contractor who attached a lock or tag is not available to unlock or remove a lock or tag, the HSO, HSR or a designee may remove the lock or tag only using the following procedures:

- Verify that the authorized employee or outside contractor who placed the lock or tag is not at the facility.
- Attempt to contact the authorized employee or outside contractor whose lock is still in place.
- Confirm that work has been completed and the equipment machinery is safe to return to service.

LOCKOUT/TAGOUT GUIDELINES

- The HSO, HSR or a designee may cut the lock off using a saw or bolt cutters. Where tagout only is being used, tags may be removed by designated personnel using appropriate methods.
- Verify that the authorized employee or outside contractor whose lock or tag has been removed is informed before he/she returns to work.
- Review the Lockout/Tagout requirements with the authorized employee or outside contractor who left their lock or tag on the isolated equipment.

5.8 Testing and Positioning of Machines and Equipment

In some situations, it may be necessary for authorized employees to operate equipment for testing or positioning before it is ready to be used. These situations require the temporary removal of Lockout/Tagout devices only during the limited time necessary for the testing or positioning. Use the following procedures for testing and positioning of machines or equipment:

- Clear the equipment of tools and materials.
- Remove employees from the machine or equipment area and ensure that required tools are safely and properly positioned.
- Release the machine, equipment or component from Lockout/Tagout.
- Perform the testing and positioning.
- De-energize and re-apply locks and tags.

5.9 Hardware and Tags

If Logout/Tagout will be employed by D&B authorized employees, the HSO is responsible for providing the resources for an adequate supply of Lockout/Tagout devices and equipment will be maintained for each project site. Lockout/Tagout hardware is issued to each authorized employee for use with this program. The HSR or designee will maintain a master list of lockout padlocks and keys.

LOCKOUT/TAGOUT GUIDELINES

6.0 EMPLOYEE TRAINING

An initial training program will be provided to authorized and affected employees, as required. The HSO has overall responsibility for coordinating employee training, including as needed "refresher" training.

Each HSR must verify that authorized and affected employees have received initial lockout/tagout training prior to starting work involving the control of hazardous energy. The HSO must identify employees who require re-training when there is a change in energy control procedures, a change in equipment or processes which presents a new hazard, or when observations reveal that there are inadequacies in employees' knowledge or use of energy control procedures.

Authorized employees will receive site specific training in the recognition of hazardous energy, the sources, types and magnitudes of energy and the elements of the energy control procedures. Affected employees will receive training in the purpose and use of energy control procedures. Additional training will be provided in cases where new hazards are found/introduced, there are changes in job assignments or changes in energy control procedures.

All training will be documented through sign-in sheets and certificates.

7.0 CONTRACTORS/SUBCONTRACTORS

Outside contractors and subcontractors performing operations which require the use of Lockout/Tagout must use ***THEIR OWN*** energy control procedures

8.0 PERIODIC INSPECTIONS OF ENERGY CONTROL PROCEDURES

D&B will conduct periodic evaluations of the Lockout/Tagout Program including a review of energy control procedures, as applicable. Authorized Employee(s) (other than those utilizing the energy control procedure) will perform periodic inspections at least annually.

LOCKOUT/TAGOUT GUIDELINES

9.0 REFERENCES

- OSHA 29 CFR 1910.147.

HEARING CONSERVATION GUIDELINES

Table of Contents

1.0 PURPOSE

To provide general guidelines on hearing protection for D&B employees when working in a high noise environment.

2.0 SCOPE

HEARING CONSERVATION GUIDELINES

These guidelines apply to D&B employees who may be exposed to the hazards associated with high noise levels when working on D&B work sites.

3.0 DEFINITIONS

Decibel (dB) - A unit for measuring the sound (sound pressure level).

dB(A) - This is a unit for measuring the sound level based on a frequency weighted average that simulates the sensitivity of the human ear.

Threshold of pain - This is the greatest sound pressure that can be perceived without pain. This typically equals to approximately 135 dB(A).

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for coordination of training regarding proper hearing protection procedures for applicable D&B employees. The HSO will use these guidelines in assessing procedures and revise them as necessary.

Health and Safety Representative (HSR) - The HSR has primary responsibility for the employees' correct use of the appropriate hearing protection, as required at each project.

D&B Employees - D&B employees working on sites are responsible for using the appropriate hearing protection, as determined by the HSO or HSR.

5.0 GUIDELINES

5.1 Introduction

Excessive noise can impair the ability to hear, and also put stress on other parts of the body. The damage done by noise depends mainly on loudness and length of exposure. There is no cure for hearing loss from excessive noise exposure, so prevention of

exposure to excessive noise exposure is the only way to avoid hearing loss from this cause.

5.2 Classes of Noise

Noise is classified as continuous, intermittent, or impact. Continuous noise has a constant level with duration of greater than one second. Intermittent noise may be the result of periodic equipment operation or traveling in and out of high noise areas. Impact (also called impulsive) noise has a short duration, one second or less, with an interval greater than 1 second. Hammer blows or explosions fit this description.

5.3 Regulations

The applicable regulation for this SOP is the General Industry Occupational Noise Exposure Standard (OSHA 29 CFR 1910.95 – "The OSHA Standard"). Unless otherwise specified, the requirements quoted in this SOP are taken from The Standard.

The Standard specifies that:

- Protection against the effects of noise exposure shall be provided when the sound levels and duration exceed those shown in Table 1 when measured on the A-scale of a standard sound level meter at slow response setting.
- When employees are subjected to sound levels exceeding those listed in Table 1, feasible engineering and/or administrative controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used to reduce sound level exposures within the levels of the table.
- If the variations in noise level involve maximum loudness "peaks" at intervals of 1 second or less, it is to be considered continuous.
- Where the sound levels exceed the values shown in Table 1, a continuing, effective hearing conservation program shall be administered.

The OSHA Standard states that if exposures are greater than or equal to 85 dB(A) for an 8-hour TWA, a continuing, effective hearing conservation program must be

HEARING CONSERVATION GUIDELINES

implemented. The elements of a hearing conservation program are discussed in Section 5.5 of this document.

Table 1 lists the OSHA Permissible noise levels for continuous and intermittent noise. Exposures at or above the limits require implementing engineering controls and/or hearing protection.

Table 1
OSHA Permissible Noise Exposures

Hours/day	dB(A)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
≤ 0.25	115

Exposure to impulsive or impact noise should not exceed 140 dB(A) peak sound pressure level.

5.4 Noise Measurements

Sound levels are measured in units of decibels (dB). Most instruments have slow and fast response settings. OSHA regulations require sound level measurements to be taken at the slow response setting. Table 2 gives examples of typical sound levels.

Table 2
Examples of Typical Sound Levels

Surrounding	Sound level (dB(A))

HEARING CONSERVATION GUIDELINES

Quiet office	40
Average residence	50
Conversational speech at 3 feet	60
Very noisy restaurant	80
Drill rig - idling	85
Subway	90
Drill rig - accelerating	90
Foundry Cast shake out	110
Jet plane	140

Sound is comprised of varying frequencies that have different effects on the ear. Instruments that are used to measure sound levels have frequency responses that resemble human hearing and provide readings based on the frequency weighted average.

5.5 Hearing Conservation Program

An effective hearing conservation program contains at least the following elements (dB(A) levels are for an 8 hour TWA):

- Monitoring employees for noise exposure.
- For employees exposed to 85 dB(A) or greater, the following requirements apply:
  - Employee notification of exposure.
  - Audiometric testing.
  - Engineering and/or administrative controls.
  - Hearing protectors made available.
  - Employee training.
  - Recordkeeping.

HEARING CONSERVATION GUIDELINES

5.5.1 Monitoring Employees for Noise Exposure

Noise measurements are focused on determining the duration of employee exposure to various noise levels. Noise dosimeters are a version of a sound meter that can measure and calculate the daily noise dose over a work shift. A noise-monitoring program should be considered whenever the following conditions exist:

- Difficulty communicating by speech with two persons facing each other at a distance of 2 feet.
- Complaints of ringing in the ears after working in a noise area for several hours.
- A temporary loss of hearing that has the effect of muffling speech after several hours of exposure to the noise.

The basic approach to noise monitoring can contain the following steps:

- Identify noise sources.
- Identify workers that will potentially be exposed to the elevated noise level and estimate the length of time they'll be exposed to these levels.
- Perform an A-weighted sound level measurements in the hearing zone of affected employees.
- Use a dosimeter to calculate the daily noise dose based on a full work shift (optional).
- Include individuals with TWA's values of greater than those shown in Table 1 in a Hearing Conservation Program.
- Develop noise control procedures.

5.5.2 Engineering and/or Administrative Controls

There are three places to control noise: at the source, in the path, and at the receiver.

HEARING CONSERVATION GUIDELINES

Engineering Controls - This is the first alternative to consider when addressing sound level issues. Engineering control at the source usually is the best solution, but usually the most difficult to accomplish. Techniques to reduce noise at the source include vibration isolation, dynamic balance, improved maintenance, dampening and reduction of the area of the vibrating surface.

Reduction in the noise path can be accomplished by shields and partial or total barriers. The best sound barrier is one that contains absorbing materials to prevent reflection and attenuating materials to prevent penetration.

Administrative Controls - Control at the receiver can be accomplished by administrative controls used in conjunction with engineering controls. Administrative controls are measures taken to limit the amount of time that an employee is exposed to excessive noise levels. This typically is done by rotating or moving employees between areas of high and low noise exposure, and/or controlling the operating time of equipment producing the excessive noise levels.

5.5.3 Hearing Protection (Personal Protective Equipment)

When the feasible engineering and administrative controls fail to reduce an employee's noise exposure to acceptable levels, personal protective equipment in the form of hearing protection devices must be used and will be provided to D&B personnel at no cost to them. Decisions on the proper hearing protection requirements can be affected by the employee's audiometric test results.

Hearing protectors can be either plugs or earmuffs. Earplugs are small conical or cylindrical devices made of a soft pliable material to fit into and seal the ear canal against the entrance of sound. An earmuff must seal over the ear to attain good protection. Proper fit is important with both plugs and earmuffs.

The effectiveness of a hearing protector can be evaluated from its noise reduction rating (NRR). The manufacturer of the hearing protectors provides the NRR. To determine the protected A-weighted sound level, the effective NRR is subtracted from the A-weighted sound level plus 7 dB.

HEARING CONSERVATION GUIDELINES

5.5.4 Employee Training

OSHA 29 CFR 1910.95 requires all employees who are included in a hearing conservation program to be trained annually and as PPE requirements or work tasks change. This training includes instruction on the following:

- The effects of noise on hearing.
- The purpose of hearing protection devices, and various types available, selection, fitting, use and care of protection devices.
- The purpose of audiometric testing and an explanation of test procedures.

5.5.5 Audiometric Monitoring

OSHA 29 CFR 1910.95 requires annual audiometric testing for all employees working in areas where the 8 hour TWA equals or exceeds 85 dB(A). A baseline audiogram should be done within six months of the employee's first exposure at or above this level. It should be preceded by at least 14 hours without exposure to workplace noise.

Annual audiograms are compared to the baseline to determine if the audiogram is valid and if a standard threshold shift has occurred. A standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hertz in either ear.

If an annual audiogram indicates a standard threshold shift has occurred, the employee shall be notified in writing within 21 days of the determination. A retest may be performed within 30 days to confirm the standard threshold shift. When a standard threshold shift occurs and is determined to be occupationally related, the employee must wear hearing protection and be reevaluated.

HEARING CONSERVATION GUIDELINES

5.6 Recordkeeping

Records of employee's exposure measurements, audiometric tests, types of hearing protection required, documentation of employee training should be maintained by the HSO. Noise exposure measurement record shall be retained for two years. Audiometric test records shall be retained for the duration of the affected employee's employment.

6.0 REFERENCES

- OSHA 1910.95.
- OSHA 1926.52.

SITE CONTROL AND WORK ZONE GUIDELINES

Table of Contents

1.0 PURPOSE

The purpose of these guidelines is to provide general reference information regarding the establishment of site control procedures and work zones for hazardous waste sites.

2.0 SCOPE

These guidelines are applicable to D&B activities at hazardous waste sites. Additional precautions may be identified during the development of the Site-Specific HASP.

SITE CONTROL AND WORK ZONE GUIDELINES

3.0 DEFINITIONS

Contaminated Materials - Contaminated materials are defined as any by-products of a field investigation that are suspected or known to be contaminated with hazardous substances. These by-products include such materials as decontamination solutions, disposable equipment and clothing, drilling muds, well-development fluids and spill-contaminated materials.

Contamination Reduction Zone - Zone located between the exclusion zone and the support zone that provides a transition between contaminated and clean zones.

Exclusion Zone - Zone that contains or may contain contamination.

Support Zone - A non-contaminated or clean part of the site.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for verifying that these guidelines are incorporated in the Site-Specific HASP and that training is available to D&B site personnel in delineation of work zones.

Health and Safety Representative (HSR) - The HSR or a designee is responsible for implementing/enforcing/designating zones on-site.

D&B Employees - D&B employees working at the site and visitors must comply with the requirements of the site zones, such as proper PPE and limited personnel access, as determined by the HSO or HSR.

SITE CONTROL AND WORK ZONE GUIDELINES

5.0 GUIDELINES

5.1 WORK ZONES

5.1.1 Introduction

To reduce the accidental spread of hazardous substances by workers from the contaminated areas to non-contaminated or clean areas, work zones for specific types of operations should be delineated, and the flow of personnel and equipment among the zones should be controlled. Properly established work zones help protect personnel and equipment from the hazards present outside of their work area(s), confine work activities and contamination to appropriate areas and assist with the location and evacuation of personnel in an emergency. Hazardous waste sites may be divided into as many zones as needed to meet operational and safety objectives. The typical work zones found at hazardous waste site are:

- Exclusion or Hot Zone - The contaminated or potentially contaminated area.
- Contaminant Reduction Zone - The area where decontamination takes place.
- Support Zone - The non-contaminated area where workers should not be exposed to site contaminants.

5.1.2 Exclusion Zone

The exclusion or hot zone contains or may contain contamination. The outer boundary of the Exclusion Zone is called the Hotline. If established, it will be based on the following considerations:

- The location of hazardous substances and surface drainage.
- The data from the initial site survey.

SITE CONTROL AND WORK ZONE GUIDELINES

- The results of soil and water sampling.
- The physical area necessary for site operations.
- Meteorological conditions and the potential for contaminants to be carried by wind from the contaminated area.

The Hotline should be clearly marked by lines, placards, hazard tape, or signs and should be enclosed by physical barriers such as chains, fences or ropes. Access control points on the periphery of the Exclusion Zone regulate the flow of personnel and equipment from zone to zone and ensure that proper procedures for entering and exiting the site are followed. Separate entrances and exits help to segregate movement into and out of the Exclusion Zone.

The Exclusion Zone can be subdivided into different areas of contamination based on known or anticipated hazard type and degree, or the compatibility of waste streams. Such subdivision allows flexibility in H&S requirements, operations, decontamination procedures and use of resources. The level of PPE required in each subdivision may vary, as may the level of PPE required for different job assignments within a subdivision. The level of protection must be specified and posted for each job assignment with each subdivision. When appropriate, different levels of PPE within the Exclusion Zone promote flexibility, effective and cost-effective operation while maintaining a higher degree of H&S.

5.1.3 Contaminant Reduction Zone

The Contaminant Reduction Zone (CRZ) or Decontamination Zone is the transition area between the contaminated and clean areas. The distance between the Exclusion and Support Zones provided by the CRZ and the proper decontamination of workers and equipment, limit the physical transfer of hazardous substances into the clean areas.

Decontamination procedures take place in a designated area within the CRZ, called the Contamination Reduction Corridor (CRC) that begins at the Hotline. Two decontamination areas may be set up within the CRC, one for personnel and small

SITE CONTROL AND WORK ZONE GUIDELINES

equipment and the other for heavy equipment. Access into and out of the CRZ and to and from the Exclusion Zone is through specified Access Control Points.

The boundary between the Support Zone and the CRZ is called the Contamination Control Line. This boundary separates the possibly low contamination area from the clean or non-contaminated Support Zone. Access to the CRZ from the Support Zone can be achieved through two Access Control Points: one for personnel and one for equipment. Personnel entering the CRZ must wear personnel protective clothing and equipment, as required by the Site-Specific HASP. To re-enter the Support Zone, workers should remove protective clothing and equipment and exit through the designated Access Control Point.

The CRZ must be designed to accommodate the following activities:

- Decontamination of equipment, personnel and samples.
- Emergency response, such as transport for injured personnel (safety harness, stretcher), first-aid equipment (bandages, blankets, eye wash, splints, water, etc.), containment equipment (absorbent, fire extinguisher, etc.).
- Equipment resupply, such as air tanks, personnel protective clothing and equipment (booties, gloves, chemical suits, etc.), sampling equipment (bottles, soil augers, coolers, drum thieves, etc.) and tools.
- Sample packaging and preparation for on-site and off-site analysis.
- Worker temporary rest area, including toilet facilities, benches, chairs, liquids, shade and/or shelter. Water and other potable liquids should be clearly marked and stored properly. Glasses and cups will be stored such that they remain clean and uncontaminated. Wash facilities should be located near drinking facilities to allow employees to wash before drinking. Drinking, washing, and toilet facilities should be located in a safe area where protective clothing can be removed. Facilities should be cleaned and inspected regularly. Maintenance workers should take appropriate protective measures.
- Drainage of water and other liquids used during decontamination.

5.1.4 Support Zone

The Support Zone is the location in which administrative and other support functions essential to site operations are conducted. Project functions that need not or cannot be performed in a hazardous or potentially hazardous area are performed here. Personnel may wear normal work clothes within this zone.

Support Zone personnel must alert the proper agency in the event of an emergency. Emergency telephone numbers, change for telephones (if necessary), evacuation route maps, hospital route maps and vehicle keys should be kept in an accessible location within the Support Zone.

Facilities located in the Support Zone should be placed after considering factors such as:

- Accessibility (topography, open space available, location of highways and rail-road tracks, ease of access for emergency vehicles).
- Resources (adequate roads, power lines, telephones, shelter and water).
- Visibility (line-of-sight to activities in the Exclusion Zone).
- Wind direction (upwind of Exclusion Zone, if possible).
- Distance (as far from the Exclusion Zone as practical).

5.2 SITE SECURITY

Effective site security prevents the exposure of unauthorized/unprotected people to site hazards, protects against increased risk from vandals or persons illegally abandoning waste on the site, prevents theft and promotes safe working procedures.

Site security during working hours may address the following:

SITE CONTROL AND WORK ZONE GUIDELINES

- Maintain security in the Support Zone and at Access Control Points.
- Establish an identification system to identify authorized persons and limitations to their approved activities.
- Assign responsibility for enforcing authority for entry and exit requirements.
- Erect a fence or other physical barrier around the site, if possible.
- If the site is not fenced, post signs around and have guards patrol the perimeter. Guards must be fully apprised of the hazards involved and be trained in emergency procedures.
- Approve visitors to the site. Make sure each has a valid purpose for entering the site. Have trained site personnel accompany site visitors at all times and provide them with appropriate PPE.

Site security after hours may address the following:

- If possible, assign trained in-house technicians for site surveillance. They should be familiar with the site, the nature of work, the site's hazards and respiratory protection techniques.
- If necessary, use security guards to patrol the site boundaries. Such personnel may be less expensive than trained technicians, but may require additional training in safety procedures relative to hazardous waste sites.
- Enlist public enforcement agencies, such as the local police department if the site presents a significant risk to local H&S.
- Secure equipment.

5.3 SITE CONTROL METHODS

When site hazards and/or work activities may potentially create exposure to site workers and the public, control measures should be implemented. Control measures should be

initiated when air monitoring indicates the potential for migration of emissions off-site or outside the immediate work area. The procedures should be designed to control emissions before off-site migration, through implementation of engineering and work practice controls, as well as defensive measures. Listed below are examples of such control measures:

- Limit the area of open excavation or intrusive activities.
- Areas excavated are backfilled or covered with a minimum 6 mil impermeable membrane.
- Working face of excavation is a moderate slope in compliance with excavation regulations.
- Exposed sides of excavation or intrusive activities where work is not conducted are covered.
- Use potable water mist to keep down dust as well as VOCs.
- Keep haul distance of excavated materials to as short a distance as possible.
- Immediately cover excavated material stockpile.

6.0 REFERENCES

- OSHA 29 CFR1910.120.
- OSHA 29 CFR 1926.65.

AIR MONITORING AND SAMPLING GUIDELINES

Table of Contents

1.0 PURPOSE

To provide general guidelines regarding air monitoring at D&B work sites.

AIR MONITORING AND SAMPLING GUIDELINES

2.0 SCOPE

These guidelines apply to D&B work sites.

3.0 DEFINITIONS

Combustible Gas Indicator (CGI) - Used to detect combustible gases.

Direct Reading Instruments (DRIs) - Instruments that provide qualitative and quantitative real time readings of airborne contaminant concentrations.

Immediately Dangerous to Life and Health (IDLH) - Condition that poses a threat of exposure to airborne contaminants when that exposure is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment.

Flame Ionization Detector (FID) - Used to detect organic vapors and gases.

Permissible Exposure Limit (PEL) - Contaminant concentration (based on an 8-hour time-weighted average) above which an employee cannot be exposed, as specified in 29 CFR 1910, subparts G and Z and 1926 Subpart Z.

Photoionization Detector (PID) - Used to detect selected organic and some inorganic gases and vapors.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for confirming that training is available for applicable D&B employees in proper air monitoring and sampling procedures. The HSO will use these guidelines in assessing instrumentation and monitoring/sampling procedures and revise them as necessary.

AIR MONITORING AND SAMPLING GUIDELINES

Health and Safety Representative (HSR) - The HSR has primary responsibility for verifying that employees correctly use the appropriate monitoring/sampling instrumentation, as required at each project. The HSR should be able to identify different types of instrumentation necessary for the type of contaminants identified and confirm that instrumentation is calibrated.

Field Engineer - The Field Engineer is responsible for calibrating and correctly using the appropriate instrumentation, as determined by the HSO or HSR.

5.0 GUIDELINES

5.1 Introduction

Air monitoring is used to establish criteria for worker safety, document potential exposures, determine protective measures for personnel exposed or potentially exposed to hazardous substances, evaluate the potential environmental impact of the site and determine mitigation activities.

Two approaches are used to identify and quantify airborne hazardous vapors, gases and particulates.

- Laboratory analysis of collected air/vapor samples.
- On-site use of direct reading instruments (DRI).

5.2 Air Monitoring Using Laboratory Analysis

The laboratory analysis of an air sample is the most accurate method for evaluating airborne contaminants. The collection and analysis of air samples can be used to supplement data obtained with DRIs. These samples provide information on specific contaminants and concentrations during the time that they were collected. The major disadvantage to this method is the time required to obtain the results. This can present a significant problem when situation requires immediate decision concerning worker's

safety. Also, by the time samples are analyzed, the fieldwork may have progressed to a different location where different contaminant concentrations may exist.

A variety of methods can be used to collect airborne contaminants. Typically Passive or Active Methods are used to accumulate airborne contaminants on the sampling medium. When Active Methods are used, a pump is utilized to draw air through the sampling chamber at predetermined flow rate. When Passive Methods are used, the contaminants are accumulated on a medium via diffusion from the ambient air current. The media is then sent to a laboratory for analysis to determine specific types and quantities of contaminants present. A laboratory accredited by the American Industrial Hygiene Association should be used for sample analysis. NIOSH's Manual of Analytical Methods and OSHA sampling methods should be consulted for proper selection of appropriate media and sampling methods.

When sending samples to a laboratory, ensure that proper Chain-of-Custody procedures are followed.

5.3 Air Monitoring Using Direct Reading Instruments

When it is necessary to detect flammable or explosive atmospheres, oxygen deficiency, toxic gases and vapors or dust concentration, the DRIs can be used. The information provided by the DRIs can be used to:

- Decide on appropriate protective measures.
- Determine the most appropriate equipment for additional monitoring.
- Develop optimum sampling and analytical protocols.
- Delineate protective work zones.

AIR MONITORING AND SAMPLING GUIDELINES

5.4 Site Monitoring

Depending on site conditions and project goals, the site monitoring may be divided into four categories:

- Monitoring for IDLH conditions.
- General site monitoring.
- Perimeter monitoring.
- Periodic monitoring.

5.4.1 Monitoring for IDLH Conditions

Direct-reading instruments are generally used to measure IDLH conditions, which are:

- Oxygen-deficient environments.
- Flammable or explosive atmospheres.
- Highly toxic levels of airborne contaminants.

Extreme caution should be exercised in continuing a site survey when atmospheric hazards are indicated. Monitoring personnel should be aware that conditions can suddenly change from nonhazardous to hazardous. In addition, any confined spaces such as cargo holds, elevator shafts, silos, storage tanks, box cars, buildings, bulk tanks, and sumps, where concentration of chemical are likely to accumulate, can present acutely hazardous conditions and must be carefully evaluated in accordance with proper safety procedures (refer to Corporate SOP No. C25).

Acutely hazardous conditions are not likely to persist in open spaces since the toxic materials emitted into the atmosphere tend to disperse over extended periods of time, unless there is a very large and readily identifiable source (such as an overturned tank car).

AIR MONITORING AND SAMPLING GUIDELINES

5.4.2 General On-site Monitoring

Once the potential hazards have been identified, a sampling plan should be established. As information is gathered about the site, the plan should be reevaluated and modified as necessary. Below are suggested locations for monitoring on Hazardous Waste Sites:

- Air samples should be taken upwind of the site to establish background levels of airborne contaminants.

- After visually identifying the sources of possible contaminant generation, monitor the air downwind from the designated source along the axis of the wind direction. Work upwind, until reaching or getting as close as possible to the source. Appropriate protection should be worn during this initial sampling

- After reaching the source, or finding the highest concentration, sample cross-axis of the wind direction to determine the degree of dispersion.

Utilizing DRIs is the quickest and easiest way to identify the major classes of airborne contaminants and their concentration.

5.4.3 Perimeter Monitoring

Fixed-location monitoring at the "fenceline" or zone perimeter measures the extent of contaminant migration away from the site and enables the HSO or HSR to evaluate the adequacy of the site's zoning (e.g., exclusion zone, contaminant reduction zone or support zone boundaries). It also supplements the emergency response plan if there are any public health concerns from contaminant migration. Since the fixed-location samples may reflect exposures either upwind or downwind from the site, wind speed and direction data are needed to interpret the sample results.

AIR MONITORING AND SAMPLING GUIDELINES

5.4.4 Periodic Monitoring

Site conditions and atmospheric composition may change following the initial characterization. For this reason, monitoring will be repeated periodically, especially when:

- Work begins on a different portion of the site.
- Different contaminants are being handled.
- A new or different type of operation is initiated (e.g., drum opening as opposed to exploratory well drilling).
- Weather conditions change.

5.5 Personal Monitoring

The HSO or HSR should determine the selective monitoring of high-risk workers (e.g., those who are closest to the source of contaminant generation). Air samples should be collected in the breathing zone and, if workers are wearing respiratory protective equipment, outside the facepiece. Sampling devices can be placed on pieces of heavy equipment. While these are not personal samples, they can be collected very close to the breathing zone of the operator and thus would be reasonably representative of personal exposure.

5.6 Meteorological Considerations

Meteorological information, such as wind speed and direction, temperature, barometric pressure, and humidity can affect airborne concentrations. Additionally, the meteorological variables should be considered when:

- Selecting air sampling locations.
- Calculating air dispersion.

AIR MONITORING AND SAMPLING GUIDELINES

- Calibrating instruments.
- Determining population at risk or environmental exposure from airborne contaminants.

5.7 Instrument Selection and Use

The instrument selection should be based on optimum instrument response for the contaminant of interest and minimum response from potential interferences. Table 1 summarizes types, strength and limitations of various DRIs.

5.8 Calibration

Before using an instrument, the user must confirm that the instrument is in proper operating condition. Calibration of an instrument is important for several reasons:

- The responses of an instrument to gases and vapors from which it was originally calibrated need to be verified.
- Sensitivity or conversion factors need to be verified, even if the manufacturer provides them.
- Sensitivity or conversion factors need to be determined when the instrument is being used to measure compounds for which those factors are not given.
- Interfering compounds need to be checked for instrument response.

Calibration requires that the complete range of an instrument be tested for sensitivity and conformity with the readout. The user or maintenance laboratory services are normal centers for instrument calibration.

Field calibration or verification procedures need to be performed to confirm that an instrument is functioning properly. When one or more readings are verified against a

standard, the user normally proceeds on the assumption that the instrument functions well over its entire range.

5.9 Action Levels

Air monitoring results are used by the HSO or HSR to determine the site zones and to establish appropriate PPE. Action level criteria are used by the HSO as guidelines in making site-specific H&S determinations. NIOSH Pocket Guide to Chemical Hazards and Threshold Limit Values developed by ACGIH should be referred to when establishing action level criteria. Appendix A provides recommended action levels, level of protection and actions to be taken.

6.0 REFERENCES

- NIOSH Manual of Analytical Methods.
- OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.

AIR MONITORING AND SAMPLING GUIDELINES

TABLE 1 – INSTRUMENTS SUMMARY

Instruments	CGI Combustible Gas Indicator	PID Photo Ionization Detector	FID Flame Ionization Detector	Electrochemical Detectors (O_2, H_2S, CO)	Colorimetric Tubes
Operation	Measures LEL	Measure compounds with IP < lamp energy (eV)	Measures compounds that ionize during combustion	Electrochemical sensor is chemical specific	Chemical reaction resulting in color change
Strengths	Measures all explosive gases Stable	Rapid measurement Does not measure methane Different lamps available	Responds to most organic vapors (C:H) Response more linear than PID Humidity less of problem than PID	Small, light weight linear response alarm points available	Easy to use Wide range of chemicals Inexpensive initially

AIR MONITORING AND SAMPLING GUIDELINES

Limitations	Not accurate in O_2 deficiency Sensors can be poisoned	Response is relative High humidity interference Hot or corrosive gases interference	Insensitive to inorganic compounds Measures methane Response is relative Uses hydrogen tank	Interferences Temperature Cells deteriorate with time	Accuracy is ±25 - ±35% Potential interferences Limited shelf life Different sampling times for various compounds

APPENDIX A – Suggested Action Levels

Instruments	Action Level	Level of Protection or Action Required
FID or PID*	< 5 ppm above background	No Respirator (Level D)
	5 ppm – 50 ppm above background	Air Purifying Respirator (Level C)
	50ppm - 500ppm above background	Air Supplied Respirator (Level B)
	≥ 500 ppm	Evacuate or Level A
CGI	< 25% of the LEL	Maintain monitoring schedule
	25% to 50% LEL	Conduct continuous monitoring of the work area
	> 50% of the LEL	Shut down machinery, evacuate personnel from work area and let vent
H_2S	5ppm - 10 ppm (sampled at boreholes)	Conduct continuous monitoring of the work area and establish an exclusion zone if one has not yet been established
	10 ppm - 100 ppm (sampled at breathing zone)	Air Supplied Respirator
	≥ 100 ppm	Shut down operation, evacuate personnel from work area and let area vent
Aerosol Monitor	>1.5 mg/m^3	Air Purifying Respirator or implement dust control measures
Geiger Mueller Probe	>1 milliroentgen/hr	Evacuate the work area and contact the HSO

**FID is calibrated to methane. Photoionization Detector is calibrated to benzene. Measurements are made in the breathing zone.*

CONTAINER HANDLING GUIDELINES

Table of Contents

1.0 PURPOSE

To provide general guidelines on proper safety procedures when inspecting, opening and handling containers at D&B work sites.

2.0 SCOPE

These guidelines apply to D&B employees who may be required to inspect, open or handle containers found at D&B work sites.

CONTAINER HANDLING GUIDELINES

3.0 DEFINITIONS

Overpack Drums - Larger drums in which leaking or damaged drums are placed for storage or shipment.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for verifying that training is available for applicable D&B employees in proper container handling procedures. The HSO will use these guidelines in assessing procedures and revise them as necessary.

Health and Safety Representative (HSR) - The HSR has primary responsibility for confirming that employees safely handle containers, as required at each project.

D&B Employees - D&B employees working on the sites are responsible for using the correct container handling procedures, as determined by the HSO or HSR.

5.0 GUIDELINES

5.1 Introduction

Hazards associated with containers such as drums, aboveground tanks, underground tanks, compressed gas cylinders or other containers existing at work sites may include detonations, fires, explosions, vapor generation, exposure to radiation and physical injury. These hazards may be a result of moving heavy containers by hand, working around stacked drums, use of heavy equipments, and deteriorated containers. In order to work with or around containers encountered at a site, thoroughly and carefully planned techniques and procedures must be used prior to the beginning of work.

CONTAINER HANDLING GUIDELINES

5.2 Planning

Every step of the container handling operations should be carefully planned, based upon the information available at the time. Prior to starting work, available information should be obtained to assess the potential hazards and materials that may be encountered. Sources of background information include:

- Owner, EPA or other government agencies' historical files.
- Site records.
- Local authorities.
- Historical aerial photographs.

The preliminary records review may be used to determine if hazards are present and the appropriate response.

5.3 Inspection

Before work is conducted, the containers should be visually inspected to assess their contents and condition. The following should be inspected:

- Symbols, words, or other marks on the container indicating whether its contents are hazardous, e.g., radioactive, explosive, corrosive, toxic, flammable.
- Symbols, words, or other marks on the drums or containers that may indicate whether it contains discarded laboratory chemicals, reagents, or other potentially dangerous materials in small-volume individual containers.
- Signs of deterioration such as corrosion, rust and leaks.
- Signs to determine whether the container is under a pressure, such as swelling and bulging.

CONTAINER HANDLING GUIDELINES

- Drum type.
- Configuration of the drumhead.

Conditions in the immediate vicinity of the containers may provide information about container contents and their associated hazards. Monitoring should be conducted around the containers using instruments such as gamma radiation survey instruments, organic vapor monitors and combustible gas meters.

As a precautionary measure, personnel should assume that unlabeled containers contain hazardous materials, until their contents are characterized.

5.4 Container Handling

Containers should be handled only if necessary.

Sometimes, containers may be deteriorated from prolonged exposure to weather, in which case, leaks and spills during handling becomes a concern. Overpack drums and an adequate volume of absorbent should be kept near areas where minor spills may occur. Where major spills may occur, a containment berm adequate to contain the entire volume of liquid in the drums or other containers should be constructed, before handling takes place. Personnel trained in spill response should isolate and contain the spill.

Drums may be moved manually or several types of equipment may be employed, such as a drum grappler attached to a hydraulic excavator, a small front end loader, forklift or a drum cart.

The following container categories require special procedures when such containers need to be handled:

CONTAINER HANDLING GUIDELINES

5.4.1 Radioactive

If a container is labeled with a radiation sign or suspected to contain radioactive material, immediately contact the HSO. Do not handle containers that are suspected or determined to be radioactive.

5.4.2 Explosive or Shock-Sensitive

If a container is suspected of containing explosive or shock-sensitive materials (as determined by visual examination), immediately contact the HSO. Do not handle containers that are suspected to contain explosive or shock-sensitive materials.

5.4.3 Bulging

Pressurized containers are extremely dangerous and caution must be exercised when working with or near them. Whenever possible, do not move containers that may be under internal pressure, as evidenced by bulging or swelling. Venting or carefully loosening the small bung may relieve container pressure. When the container heads are distended and swollen, relief of the over pressure must be done very carefully. If a pressurized container has to be moved, handle the container with a grappler unit constructed for explosive containment. Move the bulged container only as far as necessary to allow seating on firm ground.

5.4.4 Leaking, Open or Deteriorated

If a container with liquid cannot be moved without rupture, consult the HSO for the proper transfer method of its contents to another container. Leaking, open or deteriorated containers should be placed in overpack drums using appropriate equipment as soon as possible, as determined by the HSO. Overpack drums are designed to accommodate damaged or deteriorated standard drums. The most common size is the 85-gallon overpack drum designed to hold a 55-gallon standard drum.

CONTAINER HANDLING GUIDELINES

If necessary, as determined by the HSO, repairs to drums may be made using plugs or patches, or a combination of the two. Plugs can be made from wedges of wood, screws with washers, tubeless tire plugs, toggle bolts with washers and expandable plugs.

5.5 Opening Containers

Containers are usually opened and sampled in-place during site investigations. To enhance the efficiency and safety of personnel, the following guidelines should be instituted (assuming that the contents are unknown):

- Contact the HSO prior to sampling containers or drums.
- Proper respiratory protection should be used.
- Non-essential personnel should be moved to a safe distance away, upwind, if possible.
- Personnel involved with the opening process should have explosion-resistant shields between them and the container opening equipment.
- Monitor continuously during the opening with sensors as close to the container opening as safely possible.
- The following remote-controlled devices can be used for opening containers:
    - Pneumatically operated impact wrench to remove drum bungs or bands.
    - Hydraulically or pneumatically operated drum piercers.
    - Backhoes equipped with bronze spikes for penetrating container tops in large-scale operations.
- Do NOT use picks or chisels to open containers
- If the container shows signs of bulging or swelling, perform steps slowly. Relieve excess pressure prior to opening and, if possible, from a remote location. If pressure must be relieved manually, place a barrier such as an

explosive resistant shield between the workers and bung to deflect gases, liquids, or solids that may be expelled as the bung is loosened.

- Do NOT open or sample individual containers within laboratory packs.
- Reseal open bungs as soon as possible with plugs.

5.6 Sampling

Container sampling can be one of the most hazardous activities to worker H&S because it often involves direct contact with unidentified wastes. Before collecting samples, develop a sampling plan:

- Research background information about the wastes.
- Determine which drums should be sampled.
- Select the appropriate sampling device(s) and container(s).

The HSO, HSR or a designee should determine the appropriate personal protection to be used during the sampling.

When sampling a drum, the following safety procedures should be followed:

- Keep sampling personnel at a safe distance while drums are being opened.
- Do NOT lean over other drums to reach the drum being sampled.
- Cover drum tops with plastic sheeting or other suitable uncontaminated materials to avoid excessive contact with the drum top.
- Never stand on drums.
- Obtain samples with either glass rods or vacuum pumps.

CONTAINER HANDLING GUIDELINES

6.0 REFERENCES

- NIOSH – Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities.

CONTAINMENT AND DISPOSAL OF CONTAMINATED MATERIAL

Table of Contents

1.0 PURPOSE

The objective of these guidelines is to provide general reference information regarding the control and disposal of contaminated materials generated during site investigation activities.

2.0 SCOPE

Applies to D&B work sites where contaminated materials will be generated.

3.0 DEFINITIONS

Contaminated Materials - Contaminated materials are defined as any by-products of field operations that are known or suspected to be contaminated with hazardous substances. These by-products include materials such as decontamination solutions, disposable

CONTAINMENT AND DISPOSAL OF CONTAMINATED MATERIAL

equipment and clothing, drilling debris, well-development fluids and spill-contaminated materials.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO is responsible for revising these guidelines to include new OSHA updates. The HSO is also responsible for confirming that proper training is available to D&B employees regarding proper disposal procedures and that a Site-Specific HASP incorporates these guidelines.

Health and Safety Representative (HSR) - The HSR or his/her designee (such as a Field Operations Manager) is responsible for the correct implementation of these procedures in the field.

5.0 GUIDELINES

Field investigation activities often result in the production or movement of contaminated material that must be properly managed to protect field personnel, the public and the environment. These guidelines address the proper management of this material.

5.1 General

As a general policy, site investigation methods that minimize the generation of contaminated material will be utilized. Until sample analysis is complete, it must be assumed that all produced material suspected to be contaminated would require containment. The Site-Specific HASP will include control procedures for contaminated material. It should address the type of contamination, estimated amounts that would be produced, containment equipment and procedures and storage or disposal methods.

5.2 Sources of Contaminated Material and Containment Methods

Contaminated materials usually consist of water, soil, disposable tools used in sampling and used PPE.

CONTAINMENT AND DISPOSAL OF CONTAMINATED MATERIAL

5.2.1 Decontamination Solutions

Decontamination solutions and rinses must be assumed to contain hazardous chemicals associated with the site, unless there is analytical or other data to the contrary. The solution volumes could vary from a few gallons to several hundred gallons in some cases.

The decontamination solutions are typically generated from:

- Personnel decontamination.
- Sampling equipment decontamination.
- Large equipment decontamination.

Depending upon site conditions, contamination type and site requirements, the decontamination solutions may be allowed to be drained back into the contaminated portion of the site. In some situations the decontamination solutions must be disposed of off site. The Site-Specific HASP must include whether the fluids from personnel and equipment decontamination activities should be contained and disposed of off site, contained and left on the site for future disposal, or allowed to be drained back into the soil.

Only DOT-approved drums should be used for the transportation of decontamination fluids.

5.2.2 Disposable Equipment and Clothing

Disposable equipment that could be contaminated during the site investigation typically includes protective suits, gloves, boots, broken sample containers, paper towels, and spent respirator cartridges. These items can be temporarily stored in plastic bags and transferred to 55-gallon drums (with lids) at the end of the day. These containers will be secured at the end of each workday.

5.2.3 Drilling Fluids and Well Development Fluids

Drilling, well development and well evacuation fluids are generated during or as a result of groundwater monitoring, well installation and sampling activities. Since these fluids are

CONTAINMENT AND DISPOSAL OF CONTAMINATED MATERIAL

potentially contaminated, they are also required to be contained for eventual treatment or disposal.

The volumes of drilling, well development and well evacuation fluids depend on the well diameter and depth, groundwater characteristics, geologic formations and drilling methods utilized. There are no simple mathematical formulas available to accurately predict these volumes. It is best to rely on the experience of reputable well drillers familiar with local conditions and the selected well installation techniques.

Drilling fluid (mud) is stored in a container commonly referred to as a mud pit. This mud pit consists of a suction section from which drilling fluid is pumped to the drill pipe and back to the settling section of the mud pit. In the settling section, the well cuttings are allowed to settle. If the mud pit is lined to prevent leaks, it can also be used to contain possibly contaminated drilling fluids. Spent drilling fluids can then be pumped directly from the mud pit to 55-gallon drums for treatment and/or disposal. The sediments that accumulate in the settling section are transferred into drums or other similar containers.

If ground pits are used, they will not extend into the natural water table. They should be lined with a bentonite-cement mixture followed by a layer of flexible impermeable material such as plastic sheeting compatible with the wastes. Depending on site conditions and the size of the pit, it may be advantageous to excavate the entire pit for disposal and backfill the excavation with clean fill.

When the aboveground tank or the inground pit is used, a reserve tank or pit should be located at the site as a backup system in the event of leaks, spills, and overflows. In addition, surface drainage will be planned so that leaks, spills, and overflows can be controlled within the immediate area of the drill site.

The containment procedure for well development fluids is similar to that for drilling fluids. The volume of contaminated fluid will be determined by the method of development. Bailing a new well usually generates less fluid volume than processes using backwashing. When bailing, the removed fluids can be directly placed in drums. For backwashing, a T-section can be fitted on the well casing to direct the overflow to the drums.

5.2.4 Soil Cuttings

Contaminated soil cuttings, generated while performing field investigation activities, typically consist of cuttings from borings, test pit excavations, and discarded soils from

sampling activities. These soils should be contained in drums for further treatment or disposal.

5.2.5 Spill-Contaminated Materials

A spill is always possible when a site investigation involves opening and moving containers of liquids. Contaminated sorbents and soils resulting from spills must be containerized for disposal. Small quantities of spill-contaminated materials are typically contained in drums, while larger quantities can be placed in lined pits or other impermeable structures. In some cases onsite containment may not be feasible, in which case, the immediate transport to an approved disposal site will be required.

5.3 Disposal of Contaminated Materials

Actual disposal techniques for contaminated material are the same as those for any hazardous substance: incineration, landfill, treatment, etc. All involved parties must agree on determining who is responsible for disposal before the fieldwork starts. Without a previous agreement, the contractor must provide for the disposal of wastes resulting from field activities. Therefore, the contractor is responsible for subcontracting with reputable waste transporters and for verifying compliance with RCRA requirements whenever it is necessary to containerize and remove hazardous wastes. To expedite the disposal process, the following should be completed prior to field activities:

- Identify authorized, permitted facilities for proper treatment, storage, and/or disposal of wastes.
- Obtain generator identification numbers.
- Prepare the required manifests.

Another consideration in selecting disposal methods for contaminated materials is whether the disposal can be incorporated into subsequent site cleanup activities. In this case, the contaminated material generated during the investigation activities can be stored at the site for future disposal with other contaminated site materials. If the contaminated material will be stored onsite, then containment suitable for long-term storage must be provided. On site storage must include protection from sunlight and hot or cold temperatures. Site conditions, such as surface drainage, security and soil type as well as meteorological conditions must be considered to design proper storage.

RESPIRATORY PROTECTION GUIDELINES

Table of Contents

RESPIRATORY PROTECTION GUIDELINES

1.0 PURPOSE

This guideline provides necessary information to:

- Establish a Respiratory Protection Program for employees whose project activities may require the use of a respirator.
- Define project activities which may require respiratory protection.
- Implement the Respiratory Protection Program.

2.0 SCOPE

This guideline applies to D&B employees whose project activities may require the use of a respirator.

2.1 Permissible Practice

When feasible, employee exposures to a hazardous atmosphere will be controlled by accepted engineering and/or administrative controls. When engineering and administrative controls are not feasible or are not effective, appropriate respirators will be used. D&B will provide the respirators suitable for the purpose intended. These respirators will be utilized by employees as defined by the Site-Specific HASP, Health & Safety Officer (HSO) or a designee, and provided to the employee at no cost to them.

3.0 DEFINITIONS

Air Purifying Respirator - A respirator which is designed to remove air contaminants (i.e., dust, fumes, mists, gases, vapors or aerosols) from the ambient air as the air enters the respirator.

Approved Respirator - A respirator which has been tested, found to meet established performance criteria, and listed as being approved by an authority such as MSHA (Mine Safety and Health Administration) or NIOSH (National Institute of Occupational Safety and Health).

RESPIRATORY PROTECTION GUIDELINES

Atmosphere Supplying Respirator - A respirator which supplies the wearer with air or oxygen from a source independent of the immediate ambient atmosphere. This includes supplied-air respirators and self-contained breathing apparatus (SCBA) units.

Buddy System - A system of organizing employees into work groups in such a manner that each employee of the work group is designated to observe the activities of and remain in communication with at least one other employee in the work group. In some cases, an employee, outfitted with a SCBA unit and other necessary emergency equipment is stationed outside the work area in full view of others in the group and ready to react to any potential emergencies.

End–of-Service Life Indicator (ESLI) - An indicator on a respirator cartridge that warns the respirator user of the approach of the end of adequate respiratory protection.

Filtering Facepiece (Dust mask) - A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Immediately Dangerous to Life or Health (IDLH) - An atmospheric concentration of any toxic, corrosive or asphyxiating substance that poses an immediate threat to life or would cause irreversible or adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere. D&B discourages its personnel from working in IDLH conditions.

Maximum Use Concentration (MUC) - The maximum concentration of an air contaminant in which a particular respirator can be used, based on the respirator's assigned protection factor. The MUC cannot exceed the use limitations specified on the NIOSH/MSHA approval label for the cartridge, canister, or filter.

Negative Pressure Respirator - A respirator in which the air pressure inside the facepiece is negative during inhalation in respect to the ambient air pressure outside the respirator.

Oxygen Deficient Atmosphere - An atmosphere with an oxygen content of less than 19.5% by volume (an IDLH atmosphere).

Positive Pressure Respirator - A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Powered Air Purifying Respirator (PAPR) - An air purifying respirator which uses a blower to deliver air through the air purifying element to the inlet covering.

RESPIRATORY PROTECTION GUIDELINES

Protection Factor - The value regarded as applicable for an achievable ratio of average ambient concentration of an air contaminant in a workplace to the average concentration of the contaminant measured inside the respirator facepiece for a specific class of respirators.

Qualitative Fit Test - A pass/fail fit test to assess the adequacy of a respirator fit that relies on the individual's response to the test agent.

Quantitative Fit Test - An assessment of the adequacy of a respirator fit by numerically measuring the amount of leakage into the respirator.

Respirator - Any device worn by an individual and intended to provide the wearer with respiratory protection against inhalation of airborne contaminants or oxygen-deficient air.

Self Contained Breathing Apparatus (SCBA) - An atmosphere supplying respirator for which the source of air or oxygen is carried by the wearer.

Service Life - The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

Supplied Air Respirator - A respirator which receives breathable air through an air line or hose from a portable or stationary source of compressed air.

4.0 RESPONSIBILITIES

Respiratory Program Administrator - The Respiratory Program Administrator is a designated qualified person who is responsible for administrating and overseeing the Respiratory Protection Program and conducting the required evaluations of program effectiveness (required by 29 CFR 1910.134).

Health and Safety Officer (HSO) - The HSO is responsible for confirming that the proper respiratory protection is available, that the employees have been properly trained and medically qualified for respirator use, that facilities are provided for the cleaning and storage of respirators, and that operating procedures reflect the required use of respirators.

Health and Safety Representative (HSR) - The HSR is responsible for confirming proper use and maintenance of respirators.

RESPIRATORY PROTECTION GUIDELINES

D&B Employees - D&B employees are responsible for using the provided respiratory protection in accordance with this program and the training received. The employee must check the facepiece seal each time the respirator is worn. The employee must inspect the respirator as instructed, protect it from damage, and report malfunctions.

5.0 RESPIRATOR SELECTION

Respirators certified by the National Institute for Occupational Safety and Health (NIOSH) must be selected and used in compliance with the conditions of its certification. Respirators must be selected on the basis of the respiratory hazard(s) at the workplace and user factors that affect respirator performance and reliability. Respirator selection criteria include:

- General use conditions, including determination of contaminants, oxygen deficiency or IDLH atmospheres.
- Physical, chemical, and toxicological properties of the contaminant(s).
- Warning properties of the contaminant(s).
- Exposure Limits (PELs, TLVs).
- Assigned Protection Factors.
- Maximum Use Concentrations.
- Eye irritation potential.
- End of service life determination.
- Location of "safe" area.
- Duration of respirator use.

6.0 RESPIRATOR TRAINING

Employees required to wear respirators must be trained before wearing a respirator. Training must be comprehensive and understandable. It must be performed prior to requiring the employee to use a respirator and annually thereafter.

RESPIRATORY PROTECTION GUIDELINES

The following, as a minimum, will be included in the training:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- How to identify the limitations and capabilities of the respirator.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to inspect, put on and remove, use, and check the seals of the respirator.
- Respirator maintenance and storage procedures.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- The general requirements of the Respiratory Protection Standard.

7.0 RESPIRATOR FITTING

Below are the requirements for the fit testing:

- Each employee required to wear a respirator will be fit tested using accepted fit test methods as described in OSHA 29 CFR 1910.134.
- Qualitative or Quantitative fit testing must be performed prior to initial use of respirators and thereafter at least annually.
- A qualified person must administer fit testing. The person performing the fit testing will provide documentation of the fit test protocol(s) used.
- Fit tests will be performed using the same make, model and size of respirator to be worn.
- A user seal test following OSHA 29 CFR 1910.134 must be performed immediately after donning and adjusting the respirator, each time a respirator is used.

RESPIRATORY PROTECTION GUIDELINES

8.0 RESPIRATOR MAINTENANCE AND CARE

Respirators will be properly maintained and be in working order. Respirators that are not functioning properly will be removed from use.

8.1 Inspection

Respirators must be inspected as follows:

Routine use:	Before each use and during cleaning.
Emergency use:	At least monthly and before and after each use.
Emergency-escape : (SCBA):	Before being carried into the workplace for use. Monthly. Air and oxygen cylinders must be maintained in a fully charged state and will be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level.

The inspection must include a check of respirator function, tightness of connections, and the condition of the various parts of the respirator, including a check of the elastomeric parts for pliability.

8.2 Cartridge/Filter Changing/Replacement

Filters/cartridges used on air-purifying respirators must be replaced when one of the following occurs:

- Change is scheduled according to cartridge replacement schedule created by the HSO, or designee.
- A resistance/break-through during breathing is noted.
- Indicated on end-of-service-life indicator.
- Employees will leave the area to wash, when changing cartridges or if breakthrough or resistance is encountered.

RESPIRATORY PROTECTION GUIDELINES

8.3 Cleaning and Disinfecting

Respirators will be properly cleaned and disinfected after each use in accordance with OSHA 29 CFR 1910.134. The respirators will be cleaned and disinfected at the following intervals:

- Respirators issued for the exclusive use of an employee will be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- Respirators issued to more than one employee will be cleaned and disinfected before being worn by different individuals.
- Respirators maintained for emergency use will be cleaned and disinfected after each use.
- Respirators used in fit testing and training will be cleaned and disinfected after each use.

8.4 Repair

Respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired as follows:

- Repairs or adjustments are made only by individuals that have been appropriately trained for such repairs.
- Only manufacturer's NIOSH-approved parts are used.
- Repairs are only conducted according to manufacturer recommendations and specifications.
- Reducing and admission valves, regulators, and alarms must be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

RESPIRATORY PROTECTION GUIDELINES

8.5 Proper Respirator Storage

Respirators must be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals. They must be stored to prevent deformation of the facepiece and exhalation valve.

Storage for emergency respirators must meet the above requirements, plus:

- Be kept accessible to the work area.
- Stored in compartments or in covers that are clearly marked as containing emergency respirators.
- Stored in accordance with the manufacturer recommendations.

9.0 MEDICAL SURVEILLANCE

Employees assigned to tasks requiring the use of respirators will be medically evaluated to determine if they are physically able to wear respirators. These determinations must be made prior to any use, including fit-testing, and must be completed by a physician. In some states a Licensed Health Care Professional (LHCP) other than a physician may conduct the evaluation. These medical evaluations will be reviewed periodically as deemed appropriate by the physician or Respiratory Program Administrator or if there are medical reasons to evaluate the employee.

The following information must be provided to the physician before a medical determination can be made:

- Type and weight of respirator that is to be used.
- Duration and frequency of respirator use.
- Expected physical work effort.
- Additional protective clothing and equipment to be worn.
- Temperature and humidity extremes that may be encountered.
- Written copy of this Respiratory Protection Program.

RESPIRATORY PROTECTION GUIDELINES

A written recommendation must be obtained from the physician. The recommendation will provide information on any limitations on respirator use. Additional medical evaluations must be provided if any of the following occurs:

- An employee reports medical signs or symptoms that are related to ability to use a respirator.
- A LHCP, supervisor or the Respirator Program Administrator informs the employer that an employee needs to be reevaluated.
- Information from the Respiratory Protection Program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation.
- A change occurs in workplace conditions that may result in a substantial increase in the physiological burden placed on an employee.

10.0 RECORDKEEPING

Records of employee exposure, monitoring, medical surveillance, training, respiratory protection use, inspection and maintenance will be kept in the project file.

11.0 FIT TESTS

Records of qualitative and/or quantitative fit tests will be maintained until the employee's next fit test. The records must include the name and identification of employee, type of fit test performed, make, model, style, and size of respirator tested, date of fit test, and fit test results.

12.0 PROGRAM EVALUATION

The Respiratory Program Administrator will conduct periodic evaluations of the Respiratory Protection Program. The Respiratory Program Administrator should:

- Consult with users to determine program acceptance.
- Conduct inspections of respirator use.

RESPIRATORY PROTECTION GUIDELINES

- Review required records.

13.0 SPECIAL CONSIDERATIONS IN RESPIRATOR USE

13.1 Facial Hair

Respirators will not be worn when conditions prevent a good respirator facepiece-to-face seal. Persons with facial hair that interferes with the facepiece-to-face seal or the operation of the inhalation or exhalation valves will not be permitted to wear or be fitted with a respirator until such conditions are corrected.

13.2 Corrective Lenses

- Employees with eyeglass temple pieces which interfere with the facepiece-to-face seal of the respirator will not be permitted to wear or be fitted with a respirator until such conditions are corrected.

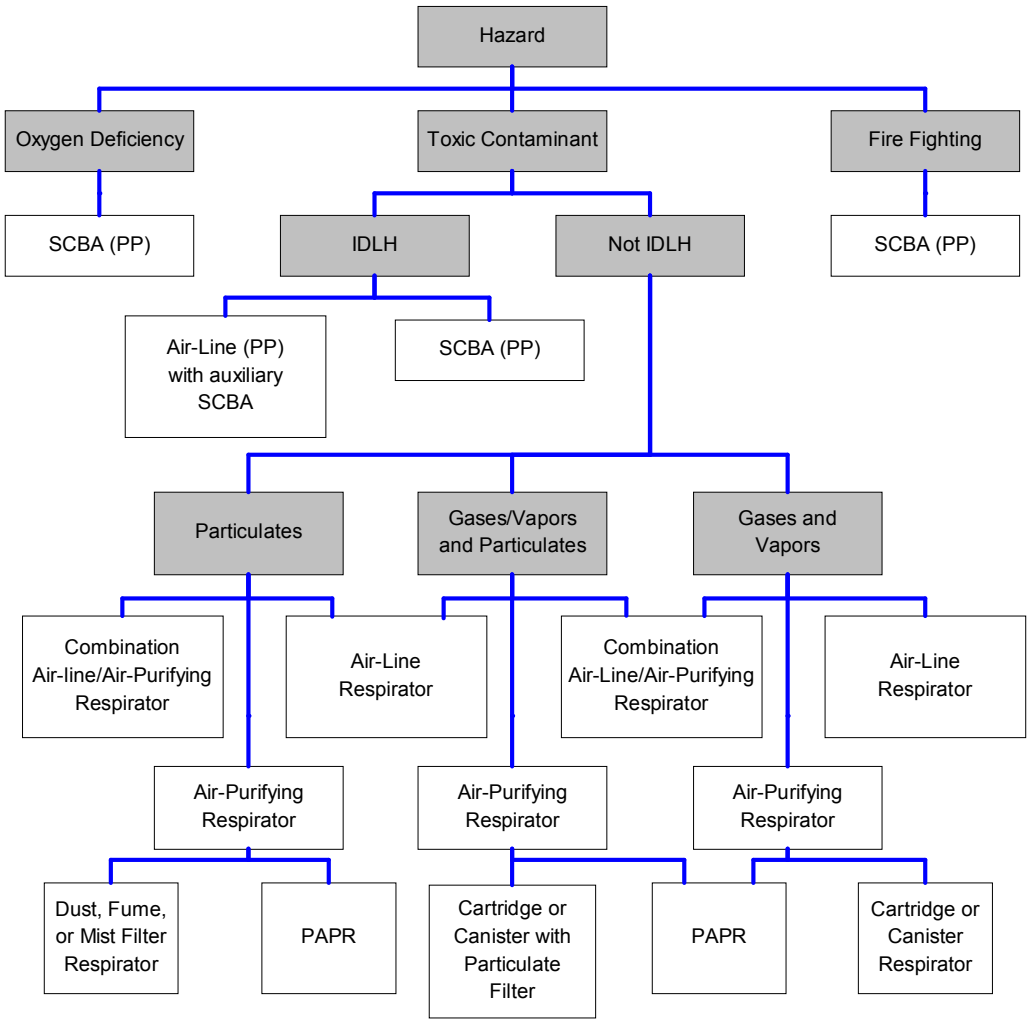
- If corrective lenses are required, contact lenses or special lens holding devices which do not interfere with the facepiece-to-face seal may be utilized.

14.0 REFERENCES

- OSHA 29 CFR 1910.134.

- OSHA 29 CFR 1926.103.

APPENDIX A – Respiratory Protection Selection Diagram



APPENDIX B – Program Evaluation Checklist/Questionnaire

RESPIRATOR USE

Employee Name _____
Identification _____
Position _____

Description of Work Activities:

---

1. What jobs/activities require the use of respiratory protection?

2. Is respiratory protection used every time that it is required?

3. What type of respiratory protection is used?

4. Where is the respiratory protection stored?

5. How is the respiratory protection cleaned and maintained?

6. What was the date of the last fit test?

7. When did employee last receive respiratory protection training?

8. Are other employees that are required to use respiratory protection using it properly/effectively?

List any problems/concerns/comments.

MEDICAL SURVEILLANCE GUIDELINES

Table of Contents

1.0 POLICY AND PURPOSE

D&B has developed a Medical Surveillance Program for employees who may be exposed to potentially hazardous chemicals while working on a hazardous waste site, who must wear or have the potential to wear a respirator or who may be accidentally overexposed to a chemical as a result of a spill or leak. This program has been designed to meet OSHA 29 CFR 1910.120 and to be consistent with recommended medical surveillance practices.

The Medical Surveillance Program is designed to support and monitor the effectiveness of the safe work practices, and is provided at no cost to the employee. The Program should include:

MEDICAL SURVEILLANCE GUIDELINES

- Assessment of physical and medical conditions of D&B employees before they are assigned to work on hazardous sites or are required to wear a respirator.

- Periodic medical examinations and follow-up examinations as directed by corporate physician.

- Examination upon termination of employment or reassignment to an area where the employee would not be covered by the OSHA 29 CFR 1910.120 provided they have not received a medical exam within the last six months.

2.0 SCOPE

Applies to D&B activities at sites where exposure to potentially hazardous chemicals may occur or when employees may be required to wear respiratory protection. In addition to hazardous waste sites, this SOP also applies where D&B personnel may be exposed to chemicals such as asbestos and lead.

3.0 RESPONSIBILITIES

Corporate Physician (CP) - D&B contracts a medical provider/physician to conduct complete and thorough medical examinations for each employee as required per established protocol. Based on the results of the examination, the physician must determine the individual's suitability to perform his/her job.

Health and Safety Officer (HSO) - The HSO designs, implements and reviews the policies and procedures of the Medical Surveillance Program. The HSO's responsibilities include:

- Providing CP with information regarding the type of Personal Protection Equipment employee may use potential exposures and other site/activities information that may be pertinent to health.

- Designating employees who must participate in the Medical Surveillance Program.

MEDICAL SURVEILLANCE GUIDELINES

- Retaining a qualified CP to conduct necessary medical examinations.
- Obtaining from the examining physician(s) a written statement indicating the employee's availability for assignment on a hazardous waste site.
- Obtaining from the examining physician(s) a written statement indicating the employee's suitability to use a respirator.
- Maintaining copies of the Physician's Statement and Disclosure Agreement for employees participating in the Medical Surveillance Program.
- Documenting that personnel medical examinations are conducted within the prescribed time frame.

4.0 GUIDELINES

4.1 Introduction

The Medical Surveillance Program has four essential components:

- Pre-exposure screening (baseline).
- Routine medical monitoring of designated employees.
- Emergency medical care and treatment if accidents or exposure to contaminants occur while on site.
- Termination examination.

4.2 Baseline

Pre-exposure (baseline) screening has two major functions: (1) determining individual's fitness for duty, including the ability to work while wearing protective equipment, and (2) providing baseline for comparison with future medical data. D&B must obtain the

results of baseline examination before an employee engages in any hazardous waste work, or is fit-tested for a respirator.

4.3 Periodic

Periodic medical examinations should be used in conjunction with pre-employment screening examinations. Comparison of periodic medical results with baseline data is essential to determine biologic trends that may mark early signs of adverse health effects, and thereby facilitate appropriate protective measures.

OSHA requires that covered employees be re-examined on a regular basis. These examinations must be provided annually unless the attending physician believes that a shorter or a longer interval (not greater than biennially) is appropriate.

4.4 Emergency Medical Care

The Site-Specific HASP addresses emergency medical care and treatment of personnel, including possible exposures to the site specific toxic substances and injuries due to accidents or physical problems.

The Project Manager or HSO is responsible for providing medical care to any D&B site employee requesting or requiring medical care due to an injury or illness. Once at the medical facility, the examining physician may consult with the CP to obtain the individual's medical history and proper medical treatment. D&B personnel requiring emergency medical treatment should have a written physician release, prior to returning to the site.

4.5 Termination

Exit examinations are required for employees who are terminated, left the firm voluntarily or retire from the hazardous waste industry. This exam is not required if the employee has not been in the field since their last periodic exam or if they have taken a baseline/periodic exam within the last six months.

MEDICAL SURVEILLANCE GUIDELINES

4.6 Special Tests

In addition to those tests required by the medical protocol, special medical tests may also be required. The decision to conduct such tests is based on potential exposure to specific toxic substances in the work environment, by the medical history or condition of the person examined. The CP will determine what special medical tests are appropriate and the manner in which these exams will be conducted.

4.7 Examination Content

Due to the variety of work and potential exposures that can occur on hazardous waste sites, it is not feasible to recommend a single examination protocol. However, according to NIOSH and OSHA, the following areas should be considered and addressed as appropriate:

Baseline examination

- Medical and occupational history review.
- Physical examination including:
  - Head, nose and throat
  - Musculoskeletal system
  - Blood pressure
  - Skin
  - Audiometric testing
  - Vision test
- Diagnostic tests including:
  - Pulmonary and heart (EKG) functions test.
  - Blood.
  - Urine.
  - Chest X-rays.

MEDICAL SURVEILLANCE GUIDELINES

The baseline for respirator users must comply with the medical evaluation requirements of OSHA 29 CFR 1910.134, beginning with the medical questionnaire.

Periodic examination

The annual or biannual examination is used in conjunction and compared with the baseline examination and will include:

- A medical questionnaire.
- Physical examination.
- Blood chemistry profile.
- Urinalysis.

The examination may also be supplemented by other procedures and medical tests based on specific exposures, the individual's medical history or results of physical examination.

5.0 MEDICAL EXAMINATION FORMS AND QUESTIONNAIRES

Medical evaluations will be confidential and conducted during business hours at a location convenient for the employee. The exams/results will be understandable to the employee, with the employee given the opportunity to discuss the results with the physician or other licensed health care professional.

5.1 Forms Completed by Employee

Employees will complete a confidential medical/occupational history questionnaire prior to his/her baseline examination. Questionnaires are an important part of the health monitoring program medical records.

5.2 Forms Completed by Examining Physician/Medical Consultant

MEDICAL SURVEILLANCE GUIDELINES

The Physician's Statement of Qualification (attached in Appendix C) is a summary, completed and signed by the licensed examining physician, of an employee's qualification to work with hazardous chemicals and/or to use a respirator. If the examining physician finds that an examinee is not qualified for hazardous waste site work, the physician will so indicate and explain on the Physician's Statement Form.

The written opinion obtained by the employer will not reveal specific findings or diagnoses unrelated to occupational exposure.

In addition to individual employee records, an annual list of D&B employees participating in the Medical Surveillance Program should be developed and maintained by HSO.

6.0 CONFIDENTIALITY

D&B must maintain medical exam records and reports for the duration of employment plus 30 years, per OSHA 29 CFR 1910.120 and 1910.1020. According to OSHA clarification/interpretation statement, the physician's office can maintain the physical custody of the records under agreement with employer. Employer must establish procedures to allow access, storage, transfer and disposal of these records, while keeping personal medical information confidential. Records that are physically maintained by an employer typically include a Physician's Statement of Qualification, Disclosure Agreements, and requests for copies of the medical records.

Medical records, under law, must be considered confidential (with the exception of the Physician's Statement). Therefore, access to the information contained in the employee medical files will be restricted to review and usage by the medical consultant, the HSO and his/her designee, examining and consulting physician(s) and physician staff. These records will be maintained in a locked filing cabinet. Upon death, retirement, resignation or other termination of service, the records will be stored in the appropriate company personnel file.

The employee may also request release of records or information. Medical release forms (Appendix B) are available for this purpose through the HR. An employee may also designate a representative (i.e., personal physician). The full name and address of the

MEDICAL SURVEILLANCE GUIDELINES

representative and the content of the records to be released must be specified in a letter to D&B. A copy of this request will be sent to the HSO.

APPENDIX A – PHYSICIAN'S STATEMENT OF QUALIFICATIONS

For Employee or Applicant of D&B

Participant Name: _____ Date of Exam: _____

Date of Birth:_____ Social Security Number:_____

Type of exam: (baseline, annual, or other):_____

The individual named above has:

1. undergone a physical examination and has been found medically:
   ( ) qualified for hazardous waste site work
   ( ) not qualified for hazardous waste work

   and

2. undergone a physical examination as per OSHA (29 CFR 1910.134 and has been found medically:
   ( ) qualified to use a respirator
   ( ) not qualified to use a respirator

Physician's Signature _____
Printed Name of Physician _____
Physician's Address _____
Physician's Telephone Number _____
Physician's State License Number _____

Note: Copies of test results are maintained and available at _____
_____

OSHA 1910.134 (b)(10) states that persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment.

The local physician will determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

If it is the opinion of the examining physician that an examinee is unqualified to perform hazardous waste site work or to wear a respirator, the physician should append a further report to this statement which details reasons for this opinion.

SUMMARY PROFILE

Employee Name: _____ Exam Date: _____

The Examining Physician and/or Medical Consultant has reviewed the medical information regarding the aforementioned employee, and the following has been established:

A ( ) There is no medical condition which will interfere with the duties of the individual.

B ( ) Medical condition exists which will not interfere with job responsibilities. The individual has been advised of this finding.

C ( ) The examination disclosed a medical condition which may require special consideration by the company.

D ( ) Deferred pending further evaluation. Employee will need outside medical records or additional subspecialty evaluation before a final determination can be made.

E ( ) Qualified to use an approved respirator.

_____
Signature of Reviewing Physician

CONFINED SPACE OPERATIONS GUIDELINES

Table of Contents

CONFINED SPACE OPERATIONS GUIDELINES

1.0 PURPOSE

To establish safe procedures for employees of D&B who have the potential to be exposed to the hazards of a confined space as detailed in OSHA 29 CFR 1910.146.

2.0 SCOPE

Applies to the activities of D&B personnel exposed to the hazards of a confined space.

3.0 DEFINITIONS

Attendant - A trained individual stationed outside the confined space who monitors the Authorized Entrant.

Authorized Entrant - A trained individual whose name is listed on the entry permit and who is authorized by the employer to enter a confined space.

Confined Space - A space that:

- Is large enough and so configured that an employee's entire body can enter and perform assigned work (e.g., storage tanks, stacks, pits, basements, silos, boilers, ventilation and exhaust ducts, manholes, sewers, tunnels, underground utility vaults, etc.).
- Has limited or restricted means for entry or exit.
- Is not designed for continuous employee occupancy.

CONFINED SPACE OPERATIONS GUIDELINES

Emergency - Any occurrence or event internal or external to the permit space that could endanger entrants.

Engulfment - The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction or crushing.

Entry - The act of intentionally passing through an opening into a confined space. Entry occurs as soon as any part of the entrant's body breaks the plane of the opening into the space.

Entry Permit - A written or printed document provided by the employer that authorizes the confined space entry and identifies acceptable conditions for entry into a confined space. At a multi-employer site, each affected employers must be in agreement regarding who will issue a Permit.

Entry Supervisor - The person responsible for determining if acceptable entry conditions are present at a permit space where entry is planned for authorizing entry, overseeing entry operations and for terminating the confined space entry.

Hazardous Atmosphere - An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL).
- Airborne combustible dust at a concentration that meets or exceeds its LFL.
- Atmospheric oxygen concentration below 19.5% or above 23.5%.
- Atmospheric concentration of any substance for which a dose or a permissible exposure limit (PEL) is published in OSHA 1919 Subpart Z, Toxic and Hazardous

Substances, which could result in employee exposure in excess of its dose or PEL.

- Any other atmospheric condition that is immediately dangerous to life or health.

Hot Work Permit - The employer's written authorization to perform operations (e.g., welding, cutting, burning and heating) capable of providing a source of ignition.

Immediately Dangerous to Life or Health (IDLH) - Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit required confined space.

Isolation - The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding, blocking, bleeding and lockout/tagout of all sources of energy.

Line Breaking - The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure or temperature capable of causing injury.

Oxygen Deficient Atmosphere - An atmosphere containing less than 19.5 % oxygen.

Oxygen Enriched Atmosphere - An atmosphere containing greater than 23.5 % oxygen.

Permit Required Confined Space (PRCS) - A confined space that has one or more of the following characteristics:

- Contains or has potential to contain a hazardous atmosphere.
- Contains a material with the potential for engulfment of an entrant.
- Has inwardly converging walls or floors that could trap or asphyxiate an entrant.

- Contains any other recognized serious safety or health hazard.

Permit System - The employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited Condition - Any condition in a permit system that is not allowable by the permit during the period when entry is authorized.

Rescue Service - The personnel designated to rescue employees from permit required spaces.

Retrieval System - The equipment used for non-entry rescue of persons from permit required spaces.

Testing - The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

4.0 RESPONSIBILITIES

Health and Safety Coordinator (HSO) - The HSO is responsible for:

- Coordinating training for personnel designated as an Authorized Entrant, Attendant or Entry Supervisor.
- Reviewing and updating this program annually to include new revisions by OSHA.
- Conducting annual field audits of this program.

On-Site Health and Safety Representative (HSR) - The HSR is responsible for:

- Confirming that the Permit requirements are implemented.

CONFINED SPACE OPERATIONS GUIDELINES

- Reporting incidents or PRCS guidelines deficiencies.
- Making on-site H&S decisions related to field operations.
- HSR may take on an Entry Supervisor's responsibilities, if assigned.

Entry Supervisor - The entry supervisor is responsible for:

- Knowing the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Completing the Entry Permit, verify that requirements of the Permit have been met and equipment specified in the permit is in place before endorsing the permit and allowing entry to begin.

Authorized Entrant - The Authorized Entrant is responsible for:

- Knowing the hazards and understanding the consequences of exposure.
- Maintaining contact with the Attendant.
- Understanding and utilizing the provided personal protective equipment.
- Exiting the permit space if evacuation is ordered by the Attendant.
- Alert the Attendant whenever:
    - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.
    - The entrant detects a prohibited condition.
- Exit from the permit space as quickly as possible whenever:

CONFINED SPACE OPERATIONS GUIDELINES

- An order to evacuate is given by the Attendant or the entry supervisor.
- The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.
- The entrant detects a prohibited condition.
- An evacuation alarm is activated.

Attendant - The Attendant is responsible for:

- Knowing the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Continuously maintaining an accurate count and identity of Authorized Entrants in the permit space.
- For remaining outside the permit space until relieved by another Attendant.
- Maintaining continuous communication with all Authorized Entrants.
- Monitoring activities inside and outside the space to determine if it is safe for entrants to remain in the space and ordering the Authorized Entrants to evacuate the permit space immediately under any of the following conditions:
  - If the Attendant detects a prohibited condition of the entry.
  - If the Attendant detects the behavioral effects of hazard exposure in an Authorized Entrant.
  - If the Attendant detects a situation outside the space that could endanger the Authorized Entrants.
  - If the Attendant cannot effectively and safely perform all of his or her required duties.

- Summoning rescue or emergency services as soon as the Attendant determines that Authorized Entrants may need assistance to escape from PRCS hazards. The client may have its own rescue services. If outside rescue services are employed, they are to be notified ahead of time as to the PRCS entry so as to be prepared. They may also visit the site prior to the entry, to understand the logistics and scope of work.
- Perform non-entry rescue as specified in the rescue procedure.
- The attendant is not allowed multiple confined spaces at the same time.

5.0 GUIDELINES

D&B will use these guidelines for any entry into a PRCS for testing, maintenance, inspection or repair activities.

5.1 General

In general, the HSO or HSR should evaluate the workplace and identify the number, type and location of confined space areas within the site that personnel may need to enter to perform work. Once the confined spaces have been identified, as defined in Section 3.0, a determination must be made if the space(s) requires an Entry Permit.

If a confined space has been defined as a PRCS, the HSO, HSR or his/her designee must inform site personnel of the existence, location and danger posed by the space. This can be accomplished by posting a danger sign with appropriate language (e.g. DANGER – PERMIT REQUIRED CONFINED SPACE). ***NO ENTRY INTO A PRCS WILL OCCUR WITHOUT A PERMIT.***

5.2 Reclassifying Permit-Required Confined Spaces

PRCS can be temporarily reclassified as either a Non-Permit Confined Space or Alternate Space, providing the following is met:

5.2.1 Reclassification to a Non-Permit Confined Spaces

Some identified confined spaces are classified PRCS based solely upon the space containing hazards which can effectively be eliminated through lockout/tagout procedures. For a PRCS to be temporarily reclassified as a non-permit space, there must be no potential for the space to contain other hazards. The permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated. Measures for eliminating hazards within the space should be documented and reviewed by the HSO. Upon work completion and after the control measures have been removed, the space must be reclassified as a PRCS.

5.2.2 Reclassifying PRCS to Alternate Space

If the only hazard in a PRCS is a hazardous atmosphere, then it is possible to potentially reclassify the space as an Alternate Space. In order to consider such spaces as non-permit spaces, all atmospheric hazards must be eliminated without entry into the space. Monitoring and inspection data, collected during routine entry operations, must show that the atmospheric hazards were effectively abated through the use of ventilation equipment. The HSO or HSR will verify an evaluation of designated Alternate Spaces. Although an Entry Permit is not required for entrance into an Alternate Space, the following precaution must be followed:

- Entrants must be trained in the potential hazards of the space.
- Continuous ventilation will be established and maintained throughout the entry period. The ventilation must be sufficient to maintain the space safe for entry.

- Prior to entry, the space must be tested for oxygen content, flammable gases and vapors, potential toxic air contaminants.
- Entrants and other personnel involved in the entry may review equipment calibration and air monitoring data at any time during the entry process.
- If a hazardous atmosphere is detected, entrants must evacuate the space and the space then becomes a PRCS.

5.3 Hazard Identification

The Hazard Assessment Form in Appendix A can be used to assess the hazards of each confined space prior to entry.

Other hazards may be present in the vicinity of the confined space, such as traffic, pedestrians and heavy equipment. Provisions are to be made to protect the confined space entry team as well as those outside. This can be addressed in the JHA.

5.4 Entry Permit

The Entry Permit (Appendix B) is a checklist designed to ensure that the proper precautions are implemented prior to entry.

All blocks on the permit must be completed. If an item is not applicable then "N/A" must be written in the space. NO blank spaces are to appear on the permit. The permit must be signed by the Entry Supervisor and posted at the entrance to the confined space until the entry is completed or the work shift ends. The permit is applicable for a single work shift. The entry permit will serve as a safety briefing outline before entry and will be available for review by all affected employees.

The entry permit will identify:

CONFINED SPACE OPERATIONS GUIDELINES

- The location of the confined space, a description of the entry task, date of entry and duration of permit.
- Known and potential hazards that may be encountered during the confined space entry.
- Mechanical apparatus within the confined space such as agitators and pumps, which if activated could injure the worker.
- Isolation procedures to be implemented, consisting of:
    - Blanking and/or disconnecting of lines.
    - Electrical lockout and tagout.
    - Mechanical isolation and tagout.
    - Mechanical ventilation (volumes).
- Safety and protective equipment required (specify routine and emergency requirements), consisting of:
    - Level of respiratory protection.
    - Personal protective equipment.
    - Safety harness and/or lifelines.
    - Extraction devices.
    - Tools and equipment to be taken into the confined space by the entrant.
- Pre-entry atmospheric monitoring and acceptable levels of contaminants, consisting of:
    - Oxygen level (19.5 – 23.5 %).

CONFINED SPACE OPERATIONS GUIDELINES

- Combustible gas/vapor level (< 10% LEL).
- Toxic substances level less than established TLV, PEL.

- Provisions for continuous atmospheric monitoring, identifying:
  - Equipment.
  - Evacuation criteria.
- Equipment/procedures to maintain acceptable atmospheric conditions identifying procedures for purging, ventilation, flushing and inerting.
- Identification of entry team (authorized and eligible), consisting of:
  - Personnel to make entry (Authorized Entrant).
  - Personnel on stand-by (Attendant).
- Emergency procedures and first aid, identifying the following:
  - Communication procedures.
  - Equipment location.
  - Rescue team.
- Training required (specifics beyond Section 5.8 should be noted) for the following employees:
  - Authorized Entrant, Attendant and Entry Supervisor.
  - Non-entry rescue.
  - Respirator use.

- PPE.

- The permit must be closed out following the completion of confined space activities.

- The permit may be cancelled if all conditions for entry are not met, or if worksite conditions change.

5.5 Work Practices

5.5.1 Pre-Entry

As part of the pre-entry procedure, the Entry Supervisor, HSO or HSR will review the entry permit with each Authorized Entrants and Attendants. The Entry Supervisor, HSO or HSR must confirm that the necessary steps have been taken to establish that conditions within the space are safe prior to issuing an entry permit. These steps include:

- Pre-entry briefing.

- Preparation of the Entry Permit including:

  - Initial Atmospheric Testing will be completed for oxygen deficiency or enrichment, combustible gases and toxic gases and vapors.

  - Hazard Control/Elimination will be completed as necessary to properly control/eliminate hazards.

  - Space Preparation will be completed and Site Controls will be employed to prevent unauthorized personnel from impacting the entry operation, allow necessary entry equipment to be staged effectively, maintain adequate housekeeping at the entry location

and in the space itself, and enable rescue services to locate and access the entry space as needed.

- Training will have been completed and documented for each employee involved with the entry.
- Emergency Rescue Procedures identifying the level and type of emergency services required for the entry.
- Equipment and Instrumentation required for monitoring, hazard control, safety and rescue.

5.5.2 Purging and Ventilation

All confined space enclosures containing a hazardous atmosphere will be subject to purging and continuous ventilation prior to an entry, and as needed. Continuous ventilation may not be required if the confined space meets all of the following criteria:

- No oxygen deficiency or enrichment (19.5 - 23.5 %).
- Lower Explosive Limits (LEL) measurements are less than 10%.
- Toxicity measurement is less than 10% of the established IDLH of the airborne contaminant present.

5.5.3 Isolation/Lockout and Tagging

Except for such confined spaces as manholes, sewers, and tunnels, where complete isolation is not physically possible, confined spaces will be completely isolated from other systems by such means as lockout/tagout, double block and bleed, or physical disconnection of lines into the confined space.

CONFINED SPACE OPERATIONS GUIDELINES

5.5.4 Buddy System

Tasks involving confined space entry will be performed by a team of not less than two employees with specific duties as described in Section 4.0 Responsibilities.

5.5.5 Communication

The Authorized Entrants and the Attendant must maintain continuous communication with each other during the entire confined space entry. If visual contact and/or verbal communication cannot be maintained, the following code may be used which utilizes the lifeline:

Person Outside Confined Space	Person In Confined Space
1 Pull - Come out	1 Pull - Send help
2 Pulls - Back out	2 Pulls - Keep slack out of line
3 Pulls - Advance	3 Pulls - I am going ahead
4 Pulls - Are you okay?	4 Pulls - I am okay

If the person inside the confined space does not respond to the pull code, assume that there is trouble and begin effecting emergency procedures.

In addition, a means of communication will be available to summon outside help.

5.5.6 Testing and Monitoring

When preparing for an entry into a PRCS, appropriate initial testing must be conducted to confirm that the atmosphere in the confined space is safe. Monitoring will be conducted for oxygen content, combustible gases/vapors, toxic contaminants, and any other contaminants identified. Air monitoring should be conducted continuously while personnel are within the confined space.

CONFINED SPACE OPERATIONS GUIDELINES

Entry into a confined space without proper personal protective equipment will not be permitted under the following conditions:

- Oxygen concentrations less than 19.5% or greater than 23.5%, or 148 mm Hg and 178 mm Hg, respectively, based on atmospheric pressure of 760 mm Hg at sea level.
- Flammability measurements greater than 10% of the LEL.
- Toxicity measurements indicating an IDLH atmosphere's existence in the confined space.

Initial atmospheric samples will be drawn while outside the confined space at the following locations: outside the entry point(s), immediately inside the entry point(s) and every four feet from the entrance. Initial-monitoring results will be recorded on the entry permit. In addition, D&B employees may request that additional monitoring be conducted. The request will be evaluated by the HSO.

5.5.7 IDLH Conditions

D&B personnel will not be permitted into confined spaces during IDLH conditions.

5.6 Equipment

Equipment necessary for safe entry, including testing, monitoring, communication, and personal protective equipment must be available prior to entry. Personnel using the equipment must be trained in proper use and maintenance of such equipment.

5.6.1 Safety Equipment

Additional safety equipment such as safety belts, body harnesses, or wristlets with lifelines will be provided and used for each confined space entry, as determined by the Entry

Supervisor, HSO or HSR. If necessary, lifelines will be attached to a mechanical extraction device outside the confined space so the Attendant can perform non-entry rescue.

5.6.2 Illumination

Illumination must be provided, as necessary, pursuant to OSHA 29 CFR 1910.120(m).

5.6.3 Equipment Requirements

Tools and other equipment, including monitoring instruments, for use in PRCS will be inspected for compliance with the following requirements:

- Tools and equipment will be kept clean and in a good state of repair.
- Electrical equipment including portable tools, lighting, and power cords should meet approvals in accordance with OSHA 29 CFR 1910 subpart S, including provisions for ground fault circuit interruption.
- Only explosion proof temporary lighting listed by the Underwriters Laboratory should be used during PRCS entry and be equipped with required guards.
- Air activated tools must be used where flammable liquids are present and be bonded to the confined space.
- Compressed gas cylinders, except those that are part of SCBA or resuscitation equipment, will never be allowed inside a confined space. Cylinders used to supply compressed gases to a confined space will be turned off at the cylinder valve when not in use and the supply lines will be removed.
- Ladders, scaffolding and staging will be adequately designed and secured in conformance with OSHA 29 CFR 1910 subpart D.

- Equipment or instrumentation subject to use in a confined space where flammable atmospheres may occur will be listed as explosion proof or intrinsically safe by a recognized testing laboratory.

5.7 Rescue

If it becomes necessary to remove a worker from a confined space, the Attendant should act in accordance with the predetermined emergency rescue plan as follows:

- The Attendant will communicate through the predesignated communication network and request assistance. The following information should be given:
  - The location of the confined space.
  - Request for emergency oxygen supply and first-aid kit.
  - Request for self-contained air supply with full-face mask, safety harness and lifeline.
  - Call for professional medical assistance.
- The Attendant will only attempt a non-entry rescue. At no time will the Attendant place himself/herself inside the confined space to perform an in-space rescue.
- If the person within the confined space is secured to a winch, begin hauling him/her out. This procedure must be performed at a speed that will not further injure the person.
- If the lifeline is not secured to a winch, the Attendant will secure lifeline.

5.8 Employee Information and Training

CONFINED SPACE OPERATIONS GUIDELINES

Prior to assignment, employees will be trained to recognize confined spaces, the hazards of working in a confined space, and demonstrate understanding, knowledge, and skills necessary for the safe performance of their assigned duties during any confined space entry. The HSO will also confirm that employees are properly trained before an employee is assigned the duties of Entrant, Attendant or Entry Supervisor. Training will also be conducted if there are changes in duties, hazards or other circumstances. All training will be documented through sign-in sheets and certificates.

Training will include:

- Hazard recognition associated with confined space operations.
- Emergency entry and egress procedures.
- Respiratory protection.
- First aid.
- Cardiopulmonary resuscitation.
- Lockout/Tagout procedures.
- Personal Protective Equipment.
- Rescue operations.
- Permit system.
- Work practices (see Section 5.5).

5.9 Subcontractors

Subcontractors will be provided with available information on existing confined spaces,

SCAFFOLDING SAFETY GUIDELINES

Table of Contents

1.0 PURPOSE

To provide guidance to effectively communicate potential hazards and safe work practices with regard to scaffolds.

2.0 SCOPE

Applies to D&B sites.

SCAFFOLDING SAFETY GUIDELINES

3.0 DEFINITIONS

Affected Employees – An employee who is expected to access scaffolds during his or her on-site responsibilities. Such responsibilities **do not** include mobilization/erection and demobilization of scaffolds.

4.0 RESPONSIBILITIES

D&B Employees - Observe safety procedures in compliance with OSHA 1926 subpart L.

Health and Safety Officer (HSO) - The HSO is responsible for the implementation of 1926 subpart L, including training requirements described in 1926.454.

On-Site Health and Safety Representative (HSR) - The HSR is responsible notifying D&B personnel of the hazards associated with specific assignments and reviewing areas with D&B personnel where a potential hazard may be encountered.

5.0 GUIDELINES

5.1 Introduction

Scaffolds are temporary platforms that workers use in order to access their work area and to hold the supplies needed for the job. These guidelines should be used to communicate scaffold hazards that may be encountered at D&B work sites, provide D&B personnel with information regarding these hazards and familiarize them with procedures for the safe access and work on and around scaffolds. Subpart L specifies the requirements needed for the erection of scaffolds.

5.2 Safety Precautions

The following safety precautions will be observed by affected D&B employees:

- Scaffolds are to be capable of supporting, without failure, at least 4 times the maximum intended load.

SCAFFOLDING SAFETY GUIDELINES

- Debris and materials are not to be allowed to accumulate on scaffolds.
- Scaffold must be secure at all times and inspected by a competent person prior to each work shift.
- Netting is to be utilized to catch equipment that falls.
- Workers will not stand on ties, guardrails or extensions, overreach outside guardrails, be on scaffolds during loading or unloading or replace guardrails after loading or unloading.
- Internal stairs or vertical ladders will be used in order to access different levels of scaffold platforms.

5.3 Footing and Anchorage

The following requirements apply to scaffolding footing and anchorage:

- The footing or anchorage is to be on a solid foundation, sound, rigid and capable of carrying the maximum intended load without settling or displacement.
- The use of unstable objects to support planks or scaffold is prohibited.

5.4 Guardrails

Guardrails are to be approximately 42 inches high with a midrail. The supports for the guardrails are to be at intervals not exceeding 8 feet.

5.5 Protective Screening

Overhead protection will be provided for workers on scaffolds, and a screen or netting is to be placed below the scaffold where persons may be in danger of falling objects.

SCAFFOLDING SAFETY GUIDELINES

5.6 Platforms

The following requirements apply to scaffolding platforms:

- Scaffold construction is to be with the proper grade lumber with a minimum of 1,500 fibers *(Stress Grade)*. This lumber is marked with a grading stamp and is free of objects.
- The planking is to be of *Scaffold Grade* wood or metal, free of defects that may contribute to an accident.
- The planning will be overlapping or secured from movement, extending not less than 6 inches or more than 12 inches over their end supports.
- The poles, legs or uprights of scaffolds will be *plumb* (vertical members standing perpendicular to horizontal) and securely and rigidly braced to prevent swaying and displacement.
- Only synthetic or fiber rope that has been treated properly may be used as staging support where open flame work or corrosive substances or chemicals will be used.

5.7 Design Load

The design load of scaffolds will be calculated as follows:

- Light: 25 lbs/square foot
- Medium: 50 lbs/square foot
- Heavy: 75 lbs/square foot

5.8 Training

D&B employees will hold the training certifications required by clients or the municipalities in which they work.

Employees required to work on scaffolds must be trained by a person qualified to recognize the hazards associated with the types of scaffold used and to understand the

procedures and controls to minimize those hazards. In addition to the general fall hazard training topics, employees who work on scaffolds will be trained in:

- The nature of any electrical hazards in the work area.
- Controlling overhead hazards, including electrical.
- The proper use of the scaffold, including access.
- The proper handling of materials on the scaffold.
- The maximum intended load and the load carrying capacities.

6.0 REFERENCES

- 29 CFR 1926 Subpart L – Scaffolds.

BLOODBORNE PATHOGENS SAFETY GUIDELINES

Table of Contents

1.0 PURPOSE

To provide guidelines to eliminate or minimize occupational exposure to blood or other potentially infectious materials (OPIM) at D&B locations in accordance with the OSHA Bloodborne Pathogens Standard.

2.0 SCOPE

These guidelines apply to D&B personnel who may come into contact with bodily fluids at D&B locations, and provide guidance on protecting oneself from such materials and measures to decontaminate oneself in the event of contact.

BLOODBORNE PATHOGENS SAFETY GUIDELINES

3.0 DEFINITIONS

Blood - Human blood, blood components, and products made from human blood.

Bloodborne pathogens - Pathogenic microorganisms present in human blood that can infect and cause disease in humans. These pathogens include, but are not limited to, Hepatitis B virus (HBV), Hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV).

Contamination - The presence or the reasonably anticipated presence of blood or other potentially infectious materials on items or surfaces.

Decontamination - The use of physical or chemical means to remove, inactivate or destroy bloodborne pathogens on an item or surface to the point where they are no longer capable of transporting infectious particles, and the surface or item is rendered safe for handling, use or disposal.

Engineering Controls - Controls that isolate or remove bloodborne pathogen hazards from the workplace: (e.g. needles for diabetics).

Exposure Incident - A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral (such as injection) contact with blood or other potentially infectious materials.

Hand-Washing Facilities - A facility providing an adequate supply of running potable water, soap and single-use towels or hot-air drying machines.

Licensed Healthcare Professional - A person whose legally-permitted scope of practice allows him/her to independently perform Hepatitis B vaccinations and post-exposure evaluation and follow-up.

Occupational Exposure - Reasonably anticipated skin, eye, mucous membrane or parenteral contact with blood or other potentially infectious material that may occur during site activities.

BLOODBORNE PATHOGENS SAFETY GUIDELINES

Other Potentially Infectious Materials (OPIM) – Aside from blood. It is unlikely that body fluids other than blood will be encountered on D&B sites. OPIM includes any body fluid visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. Unless visibly contaminated with blood, saliva (except in dental operations), feces, vomit, and urine are not considered to be OPIM.

Parenteral - Piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts and abrasions.

PPE – Personal Protective Equipment

Regulated Waste - Includes (1) liquid or semi-liquid blood or OPIM; (2) contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed; (3) items caked with dried blood or OPIM that are capable of releasing these materials during handling; (4) contaminated sharps and used needles; and (5) pathological and microbiological waste containing blood or OPIM.

Sharps - any object that can penetrate or cut the skin and produce an opening in the skin or a puncture wound that would expose D&B employees to blood or OPIM.

Source Individual - Any individual, living or dead, whose blood or OPIM may be a source of occupational exposure to D&B employees.

Universal Precautions - According to the concept of Universal Precautions, all human blood and certain human body fluids (OPIM) are treated as if known to be infectious for HIV, HBV, HCV, and other bloodborne pathogens, as an approach to infection control.

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The (HSO) has overall responsibility for the Bloodborne Pathogen Safety Program.

BLOODBORNE PATHOGENS SAFETY GUIDELINES

D&B Employees - All D&B employees will adhere to the provisions of this program.

5.0 GUIDELINES

5.1 General

According to universal precautions, all blood or OPIM must be considered potentially infectious regardless of the perceived status of the source.

5.2 Engineering and work practice controls

Engineering and work practice controls will be utilized to minimize or eliminate exposure for D&B employees. Where the potential for occupational exposure remains after institution of these controls, these practices must be followed:

Hand/body washing

- The purpose of hand washing is to remove any pathogens from the surface of the skin. For proper hand-washing techniques, see Attachment A.
- Hands must be washed as soon as is feasible after removal of gloves and other PPE. Interim hand-washing measures (e.g., antiseptic hand cleansers, towelettes) will be provided where hand-washing facilities are not immediately available. For glove removal procedures, see Attachment B.
- Wash exposed skin as soon as possible after any exposure (e.g., skin contact with blood or OPIM).
- Immediately following contact with blood or OPIM, eye and mucous membranes must be flushed with water.

BLOODBORNE PATHOGENS SAFETY GUIDELINES

5.3 Administrative

The HSO will review the Bloodborne Pathogen Safety Portion of the SSHASP at least annually, update as needed, and make it available for staff to review.

5.4 Universal Precautions

PPE

Where occupational exposure remains after institution of engineering controls, PPE must be:

- Utilized and properly disposed of.
- Maintained and made available for use while completing tasks where exposure may occur.
- PPE general precautions.
- Please follow the below procedures when utilizing PPE to clean contaminated areas.
- Utilize PPE in occupational exposure situations.
- Remove and replace all equipment or protective clothing that is torn, punctured, or has lost its ability to function as a barrier against bloodborne pathogens.
- Remove all PPE before leaving the work area.
- Protective gloves are to be used if there is potential for contact with blood or OPIM.
- Never wash or decontaminate disposable gloves for reuse or before disposal. For contaminated glove removal procedures, see Attachment B.

BLOODBORNE PATHOGENS SAFETY GUIDELINES

- Eye protection will be worn to prevent exposure.

Housekeeping and maintenance

Blood clean-up & OPIM

To review blood clean-up procedures, see Attachment C of this SOP.

Decontamination and disinfecting

Surfaces or equipment contaminated with blood or OPIM must be cleaned and decontaminated as soon as possible, using one of the following methods:

- Household bleach diluted between 1:10 to 1:100 with water.
- EPA-registered tuberculocidal disinfectants or products registered for use with Hepatitis B virus (HBV), used according to label instructions.

Broken glassware clean-up

Mechanical means will be used (e.g., brush and dustpan) to clean up broken glassware. Never pick up broken glassware by hand.

NOTE: - The Hepatitis B vaccine will be provided at no cost to any D&B employee who will or may have occupational exposure to the virus.

6.0 TRAINING

Only those employees who have received training in this SOP will engage in cleanup of bodily fluids. Training in BBP exposure and universal precautions will be conducted (and documented) at initial assignment and annually thereafter. Records will be maintained for at least three years.

BLOODBORNE PATHOGENS SAFETY GUIDELINES

7.0 REFERENCES

- OSHA 29 CFR 1910.1020.
- OSHA 29 CFR 1910.1030.
- OSHA 29 CFR 1910.1030(f).
- OSHA 29 CFR 1910.1030(g)(2)(i).

APPENDIX A – HAND-WASHING TECHNIQUE

- Remove rings and watches before engaging in any cleanup activities.
- Hands will be positioned lower than arms to prevent back-flow contamination.
- Utilize running water as this is necessary to carry away dirt and debris.
- Wet hands with warm running water, apply soap and lather well.
- Rub hands together in a circular motion applying light friction. Include front and back of both hands, between fingers and knuckles, around and under fingernails and the wrist area.
- Rinse hands under running water.
- Dry hands with clean dry paper towel or air dryer.
- Avoid direct contact of washed hands with faucet. If foot, elbow or knee controls are unavailable, drape paper towel over faucet handle prior to turning off.
- Discard soiled paper towel in waste receptacle.

APPENDIX B – REMOVAL OF CONTAMINATED DISPOSABLE GLOVES

- Use two fingers to pinch the outside of one glove (near the inner wrist) with the other gloved hand.
- Turn the glove inside out as it is pulled off.
- Use gloved hand to loosely hold removed glove.
- Reach inside second glove with two fingers of the bare hand and pinch it.
- Turn the glove inside out as it is removed, enclosing the first glove.
- Properly discard the entire package in waste receptacle.
- Wash hands.

APPENDIX C – BLOOD CLEAN-UP

- Wear impervious gloves and other PPE as deemed appropriate.
- Use absorbent material (rag, paper towel, etc.) or item covered with absorbent solidifier to wipe up blood.
- Place contaminated items in a plastic bag (not red) and dispose of in the garbage (as long as they do not meet the definition of a regulated waste). If it is regulated, ask emergency workers to remove.
- Wash the surface with detergent and water.
- Disinfect the surface using a bleach solution, letting it air dry (approximately 10 minutes), or use an appropriate commercial disinfectant according to manufacturer directions.

WORKING OVER OR NEAR WATER

Table of Contents

1.0 PURPOSE

The purpose of this SOP is to provide guidance when D&B employees must work over or near a body of water, to both prevent falling into the water and to provide means of rescue should an employee require rescue from a water body.

2.0 SCOPE

These guidelines apply to all D&B personnel who will be completing work activities over or near a body of water, where the danger of drowning exists and a potential fall hazard of up to four (4) feet exists.

3.0 DEFINITIONS

Job Hazard Analysis (JHA) – A step-by-step procedure that details the work tasks to be completed, in sequential order, the hazards that will be encountered during each step, and the controls that will be in place to prevent the hazard from occurring.

WORKING OVER OR NEAR WATER

PFD – Personal Floatation Device

PPE – Personal Protective Equipment

USCG – United States Coast Guard

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO has overall responsibility for the tasks involving working over or near water.

Project Manager – Responsible for ensuring that JHAs are created for tasks involving work over or near water and that proper PPE is supplied to affected employees.

D&B Employees - All employees must adhere to the provisions of this program.

5.0 GUIDELINES

5.1 GENERAL

A JHA must be prepared for each task involving working over or near water. The JHA must also include emergency response and rescue procedures.

5.2 PPE

Employees working over or near water, where the danger of drowning exists, shall be provided with USCG-approved PFDs, such as life jackets or buoyant work vests.

Prior to and after each use, the PFDs will be inspected for defects which would alter their effectiveness and/or or buoyancy. Defective units must immediately be discarded.

5.3 Rescue

Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.

WORKING OVER OR NEAR WATER

5.4 Exceptions

PFDs may not be necessary if fall protection is used to prevent personnel from falling into the water.

5.5 HSO

The HSO will review this portion of the HASP at least annually, update as needed, and make it available for staff to review.

6.0 TRAINING

Personnel who will be working over or near water shall be trained in the provisions of the relevant JHA(s). They will also be trained in the proper use of all PPE and rescue equipment.

7.0 REFERENCES

- OSHA 29 CFR 1926.106.
- OSHA 29 CFR 1926.501(b)(1).
- OSHA 29 CFR 1910.132.

HOT WORK SAFETY GUIDELINES

Table of Contents

1.0 PURPOSE

To provide guidelines when work processes may create sparks or flames. When this occurs, a Hot Work Permit will be required, to enable the work to proceed safely and reduce or eliminate the risk of fire or explosion.

2.0 SCOPE

These guidelines apply to D&B personnel whose work activities (or those of the D&B contractor) may involve the creation of sparks or flames.

HOT WORK SAFETY GUIDELINES

3.0 DEFINITIONS

ANSI – American National Standards Institute.

Hot Work – Any work involving burning, welding, grinding or similar operations that may create sparks, flames or fires, or cause explosions.

Hot Work Permit (HWP) – A document issued by the authority having jurisdiction (D&B PM, designee or the client) for the purpose of authorizing performance of hot work activities. A copy of the HWP is located in Attachment A. The client may have their own that they require be used on their sites.

NFPA – National Fire Protection Association.

Permit Authorizing Individual (PAI) – The individual designated by management to authorize hot work.

RCNY – Rules of the City of New York.

Welder/Welding Operator – Any operator of electric or gas welding and cutting equipment.

Welding and Allied Processes – Processes such as arc welding, oxy-fuel gas welding, open-flame soldering, brazing, thermal spraying, oxygen cutting and arc cutting

4.0 RESPONSIBILITIES

D&B Employees - All D&B employees will adhere to the provisions of this program.

Health and Safety Officer (HSO) - The HSO has overall responsibility for the Hot Work Program.

Program Manager (PM) – D&B's PM will ensure, along with PAI, that all workers

HOT WORK SAFETY GUIDELINES

completing any hot work activities have the certifications necessary to perform hot work. This includes Certificates of Fitness by FDNY (if work performed in the five boroughs), training on the equipment to be used, extinguisher training, etc. The PM must also recognize when a HWP must be issued.

PAI – The PAI is designated by the D&B PM to authorize the hot work activities, issuing a hot work permit, and cannot be the person conducting the hot work. Refer to the Hot Work Decision Tree, located in Attachment B. Responsibilities of the PAI also include:

- Conduct site inspections to verify that safeguards are in place.
- Work with crew to identify flammable materials, hazardous processes or other potential fire hazards present or likely to be present at the site.
- Remove or protect vulnerable equipment and materials that may catch fire or explode during hot work, or to coordinate to move the hot work process to a less vulnerable area, if possible.
- Ensure that fire protection/extinguishing equipment are present at the site. Require a fire watch, if necessary.
- Complete the HWP.
- Not allow any hot work that cannot be supported by a HWP.
- Where a fire watch is not necessary, checking the area 30 minutes after the completion of the hot work to detect and extinguish smoldering fires.
- Keep a copy of the HWP in the project files for at least 30 days.

Person Performing Hot Work – The person performing the hot work is usually a contractor, but may be a D&B employee. This person must adhere to the following:

- Obtain a HWP before starting hot work operations.

HOT WORK SAFETY GUIDELINES

- Use all required PPE.
- Ensure that all equipment to be used is in proper working order.
- Cease hot work operations if an unsafe condition is detected.
- Have the HWP at the site during hot work operations.

Fire Watch – The Fire Watch is a person or team, whose responsibility is to watch for fires following the conclusion of hot work. Please refer to Attachment C for a Fire Watch Decision Tree. Fire Watch personnel are responsible for the following:

- Having fire extinguisher training.
- Having a Certificate of Fitness from the FDNY (when required) and being knowledgeable about the hot work procedure and the use of fire suppression equipment.
- Being familiar with the possible fire hazards in the area.
- Maintaining fire extinguishing equipment and using it when necessary.
- Stopping work if an unsafe condition occurs.
- Maintaining constant observation of the hot work activities and adjacent areas to detect the presence of fire or possible ignition sources.
- Remaining in the area at all times while hot work is in progress and for the designated period of time after work is completed (usually 30 minutes), to detect and extinguish any smoldering fires.

5.0 GUIDELINES

HOT WORK SAFETY GUIDELINES

5.1 GENERAL

The following rules apply to hot work and the HWP:

- All hot work must be conducted according to this D&B SOP, unless the specific client has more stringent guidelines that it requires of its contractors.
- A task-specific hazard analysis must be created for each task requiring hot work and must be included in the site-specific HASP.
- A HWP is valid for up to 24 hours, and may not be renewed for more than seven (7) days.

5.2 Engineering and work practice controls

Engineering and work practice controls will be utilized to minimize or eliminate exposure to hazardous conditions for D&B employees. Hot work must performed in an area free of flammable and explosive materials. Hot work should be scheduled at a time when potentially dangerous processes are not in progress.

5.3 Other Considerations

In addition to fire and explosion hazards, other conditions may exist during hot work procedures. If hot work is conducted inside a confined space, confined space procedures must also be followed. Ventilation may be necessary, to purge the space of harmful gases and fumes. Gas cylinders must remain outside the space and secured. Air monitoring is mandatory, to determine if combustible atmospheres exist.

5.4 Prohibited activities

Hot work is prohibited in the following conditions:

HOT WORK SAFETY GUIDELINES

- In unauthorized areas.
- In facilities requiring sprinklers, where the sprinklers are impaired or inoperable.
- In the presence of combustible atmospheres or a potential for combustible atmospheres.
- In proximity to large quantities of exposed, readily ignitable materials (e.g. baled paper, chemicals, cloth/rag storage, etc).
- On used drums, barrels, tanks or other containers until they have been cleaned thoroughly enough to ensure that there are no flammable materials present or substances such as grease, tar or acids or other materials which, when subjected to heat, might produce flammable toxic vapors.
- On hollow spaces, cavities or containers until they have been vented to permit the escape of air or gases. Purging with inert gas (such as nitrogen) is recommended.

6.0 TRAINING

Only those employees who have received training in this SOP will engage in hot work procedures. Only those who have received fire extinguisher training shall use a fire extinguisher.

7.0 REFERENCES

- OSHA 29 CFR 1926.350-354.
- OSHA 29 CFR 1910.252-255.

HOT WORK SAFETY GUIDELINES

- ANSI Z49.1-1967.
- RCNY Title 2 §25-01(2).
- NFPA 51B.

APPENDIX A – HOT WORK PERMIT

INSTRUCTIONS

Permit Authorizing Individual (PAI): Verify precautions listed at right (or do not perform the hot work). Complete this permit and retain for 30 days in job files.

Person performing work: Follow all safety precautions to prevent stray sparks and flames. Post this permit in the work area for the duration of the hot work.

Fire Watch: Prior to leaving area, perform final inspection, sign permit and notify PAI.

(Refer to checklist to determine if fire watch is needed.)

Permit Issue Date:
Location of Work:
Type of Hot Work to be performed (grinding, cutting, welding/burning, heating, brazing/soldering or other):
Description of work being performed and materials being worked on:
Fire watch required? (Refer to checklist) Yes ☐ No ☐

Time started: _____AM/PM

Time ended: _____AM/PM

I verify that the above location has been examined, the precautions checked on the checklist to the right, and permission is given to perform the work.

_____
Printed Name/Signature of PAI

_____
Printed Name/Signature of person performing work

The work area & all adjacent areas to which sparks & heat might have spread were inspected during the fire watch period and were found to be fire safe.

_____
Printed Name/Signature of fire watch

REVALIDATION

Date: _____ By: _____
Time Started: _____AM/PM

HOT WORK CHECKLIST

Yes		N/A
☐	Sprinklers and other fire suppression in service.	☐
☐	Hot Work equipment in good working order.	☐
☐	Multi-purpose fire extinguisher available.	☐
☐	Person performing HW has Certificate of Fitness from FDNY (if in 5 boroughs).	☐

REQUIREMENTS WITHIN 35 FEET OF WORK

☐	Dust, lint, debris, flammable liquids and oily materials removed and floors swept clean.	☐
☐	Flammable materials covered if not removable.	☐
☐	Explosive atmosphere eliminated.	☐
☐	Flammable vapor sources removed or tested and below LEL.	☐
☐	Combustible floors (wood, tile, carpeting, etc.) properly wetted, covered with damp sand or fire blankets.	☐
☐	Combustible walls/ceilings/partitions/roofing properly shielded.	☐
☐	Lower levels (work/pedestrian access) shielded.	☐

WORK ON WALLS OR CEILINGS

☐	Combustibles have been removed from adjacent walls	☐
☐	Danger from conduction of heat to adjacent rooms eliminated.	☐

WORK IN CONFINED SPACES

☐	Space cleaned of all combustible materials.	☐
☐	Containers purged of flammable liquids/vapors.	☐

FIRE WATCH/AREA MONITORING

☐	Required for: (1) combustibles within 35'; (2) combustibles >35' but easily ignitable; (3) wall/floor openings that expose adjacent/ Concealed combustibles; (4) conduction through metal that can ignite other side; (5) potential for more than minor fire; and (6) all use of torches.	☐
☐	Provided for 30 minutes after work completed.	☐
☐	Fire watch has operational multi-purpose fire extinguisher available.	☐
☐	Fire watch trained in use of fire extinguisher.	☐

OTHER PRECAUTIONS

☐	Ample ventilation exists or provisions made to remove smoke/vapor from work area.	☐
☐	If applicable, proper LOTO or confined space procedures are followed.	☐
☐	Proper PPE is worn by those performing work as determined by JHA.	☐

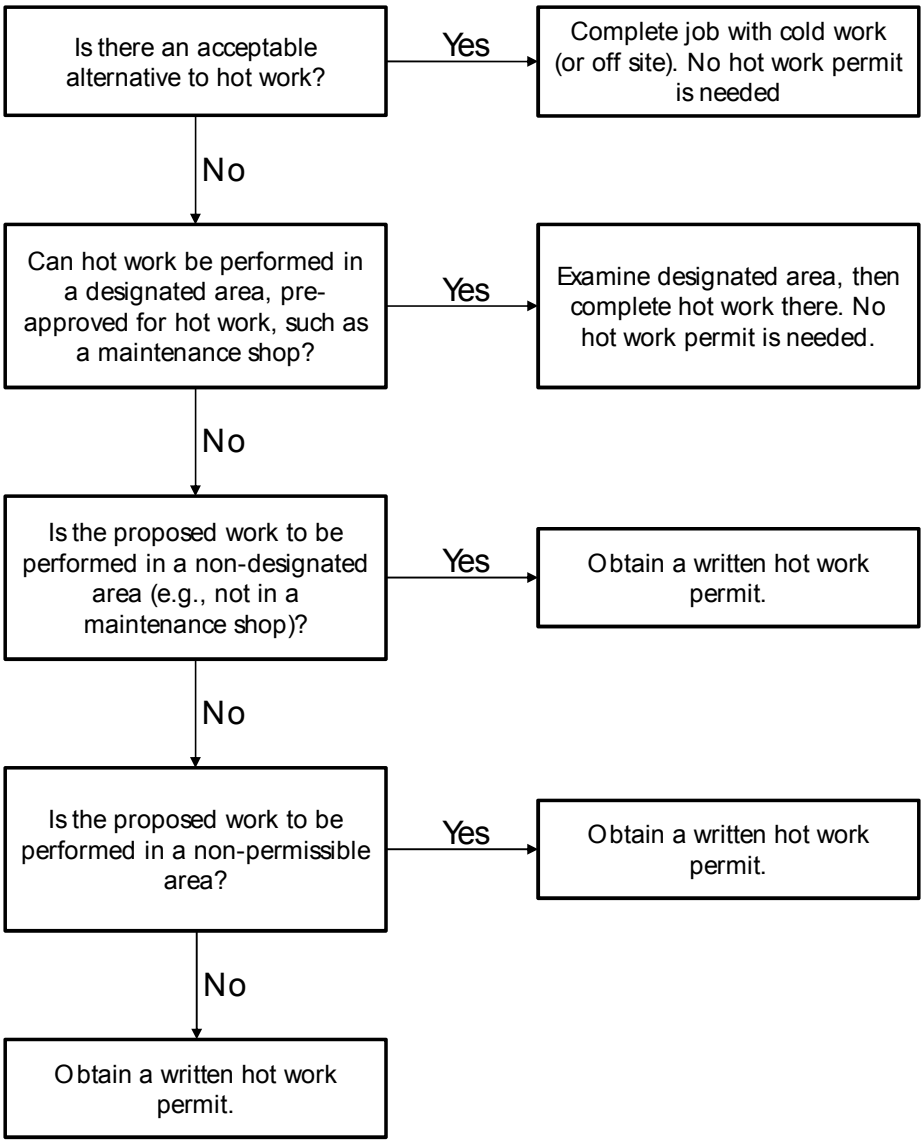
(for hot work continuing beyond one day)

Date: _____ By: _____
Time Started: _____AM/PM

Time Ended: _____AM/PM

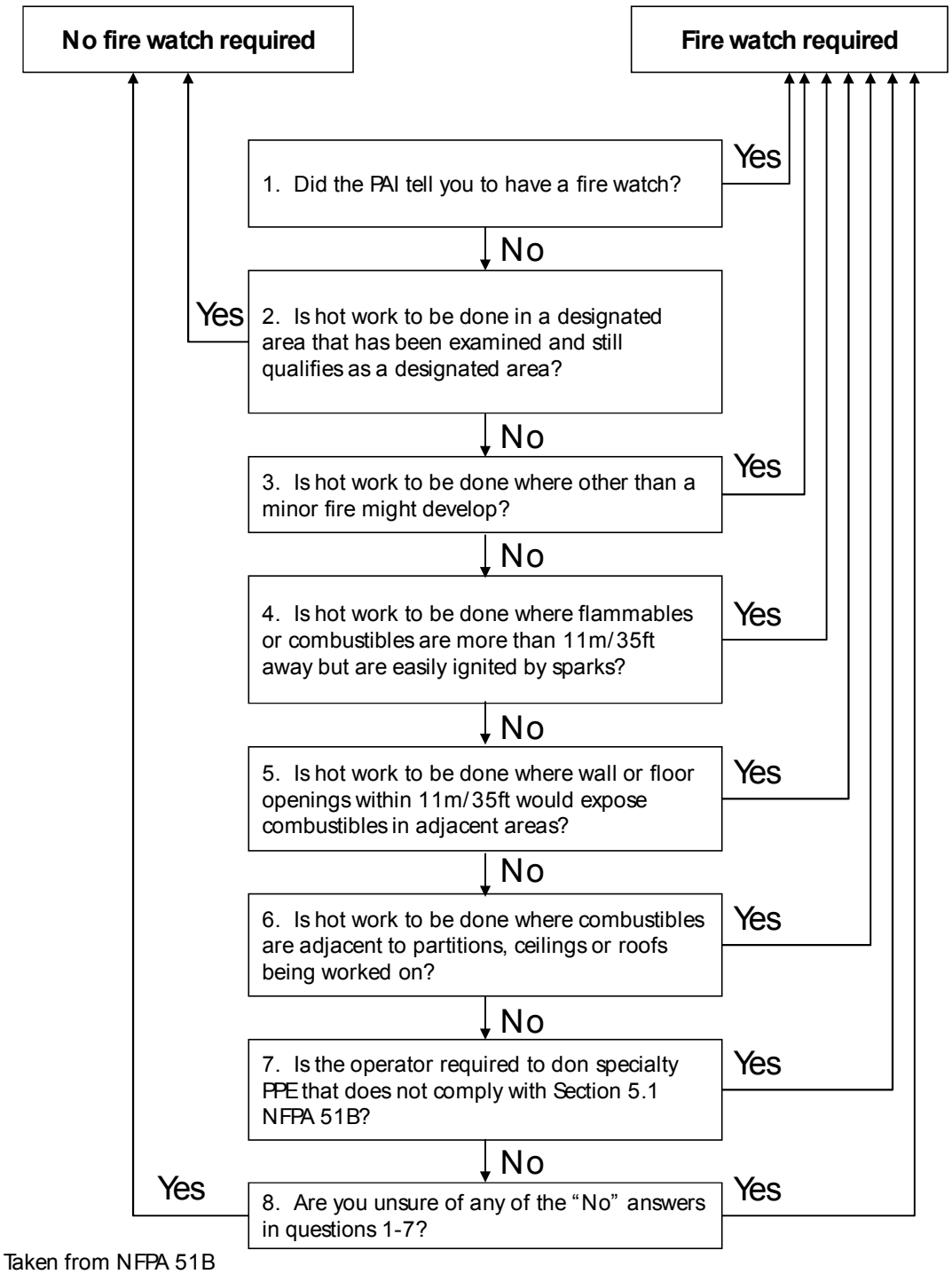
Time Ended: _____AM/PM

APPENDIX B – HOT WORK DECISION TREE



Taken fro NFPA 51B

APPENDIX C – FIRE WATCH DECISION TREE



Taken from NFPA 51B

FIRE SAFETY GUIDELINES

Table of Contents

1.0 PURPOSE

To provide guidelines to D&B personnel in preventing fires in their office/field workplaces, and what to do in case of fire. Also reference applicable portions of SOP 29 (Hot Work Safety Guidelines).

2.0 SCOPE

These guidelines apply to all D&B personnel in preventing and reporting fires, in the office or at job sites.

FIRE SAFETY GUIDELINES

3.0 DEFINITIONS

Class A Fire Extinguishers – Are for fires associated with wood, paper, rags, cloth or trash. Contents: water, water base, foam and loaded stream or multipurpose dry chemical.

Class B Fire Extinguishers – Are for fires associated with oil, gasoline, paint, solvents or grease. Contents: carbon dioxide, foam or dry chemicals.

Class C Fire Extinguishers – Are for electrical fires. Contents: Carbon dioxide or dry chemical. Note: Never use water for electrical fires.

HSR – Health and Safety Representative

Incipient - In an initial stage; beginning to happen or develop. An incipient fire is one that just started or may be starting.

OSHA – Occupational Safety and Health Administration.

SDS – Safety Data Sheet (formerly MSDS – Materials Safety Data Sheet).

4.0 RESPONSIBILITIES

Health and Safety Officer (HSO) - The HSO has overall responsibility for the Fire Safety Program.

D&B Employees - All D&B employees will adhere to the provisions of this program.

5.0 GUIDELINES

FIRE SAFETY GUIDELINES

5.1 General

The following rules apply to fire safety:

5.1.1 Office

- All D&B employees should know the escape routes and locations of fire exits. See maps for Woodbury and White Plains in Appendix A.
- All exits must be unobstructed, unlocked and marked.
- Fire extinguishers are inspected at least annually to ensure that they are adequately charged and facilities inspected to identify and eliminate fire hazards. Fire extinguisher locations should be properly marked. See Appendix A for locations of extinguishers.
- Smoking is not permitted inside office locations.

5.1.2 Job Sites

- Turn off vehicles/equipment when refueling. Allow time for engine to cool. Move at least 25 feet from refueling site before restarting portable tools/equipment with gasoline engines.
- No smoking/open flames permitted in refueling areas.
- No smoking is permitted near the use and storage of flammable/combustible chemicals/substances, including gasoline, benzene, paper or compressed gases such as oxygen and acetylene.
- Use only approved marked safety containers for storing and transporting flammable materials.

FIRE SAFETY GUIDELINES

- Allow space for fuel expansion in fuel tanks and containers.
- Employees should know the location of and how to use fire extinguishers. This information should be discussed as part of the daily safety tailgate meetings prior to the start of work.
- Fire extinguishers will be readily available wherever flammable chemicals are used or stored.

5.2 Evacuation Plans

All work sites, whether an office or job site, should have an evacuation plan. The plan should identify escape routes out of the site and muster points. Drills should be held as necessary.

5.3 Fire Extinguishers – Inspection/Maintenance

D&B facilities generally use Combination ABC fire extinguishers. Working and maintained fire extinguishers, which meet applicable regulations, should be accessible at D&B's offices and various job sites. They will be visually inspected monthly by D&B's HSO or designee and an annual maintenance check by D&B's.

5.4 In Case of Fire

In the event of a fire, call 911 immediately and try to utilize the proper fire extinguisher to put out the fire if it is safe to do so. If not, alert all personnel in the facility and evacuation should take place.

6.0 TRAINING

FIRE SAFETY GUIDELINES

D&B employees will receive training on the evacuation procedures at their work location as necessary. Fire extinguisher training will be provided at initial start of the project and annually thereafter. Training will include fire extinguisher use and incipient firefighting (including hazards).

7.0 REFERENCES

- OSHA 29 CFR 1910.150.
- OSHA 29 CFR 1910.157.
- OSHA 29 CFR 1910 1910.35-39.
- OSHA 29 CFR 1926.150.

APPENDIX A – EXITS & FIRE EXTINGUISHER MAPS FOR WOODBURY & WHITE PLAINS

EXIT A

EXIT B

EXIT C

B. MIELE

L. FAZIO

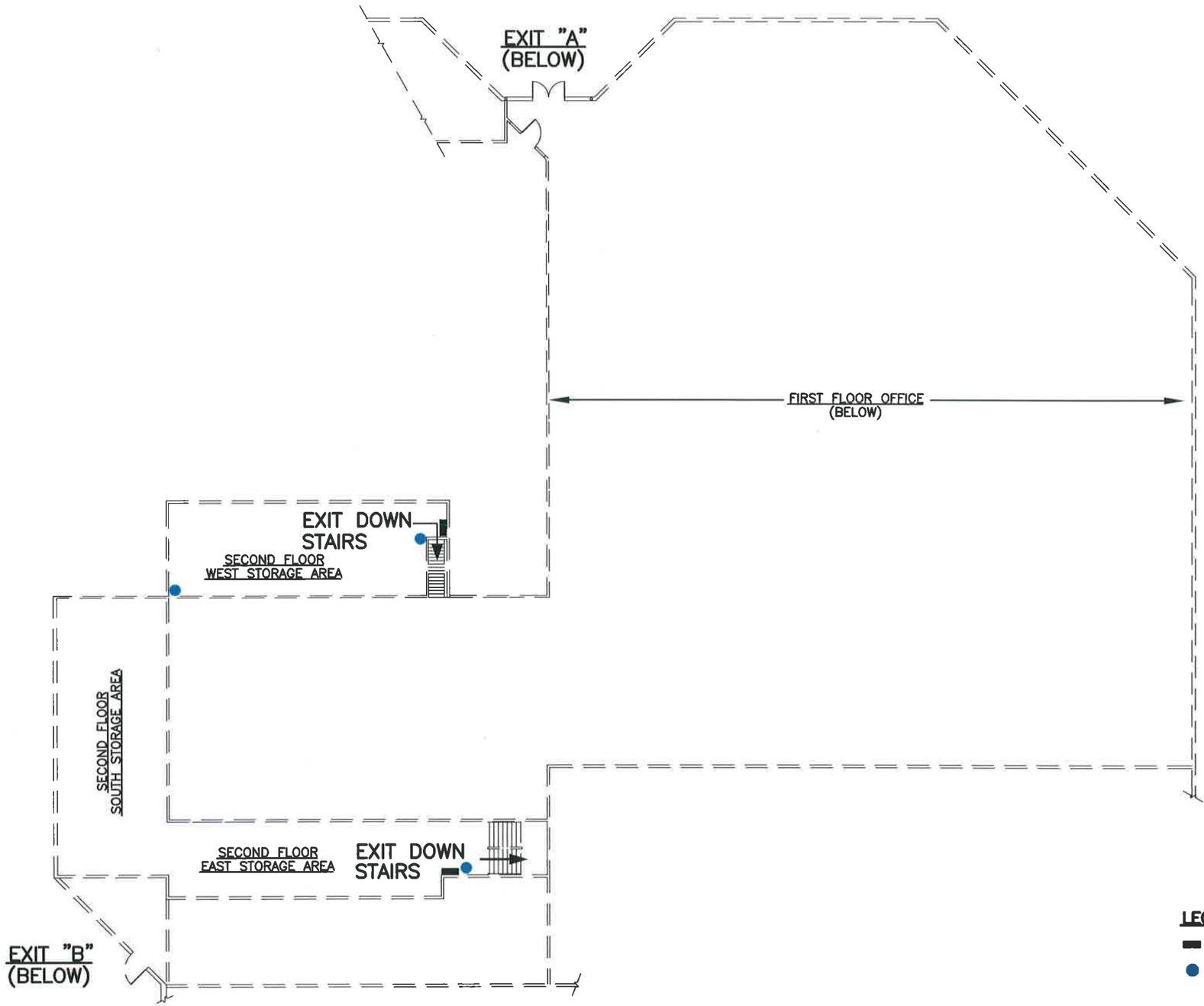
J. STANGO

C. ROSAS

LEGEND

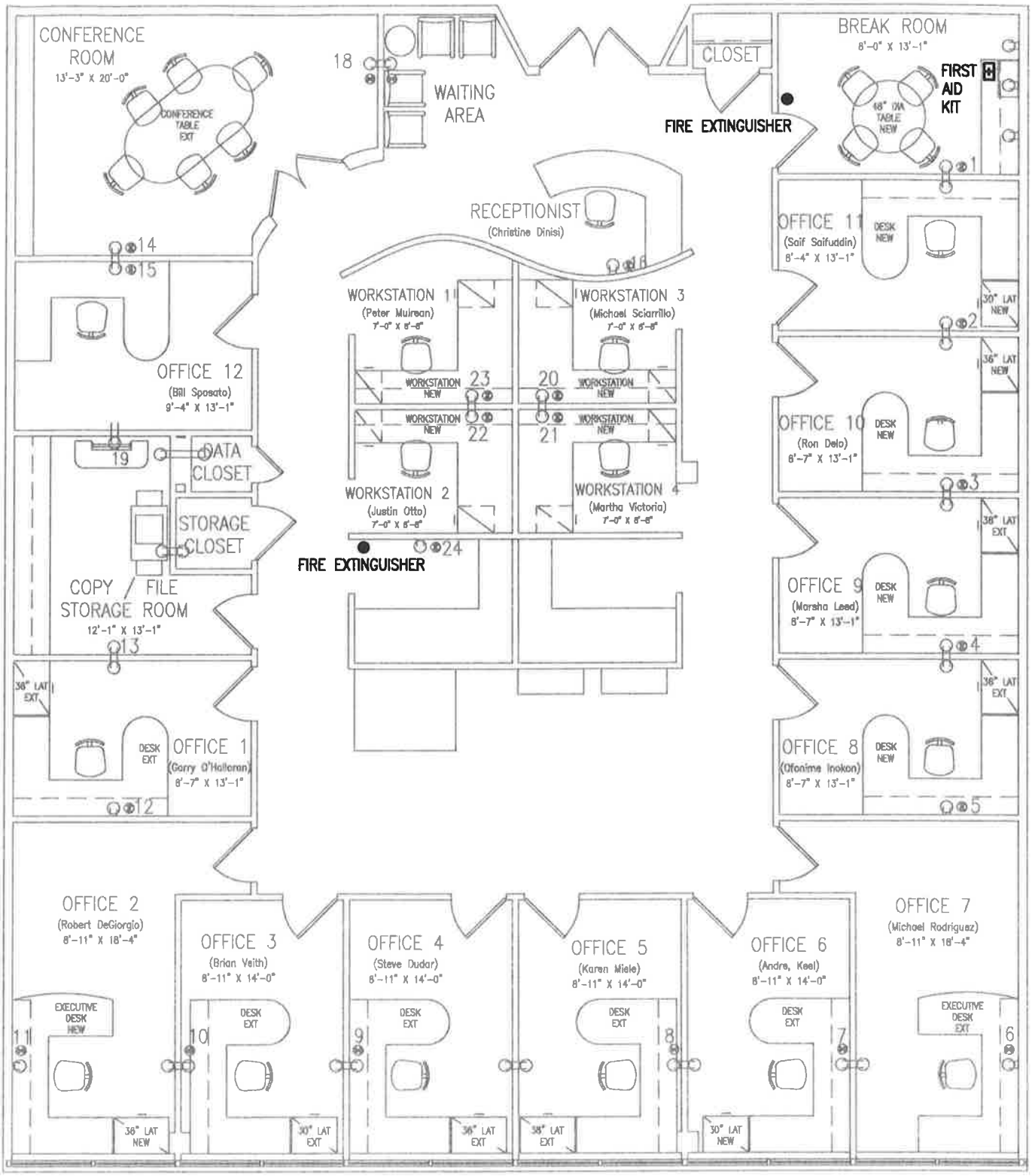
- ALARM PULLBOX
- FIRE EXTINGUISHER
- FIRST AID KIT
- (D) DEFIBRILATOR

F:\0020\FIRE EXIT\XREF-FIRE_EXIT.dwg, 7/25/2014 3:59:07 PM, KSaul



EMERGENCY EVACUATION PLAN
SECOND FLOOR OFFICE STORAGE ROOM LAYOUT

F:\0020\FIRE EXIT\FIRE-2.dwg, 7/25/2014 2:48:37 PM, KSaul
DIR: 0020 FILE: FIRE-2



DUPLEX OUTLETS
SINGLE OUTLETS
DATA/PHONE BOX
FIRE EXTINGUISHER
FIRST AID KIT

DVIRKA & BARTILUCCI
PROPOSED THIRD FLOOR PLAN
SCALE: ⅛" = 1'-0"


D&B Engineers
and
Architects, P.C.
50
YEARS
est. 1965