

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II**

Date: March 4, 2008

Subject: Removal Site Evaluation for the Pollution Abatement Services (PAS) Irwin Dump Site,
Oswego, New York

From: Dave Rosoff, On-Scene Coordinator
Removal Action Branch



To: File

Spill Identification #: KR

EPA ID #: NYD000511618

I. INTRODUCTION

The Removal Action Branch (RAB) received a request from the New York State Department of Environmental Conservation (NYSDEC) on August 14, 2007 to evaluate the PAS Irwin Dump Site (Site) for CERCLA removal action eligibility. The Site is located near the intersection of Johnson Road and Byer Road in the City of Oswego, New York (Figure 1). The Site is on a one-acre parcel of open land and is part of a four-acre construction debris landfill located at 70 Byer Road. Commercial properties are immediately adjacent to the Site and residential properties are within 500 feet of the Site.

There is a release and a continuing threat of release of CERCLA designated hazardous substances at the Site, which is defined as a facility under section 101(9) of CERCLA. Drums containing hazardous waste and hazardous substances were buried on the Site in a sixty by forty foot area to a depth of approximately fifteen feet below ground surface in the mid-1970s. Many of these drums are badly corroded or damaged and have released their contents into the soil. Currently, approximately 150 drums of industrial waste and 200 cubic yards of grossly contaminated soil excavated from the burial area by EPA during the December 2007 Removal Site Evaluation (RSE) field work are staged on the Site. Additional drums of waste and contaminated soil remain buried in the drum burial area. Sampling of the material in the drums and soil has revealed the presence of ignitable and reactive characteristic RCRA hazardous wastes, as well as other hazardous substances.

Based on the available information, a CERCLA Removal Action is warranted at the Site.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Physical Location

The Site is located in a mixed residential/commercial neighborhood on Byer Road in a rural corner of the City of Oswego and occupies Parcel 145.50-01-04.1 on the City tax map (Figure 2). The approximately one-acre Site is part of a four-acre construction debris landfill created in the 1970s, but is owned separately from the rest of the landfill. The Site is bounded to the east and west by commercial businesses and by Byer Road to the south. Woodlands are located immediately to the north. Residences are located within 500 feet of the Site to the west. A Lake Ontario tributary (Ont-66b) borders the Site to the east and northeast. A map depicting the Site is presented as Figure 3.

2. Site History

Reportedly, approximately 250 drums from the Pollution Abatement Services (PAS) site in the City of Oswego were buried on the Site in the mid-1970s. The drums were brought to the developing construction debris landfill at 70 Byer Road and buried on its northern edge by Mr. Richard Irwin, former owner and operator of the landfill. The drum burial area is not on the property formerly owned by Mr. Irwin but on the adjacent northerly property. Apparently, while filling the property at 70 Byer Road, Mr. Irwin extended the filling onto to the property owned by the former resident at 2652 Johnson Road... Currently, the Site is unoccupied open land owned by the new owner of 2652 Johnson Road. The former Irwin-owned portion of the landfill at 70 Byer Road is now owned by the City of Oswego.

3. Previous Work Relevant to this RSE

There have been several field investigations at the Site beginning in 1983. A Phase I investigation (1983) and a Phase II investigation (1986) were completed at the Site and reported no significant contamination. Buried drums were discovered on the Site during an expanded NYSDEC Phase II investigation in 1991. Waste from one of the drums failed EP-TOX for ignitability. At least six drums were uncovered and all were reportedly in poor condition. Samples from groundwater wells installed around the landfill did not indicate any significant levels of contamination. Due to the presence of an unknown number of drums buried on the Site the NYSDEC listed the Site on its Class 2 Registry of Inactive Hazardous Waste Disposal Sites on March 31, 1994. In 1998, in response to a referral from NYSDEC, EPA's Region II removal program performed a removal assessment at the Site. EPA excavated fifteen trenches and collected five soil samples during the assessment. Groundwater samples were also collected and analyzed from six monitoring wells around the Site. No cache of buried drums was located on the Site during the 1998 assessment and the results of the samples did not indicate any significant contamination. NYSDEC returned to the Site in 1999 to confirm the presence of the drum burial area. The excavation work at this time revealed more than twenty-five drums buried in the same

area previously identified in 1991. At least one of these drums contained an ignitable material and was overpacked and removed from the Site.

EPA performed an initial walk through at the Site in November 2007 with NYSDEC. Ten partially buried drums were observed by EPA during this visit.

4. Site Assessment/Characteristics

The removal assessment of the Site documented in this report took place between December 10th and December 14th, 2007. All of the analytical results from the sampling conducted during this removal assessment are presented in the Lockheed Martin (REAC) Site Investigation and Analytical Results Removal Assessment Report dated March 2008.

The Site is an unoccupied open field that terminates to the north at a steep wooded downsloping embankment. The identified drum burial area measures approximately forty by sixty by approximately fifteen foot deep and is located near this embankment. Currently, 150 drums and 200 cubic yards of contaminated soil excavated from this area during the removal assessment are staged on the surface of the Site. During the excavation EPA observed damaged and corroded drums buried haphazardly and leaking their contents into the surrounding soils. The drums contained clear liquids, colored solids, brown and black resinous material, viscous tarry liquids, clear silicone-like gels and rubbery textured brown/orange solids. Materials in many of the drums had strong chemical odors and organic vapor levels as high as 900 units were measured on the photo ionization detector (PID) in the air around the excavation. Several drums had visible "General Electric Company" labeling.

EPA collected 17 samples from drums and 7 waste/soil samples from the excavation during the assessment. Results from the analysis of these samples indicate that at least four drums contain material displaying the characteristic of ignitability and at least 2 drums contain material displaying the characteristic of reactivity (sulfide) as defined in 40 CFR, Subpart C, §261.21 and Subpart C, §261.23 of RCRA, and would be designated as hazardous wastes and CERCLA hazardous substances. In addition listed CERCLA hazardous substances including xylene, toluene, ethylbenzene, benzene, phenol, 1, 2-methylphenol, naphthalene and 2-methylnaphthalene, were detected at significantly elevated concentrations in waste material and soil impacted by the release of the waste materials from the drums (Tables 1 through 8). An unknown number of drums remain in the drum burial area along with approximately 2,000 cubic yards of contaminated soil impacted by releases from these drums.

5. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Drums containing hazardous waste (RCRA ignitable and reactive wastes) and other listed CERCLA hazardous substances have been found buried on the Site. These drums have leaked their hazardous contents into the soil around them. Currently, approximately 150 drums and 200 cubic yards of grossly contaminated soil excavated during the removal assessment are staged on-

Site. An unknown quantity of additional drums are still buried on the Site in the drum burial area along with a significant quantity of contaminated soil.

The following listed hazardous substances (as defined in 40CFR Table 302.4) have been identified at significantly elevated concentrations in the soil and waste at the Site through sampling and analysis:

<u>Hazardous Substance</u>	<u>Max. Conc. PPM</u>	<u>Statutory Source for Designation as a</u>
Acetone	6,200	RCRA §3001
Toluene	83,000	RCRA §3001, CWA §307(a) & §311(b)(4), CAA §112
Ethylbenzene	1,400	CWA §307(a) & §311(b)(4), CAA §112
Xylene	10,200	RCRA §3001, CWA §311(b)(4), CAA §112
Benzene	17	RCRA §3001, CWA §307(a) & §311(b)(4), CAA §112
1,2 Dichlorobenzene	6.6	RCRA §3001, CWA §307(a) & §311(b)(4)
Trichloroethene	7.6	RCRA §3001, CWA §307(a) & §311(b)(4), CAA §112
Phenol	4,800	RCRA §3001, CWA §307(a) & §311(b)(4), CAA §112
2-methylphenol	3,600	RCRA §3001, CWA §311(b)(4), CAA §112
4-methylphenol	36	RCRA §3001, CWA §311(b)(4), CAA §112
2-4, dimethylphenol	23	RCRA §3001, CWA §307(a) & §311(b)(4), CAA §112
2,4-dinitrophenol	16	RCRA §3001, CWA §307(a)
Acetophenone	38	RCRA §3001, CAA §112
Napthalene	530	RCRA §3001, CWA §307(a) & §311(b)(4), CAA §112
2-methylnapthalene	210	RCRA §3001, CWA §307(a) & §311(b)(4), CAA §112

III. THREATS TO PUBLIC HEALTH WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to the Public Health or Welfare

Conditions at the site meet the requirements of Section 300.415(b) of the National Contingency Plan (NCP) for the undertaking of a CERCLA removal action. Factors from the NCP Section 300.415(b)(2) that support conducting a removal action at the site include:

(i) Actual or potential exposure to nearby human populations, animals, of the food chain from hazardous substances, or pollutants, or contaminants;

There is a potential exposure to hazardous substances by nearby human populations (**§300.415(b)(2)(i)**). The Site is in a residential/commercial area, and is completely unsecured and has been used by trespassers for hunting and ATV driving. Prior to the removal assessment in December 2007 at least 10 partially buried drums of waste were exposed at the surface. Currently, approximately 150 drums and 200 cubic yards of contaminated soil excavated during

the assessment are staged on the Site. This material contains high levels of hazardous substances.

Direct human contact with the hazardous materials present at the Site could occur during the activities of trespassers. Since the Site is not secure or monitored, there is a significant threat of future uncontrolled releases.

(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks or other bulk storage containers, that may pose a threat of release;

There are hazardous substances in drums and other storage containers on the Site that may pose a threat of release (§300.415(b)(2)(iii)). Leaking drums containing industrial waste are buried on the Site. These drums are leaking their contents into the soil. Drums excavated during the assessment activities in December 2007 are known to contain ignitable and reactive hazardous waste and numerous other listed CERCLA hazardous substances. These drums are in poor condition and are temporarily staged on the Site awaiting removal.

(vi) Threat of fire or explosion

Ignitable and flammable (high VOC) wastes in containers on the Site represent a significant risk for fire. A fire could result in the generation and release of a large airborne plume of smoke containing hazardous substances. This plume could easily migrate off-Site into neighboring communities causing widespread exposure to airborne contamination. The Site is unsecured and vandals could ignite material in the drum storage area causing a catastrophic fire.

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release;

There are no State/local response agencies available to mitigate the threats to public health or the environment on the Site.

B. Threats to the Environment

The drums have already released hazardous substances to soil on the Site. This contamination could migrate and impact groundwater or nearby surface water. A Lake Ontario tributary (Ont-66b) borders the Site to the east and northeast.

IV. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase health risk to those persons that access the Site. Additional release from the leaking drums in the subsurface will occur over time increasing the aerial extent of soil contamination and further threatening groundwater and surface water. In addition, the potential for a fire and the widespread migration of hazardous substances off-Site increases over time.

V. CONCLUSIONS

The Site is considered a facility as defined by Section 300.5 of the NCP and Section 101(9) of CERCLA, 42 U.S.C. § 9601(9). A release of hazardous substances has occurred on the Site in a quantity and concentration that may present a substantial threat to the public health and the environment. There is a current exposure pathway existing to humans and the environment that may present an imminent and substantial endangerment to the public health and welfare and no other party, government or otherwise, is currently available to take a timely response action to mitigate the threat.

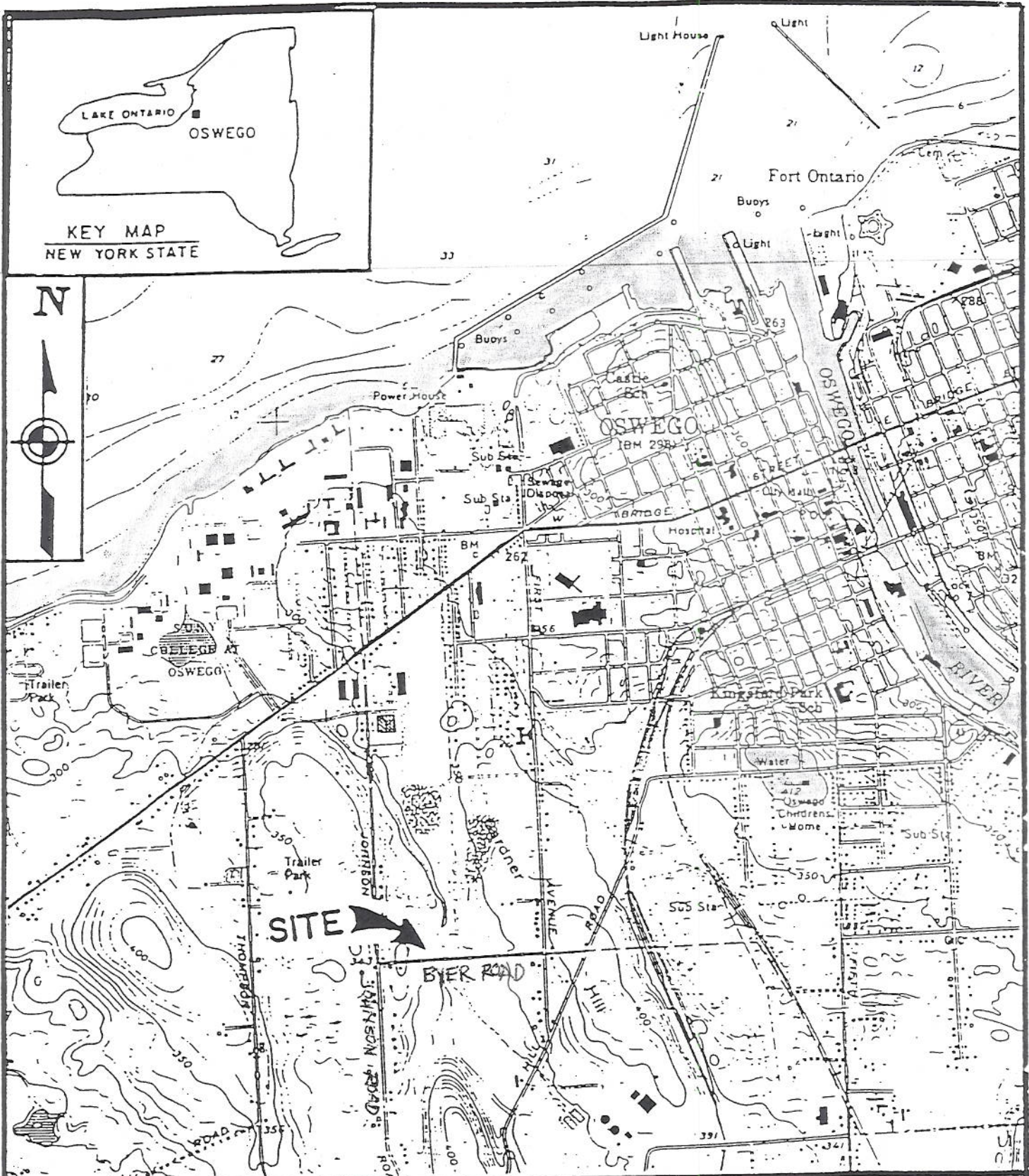
Based on the high concentrations of volatile and semi-volatile hazardous substances in the drums and contaminated soil, the Site may pose a health threat to unprotected individuals accessing the Site and to individuals residing or working in the vicinity of the Site.

VI. RECOMMENDATIONS

It is recommended that a CERCLA Time-Critical removal action be undertaken to address the RCRA hazardous waste and other listed CERCLA hazardous substances found in the drums and soil on the Site.

The removal action would consist of removal of previously excavated drums of waste and contaminated soil for appropriate off-Site disposal and the excavation of remaining buried drums and contaminated soil and the proper transportation and disposal of that material to an appropriate off-Site disposal facility. Further investigation of the extent of the release from the Site into groundwater and surface water should also be conducted to determine the potential for off-Site migration of contamination.

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 MANAGERS DESIGNERS/CONSULTANTS

EPA PM

Irwin Property Site
 Oswego, New York

IN ASSOCIATION WITH RESOURCE APPLICATION, Inc.
 C.C. JOHNSON & MALHOTRA, P.C., R.E. BARRERA ASSOCIATES,
 PRC ENVIRONMENTAL MANAGEMENT, AND ORS ENVIRONMENTAL SERVICES, INC.

START PM

Figure 1:
 Site Location

Figure 2

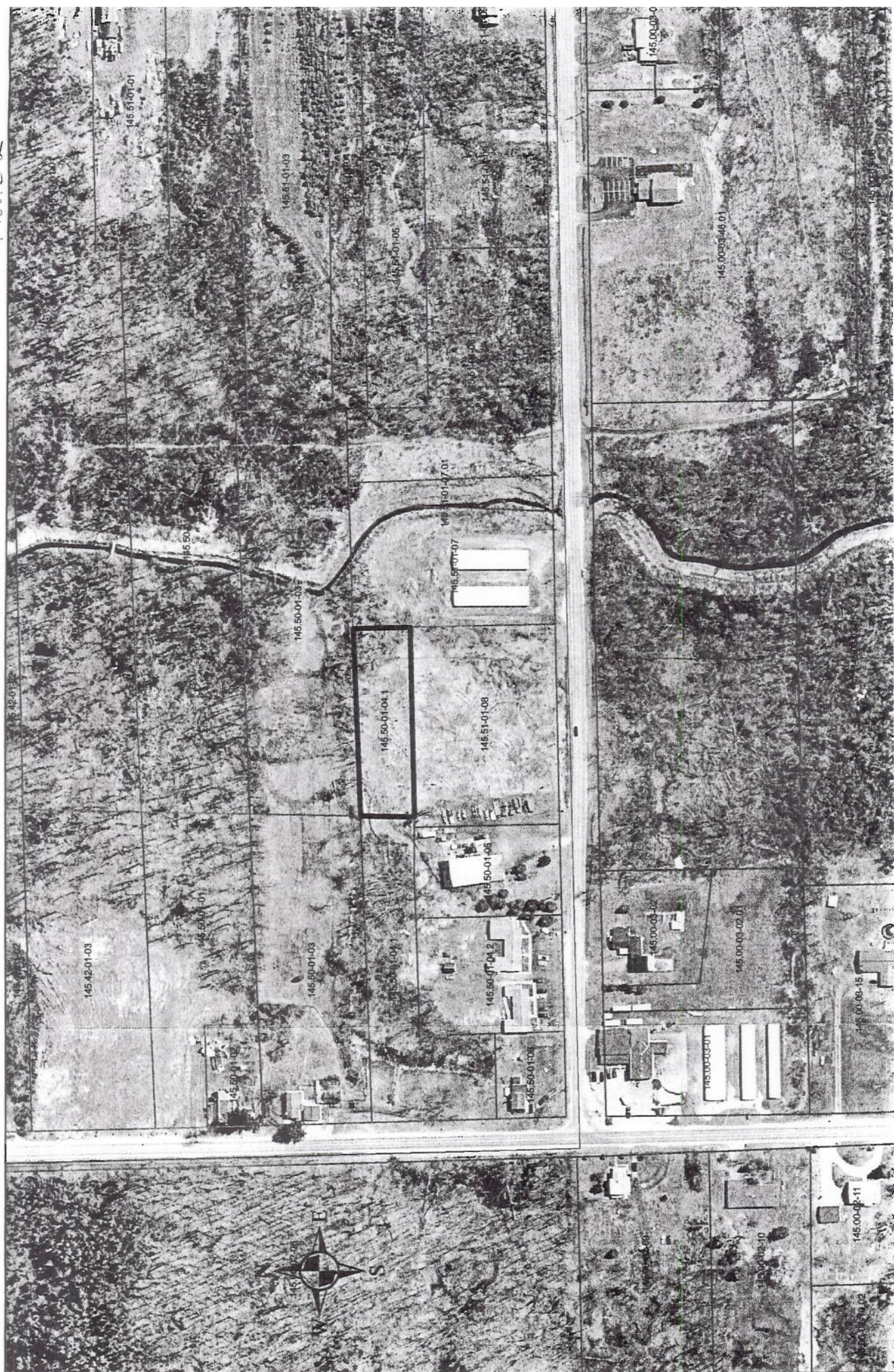
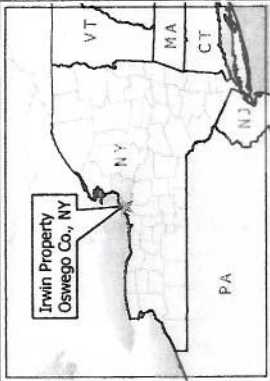


FIGURE 2



Legend

- Excavation Areas
- Contaminated Soil Staging Area
- Drum Staging Area
- Area X
- Bank
- Buildings

(Not Excavated: 196 Sq. Ft.)

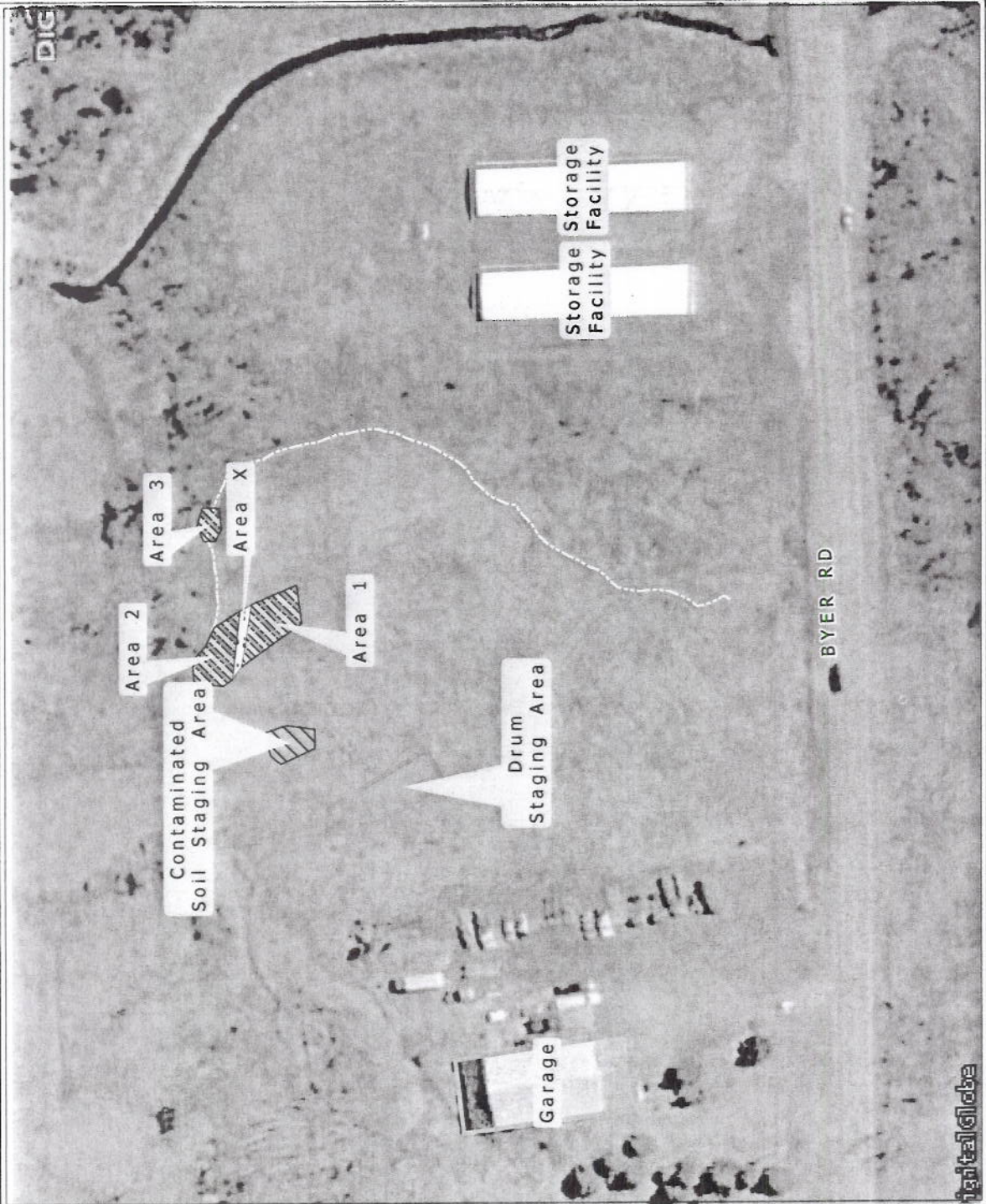


Figure 3
Site Map
 Irwin Property
 Oswego Co., New York
 December 2007 Investigation

U.S. EPA Environmental Response Team
 Response Engineering and Analytical Contract
 EP-C-04-032
 W.A.# 0-294

D R A F T

Map created using site survey GPS and Digital Globe imagery.
 GPS collected in Lat., Lon., Decimal Degrees, WGS84

Map Creation Date: 02January2008

Coordinate system: New York State Plane, Central
 FIPS: 4100
 Datum: NAD83
 Units: Feet

Data: g:\arcview\projects\reac4\00-294
 MXD file: g:\arcview\projects\reac4\EAC00294_IrwinProperty\294_sitemap_13



Table 1. Description of Samples Collected and Analyses Performed
Irwin Property Site
Oswego County, NY

Sample #	Sample ID	Sample Matrix	Sample Description	Photo	Analyses Performed												Reactivity								
					TAL Metals ¹	VOCs	SVOCs	PCBs	Pesticides	TPH	TCLP-Metals	TCLP-Organics ²	Ignitability	Corrosivity											
B4ME0	Blank																								
B4ME1	WM-1	Solid - WM /Soil	Contaminated soil collected from soil staging area	No	X	X	X	X	X			X					X	X	X	X	X			X	
B4ME2	WM-2	Liquid	WM collected from the excavator bucket from Pit #1. PID/VOC of 140 ppm	No	X	X	X	X	X															X	
B4ME3	WM-3	Viscous Liquid	Amber-black viscous WM collected from drum with GE label. Drum placed into Overpack #3.	Yes	X		X	X	X															X	
B4ME4	WM-4	Solid WM	Hardened (rock-like) purple-colored WM. Collected from drum (Drum ID #4) removed from Pit #1.	No	X		X	X	X			X												X	
B4ME5	WM-5	Solid WM	Hardened (rock-like) pink-colored WM. Collected from drum (Drum ID #5) removed from Pit #1.	Yes	X		X	X	X			X												X	
B4ME6	WM-6	Solid WM	Soft Flaky crystal-like WM. Collected from drum (Drum ID # 6) removed from Pit #1	Yes	X		X	X	X			X												X	
B4ME7	WM-7	Solid WM	Vitreous black-colored WM. Collected from drum (Drum ID #7) removed from Pit #1.	Yes	X		X	X	X			X												X	
B4ME8	WM-8	Solid - Soil/WM	Dark brown-colored hardened soil with WM. Collected from drum removed from Pit #1.	Yes	X		X	X	X			X												X	
B4ME9	WM-9	Viscous Liquid	Black-tar-like Viscous WM. Collected from 5-gal pail removed from Pit #1.	Yes	X		X	X	X			X												X	
B4MF0	WM-10	Liquid	Semi-viscous green-colored WM collected from excavator bucket from Pit #1. PID/VOC of 120 ppm	Yes	X		X	X	X															X	
B4MF1	WM-11	Solid WM	Soil/WM Mixture. Collected from drum placed into Overpack #4.	Yes	X		X	X	X															X	
B4MF2	WM-12	Viscous Liquid	Black Viscous WM. Collected from Drum (Drum ID #12) that was poly-wrapped in the staging area.	Yes	X		X	X	X			X												X	
B4MF3	WM-13	Viscous Liquid	Molasses-like consistency WM. Collected from excavator bucket from Pit #1.	No	X		X	X	X			X												X	
B4MF4	WM-14	Solid - Soil/WM	Grab sample taken from soil pile.	No	X-Dup.		X-Dup.	X-Dup.	X-Dup.																
B4MF5	WM-15	Solid - Soil/WM	Grab sample taken from soil pile.	No	X-Dup.		X-Dup.	X-Dup.	X-Dup.																
B4MF6	WM-16	Solid - Soil/WM	Grab sample taken from soil pile.	No	X-Dup.		X-Dup.	X-Dup.	X-Dup.																
B4MF7	WM-17	Solid WM	Hardened (rock-like) white-colored WM. Collected from Drum # 17 in staging area.	Yes	X		X	X	X			X												X	
B4MF8	WM-18	Solid WM	Crumby/rubbery-textured WM (orange-brown). Collected from Drum #18.	Yes	X		X	X	X			X												X	
B4MF9	WM-19	Solid - Soil/WM	Dark brown colored soil collected from Drum #19.	Yes	X		X	X	X			X												X	
B4MG0	WM-20	Solid - Soil/WM	Dark black colored soil/WM collected from Drum #20.	Yes	X		X	X	X			X												X	
B4MG1	WM-21	Solid - Soil/WM	Dark black colored soil/WM collected from Drum #21.	Yes	X		X	X	X			X												X	
B4MG2	WM-22	Solid - Soil/WM	Dark black colored soil/WM collected from Drum #22. PID/VOC detected.	Yes	X		X	X	X			X												X	
B4MG3	WM-23	Solid WM	Spongy/rubbery WM collected from Drum #23. PID/VOC detected.	Yes	X		X	X	X			X												X	
B4MG4	WM-24	Solid WM	Brown to dark-colored WM/soil collected from Drum #24. Difficult to break-up.	Yes	X		X	X	X			X												X	

1 - TAL (Target Analyte List) Metals includes Mercury (Hg) and Total Cyanide (CN)
 2 - TCLP (Toxicity Characteristic Leaching Procedure) Organics includes VOCs, SVOCs, and Pesticides
 3 - Reactivity includes cyanides and sulfides
 VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds
 PCBs = Polychlorinated biphenyl; TPH = Total Petroleum Hydrocarbons

Table 2. RCRA Characterization Results for Ignitability, Corrossivity, Cyanide Reactivity and Sulfide Reactivity
 Irwin Property Site
 Oswego County, NY

Sample #	Sample ID	Sample Matrix	Ignitability	Corrossivity	Cyanide Reactive	Sulfide Reactive (ppm)
B4ME1	WM-1	Solid - WM /Soil	No	No	No	No
B4ME2	WM-2	Liquid	Yes (77 °F)	No	No	No
B4ME3	WM-3	Viscous Liquid	Yes (122 °F)	No	No	No
B4ME4	WM-4	Solid WM	No	No	No	No
B4ME5	WM-5	Solid WM	No	No	No	No
B4ME6	WM-6	Solid WM	No	No	No	No
B4ME7	WM-7	Solid WM	No	No	No	No
B4ME8	WM-8	Solid- Soil/WM	No	No	No	No
B4ME9	WM-9	Viscous Liquid	No	No	No	No
B4MF0	WM-10	Liquid	Yes (83 °F)	No	No	No
B4MF1	WM-11	Solid WM	No	No	No	No
B4MF2	WM-12	Viscous Liquid	Yes (58 °F)	No	No	44.8 (6.25)
B4MF3	WM-13	Viscous Liquid	No	No	No	17.6 (6.25)
B4MF4	WM-14	Solid - Soil/WM	ND	ND	ND	ND
B4MF5	WM-15	Solid - Soil/WM	ND	ND	ND	ND
B4MF6	WM-16	Solid - Soil/WM	ND	ND	ND	ND
B4MF7	WM-17	Solid WM	No	No	No	No
B4MF8	WM-18	Solid WM	No	No	No	No
B4MF9	WM-19	Solid -Soil/WM	No	No	No	No
B4MG0	WM-20	Solid - Soil/WM	No	No	No	No
B4MG1	WM-21	Solid - Soil/WM	No	No	No	No
B4MG2	WM-22	Solid - Soil/WM	No	No	No	No
B4MG3	WM-23	Solid WM	No	No	No	No
B4MG4	WM-24	Solid WM	No	No	No	No

Sulfide Reactive - given as ppm (# is reporting detection limit)

°F - degrees Fahrenheit, ppm - part per million

ND - Not determined

WM - Waste Material

RCRA - Resource Conservation and Recovery Act

Table 3. Toxicity Characteristic Leaching Procedure (TCLP) Analysis for SVOCs, Pesticides, Metals and VOCs (Results as ug/L)
 Irwin Property Site
 Oswego County, NY

Analyte	Regulatory Level (ug/L)	WM-1		WM-4		WM-5		WM-5		WM-7		WM-8		WM-11		WM-14		WM-15	
		Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Semi-Volatile Organic Compounds (SVOCs)	Total Cresol	66	J	4.9	J	54	J	6.4	J	17000	J	6.5	J	63	J	16	J	40	J
	Hexachloroethane	3,000	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	Nitrobenzene	2,000	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	Hexachlorobutadiene	500	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	2,4,6-Trichlorophenol	2,000	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	2,4,5-Trichlorophenol	400,000	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	2,4-Dinitrotoluene	130	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	Hexachlorobenzene	130	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	Pentachlorophenol	100,000	U	10	U	10	U	10	U	500	U	10	U	40	U	10	U	10	U
	Pyridine	5,000	U	5	U	5	U	5	U	250	U	5	U	20	U	5	U	5	U
	gamma-BHC (Lindane)	400	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	1.7	U	0.05	U	0.05	U
	Heptachlor	8	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.43	U	0.05	U	0.05	U
	Heptachlor epoxide	8	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.12	R	0.05	U	0.05	U
	Endrin	20	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
	Methoxychlor	10,000	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
alpha-Chlordane	30	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.24	R	0.05	U	0.05	U	
gamma-Chlordane	30	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	
Toxaphene	500	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	
Arsenic	5,000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Barium	100,000	3420	U	3410	U	6250	U	1330	U	793	U	3900	U	3000	U	2800	U	3520	U
Cadmium	1,000	2.6	J	2.4	J	5	U	33.4	U	5	U	3	J	1.4	J	2.8	J	5	U
Chromium	5,000	10	U	10	U	10	U	10	U	10	U	26.7	U	30.7	U	10	U	10	U
Lead	5,000	59.1	U	10	U	10	U	10	U	10	U	0.2	U	0.2	U	0.2	U	0.2	U
Mercury	200	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Selenium	1,000	35	U	35	U	35	U	35	U	39.4	U	35	U	35	U	35	U	35	U
Silver	5,000	10	U	10	U	10	U	10	U	10	U	10	U	1.6	J	10	U	10	U
Volatile Organic Compounds (VOCs)	Vinyl chloride	10000	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	1,1-Dichloroethylene	200	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	2-Butanone	700	R	10	J	10	J	10	J	800	J	400	R	500	R	1100	J	1000	R
	Chloroform	6000	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	Carbon tetrachloride	500	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	Benzene	500	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	1,2-Dichloroethane	500	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	Trichloroethylene	500	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	Tetrachloroethylene	700	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	Chlorobenzene	100000	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R
	1,4-Dichlorobenzene	7500	R	5	R	5	R	5	R	25	R	200	R	250	R	250	R	500	R

ug/L = micrograms per liter
 U = Undetected
 J = Estimated
 R = Rejected

Table 3 continued. Toxicity Characteristic Leaching Procedure (TCLP) Analysis for SVOCs, Pesticides, Metals and VOCs (Results as ug/L)
Irwin Property Site
Oswego County, NY

Analyte	Regulatory Level (ug/L)	WM-16		WM-17		WM-18		WM-19		WM-20		WM-21		WM-22		WM-23		WM-24		
		Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	
Semi-Volatile Organic Compounds (SVOCs)	Total Cresol	17	J	22	J	1300	UJ	18	J	5.9	J	3500	J	2000	J	480	J	7000	J	
	Hexachloroethane	3,000	5	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ	
	Nitrobenzene	2,000	5	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ	
	Hexachlorobutadiene	500	5	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ	
	2,4,6-Trichlorophenol	2,000	5	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ	
	2,4,5-Trichlorophenol	400,000	5	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ	
	2,4-Dinitrotoluene	130	5	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ	
	Hexachlorobenzene	130	5	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ	
	Pentachlorophenol	100,000	10	UJ	10	UJ	2500	UJ	10	UJ	10	UJ	500	UJ	200	UJ	50	UJ	500	UJ
	Pyridine	5,000	5	UJ	5	UJ	1300	UJ	5	UJ	5	UJ	250	UJ	100	UJ	25	UJ	250	UJ
Pesticides	gamma-BHC (Lindane)	400	0.056	J	0.05	UJ	0.05	UJ	0.06	J	0.05	UJ	0.05	UJ	0.05	UJ	0.03	J	0.11	J
	Heptachlor	8	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.097	J
	Heptachlor epoxide	8	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
	Endrin	20	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ
	Methoxychlor	10,000	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
	alpha-Chlordane	30	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
	gamma-Chlordane	30	0.028	J	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
	Toxaphene	500	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
	Arsenic	5,000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
	Barium	100,000	2940	924	892	4010	3890	2040	2040	3890	2040	2040	2960	1810	1810	1810	1810	1810	1810	1810
Metals	Cadmium	1,000	2	J	5	5	U	2.7	J	1.3	J	3.6	J	5.8	5	5	U	1.4	J	
	Chromium	5,000	10	U	10	10	U	10	U	10	U	10	U	10	10	10	U	10	U	
	Lead	5,000	685	8.4	J	10	U	50.3	U	34.6	U	77.1	U	31.4	10	10	U	438	U	
	Mercury	200	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
	Selenium	1,000	35	U	35	65.4	U	35	U	35	U	35	U	35	U	35	U	35	U	
	Silver	5,000	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
	Vinyl chloride	200	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	1,1-Dichloroethylene	700	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	2-Butanone	NA	59	J	200	R	500	R	20	R	10	R	380	J	1600	R	10000	R	1600	R
	Chloroform	6000	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
Volatile Organic Compounds (VOCs)	Carbon tetrachloride	500	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	Benzene	500	1.4	J	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	1,2-Dichloroethane	500	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	Trichloroethylene	500	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	Tetrachloroethylene	700	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	Chlorobenzene	100,000	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R
	1,4-Dichlorobenzene	7500	5	R	100	R	250	R	10	R	5	R	400	R	800	R	5000	R	800	R

ug/L = micrograms per liter
U = Undetected
J = Estimated
R = Rejected

Table 4. Metal Analysis (mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-1		WM-2		WM-3		WM-4		WM-5		WM-6		WM-7		WM-8	
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Aluminum	5100	(20)	1100	(20)	8.1	UJ	1640	(20)	48	(20)	313	(20)	4.5	UJ	1590	(20)
Antimony	6	UJ	4	UJ	4	UJ	4.5	UJ	4.4	UJ	6.8	UJ	5.1	UJ	4.8	UJ
Arsenic	2.4	J-(1.0)	0.67	UJ	0.67	UJ	0.96	J-(1.0)	0.73	UJ	1.1	UJ	0.86	UJ	0.42	J-(1.0)
Barium	1080	J-(20)	124	J(20)	1.9	UJ	1820	J-(20)	1450	J(20)	47.8	J(20)	3.8	UJ	1770	J(20)
Beryllium	0.29	U	0.1	U	0.05	U	0.14	U	0.07	U	0.14	U	0.08	UJ	0.15	U
Cadmium	0.5	UJ	0.04	U	0.33	UJ	0.37	UJ	0.36	UJ	7.8	J-(0.5)	0.43	UJ	0.4	UJ
Calcium	11900	(500)	1610	(500)	23	J(500)	3380	(500)	126	J(500)	28000	(500)	37.1	J(500)	4110	(500)
Chromium	9.4	J-(1.0)	2.1	J-(1.0)	0.12	J-(1.0)	3	J-(1.0)	0.16	J-(1.0)	0.94	J-(1.0)	0.86	UJ	4.2	J-(1.0)
Cobalt	5	J-(6)	0.98	J-	3.3	UJ	2.7	J-(5)	0.36	J-(5)	0.23	J-(5)	4.3	UJ	3.6	J-(5)
Copper	30.3	J-(2.5)	5.5	J-(2.5)	0.06	J-(2.5)	7.9	J-(2.5)	0.29	J-(2.5)	10.8	J-(2.5)	1.5	J-(2.5)	8.5	J-(2.5)
Iron	10400	(10)	2040	(10)	38.7	(10)	4120	(10)	86.8	(10)	1960	(10)	516	(10)	3860	(10)
Lead	45.4	(1.0)	11	(1.0)	0.66	J(1.0)	27	(1.0)	0.65	J(1.0)	6	(1.0)	0.86	U	25.3	(1.0)
Magnesium	4150	(500)	560	(500)	5.1	J(500)	1180	(500)	20.1	J(500)	1170	(500)	4	J(500)	1170	(500)
Manganese	280	J-(1.5)	42.6	J-(1.5)	0.56	U	109	J-(1.5)	1.5	J-(1.5)	45.4	J-(1.5)	1.1	U	67.6	J-(1.5)
Mercury	0.14	U(0.1)	0.095	U	0.091	U	0.11	U	0.1	U	0.17	U	0.13	U	0.12	(0.1)
Nickel	7.6	J-(4)	1.3	J-(4)	2.7	UJ	2.6	J-(4)	2.9	UJ	1.7	J-(4)	4	J-(4)	2.7	J-(4)
Potassium	614	J-(500)	149	J(500)	333	UJ	177	J(500)	8.6	J(500)	98	J(500)	6.5	J-(500)	152	J(500)
Selenium	3.5	UJ	2.3	UJ	2.3	UJ	2.6	UJ	1.6	J-(3.5)	1.4	J-(3.5)	2.5	J-(3.5)	2.8	UJ
Silver	1.4	J-(1.0)	0.16	U	0.67	UJ	0.54	UJ	0.73	UJ	1.1	UJ	0.86	UJ	0.56	U
Sodium	195	J(500)	160	J(500)	117	J(500)	35.2	J(500)	363	U	1910	(500)	30.8	J(500)	50.3	J(500)
Thallium	2.5	UJ	1.7	UJ	1.7	UJ	1.9	UJ	1.8	UJ	2.8	UJ	2.1	UJ	2	UJ
Vanadium	12.3	J-(6)	2.5	U	3.3	UJ	4	J-(6)	3.6	UJ	5.7	UJ	4.3	UJ	3.5	J-(6)
Zinc	46	J-(6)	11.4	J-(6)	2	U	13.5	J-(6)	1.2	U	24.3	J-(6)	1.2	U	15.6	J-(6)
Cyanide	8.1	(2.5)	0.14	J(2.5)	1.3	J(2.5)	2.8	U	2.7	U	4.2	U	3.2	U	3	U

mg/kg = milligrams per kilogram
Qualifiers = Validator Qualifiers
(#) = Analytical Detection Limit
= Detected value

U = Undetected
UJ = Estimated value at the undetected value
J = Estimated value

Table 4 Continued. Metal Analysis (mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-9		WM-10		WM-11		WM-12		WM-13		WM-14		WM-15		WM-16	
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Aluminum	304	(20)	16.1	(20)	5130	(20)	48.6	(20)	2470	(20)	6370	(20)	6140	(20)	6320	(20)
Antimony	4.5	UU	4	UU	5.1	UU	0.85	J-(6)	6.1	UU	5.2	UU	5.6	UU	5.2	UU
Arsenic	1.3	J-(1.0)	0.67	UU	2.3	J-(1.0)	0.67	UU	0.87	J-(1.0)	2.2	J-(1.0)	2.3	J-(1.0)	2.5	J-(1.0)
Barium	26.2	J-(20)	14.5	J(20)	195	J(20)	8.8	J(20)	117	J(20)	325	J(20)	1220	J(20)	354	J(20)
Beryllium	0.09	U	0.07	U	0.32	U	0.07	U	0.21	U	0.39	U	0.39	U	0.4	U
Cadmium	0.38	UU	0.03	U	0.42	U	0.34	UU	0.51	UU(50)	0.44	UU	0.47	UU	0.44	UU
Calcium	613	(500)	514	(500)	11200	(500)	3150	(500)	4780	(500)	12800	(500)	14900	(500)	14000	(500)
Chromium	0.94	J-(1.0)	0.18	J-(1.0)	8	J-(1.0)	0.08	J-(1.0)	3.8	J-(1.0)	10	J-(1.0)	9.9	J-(1.0)	9.8	J-(1.0)
Cobalt	0.36	J-(5)	3.3	UU	6.9	UU	0.25	J-(5)	1.7	J-(5)	4.7	J-(5)	5.3	J-(5)	4.9	J-(5)
Copper	3.8	J-(2.5)	0.28	J-(2.5)	20.2	J-(2.5)	9.9	J-(2.5)	9.6	J-(2.5)	22.8	J-(2.5)	26	J-(2.5)	25.7	J-(2.5)
Iron	3750	(10)	155	(10)	10500	(10)	1640	(10)	4930	(10)	11800	(10)	12500	(10)	12700	(10)
Lead	2.4	(1.0)	1.7	(1.0)	27.5	(1.0)	0.66	J(1.0)	57.5	(1.0)	33	(1.0)	199	(1.0)	65.8	(1.0)
Magnesium	174	J(500)	11.8	J(500)	3070	(500)	35.9	J(500)	1280	(500)	4750	(500)	4400	(500)	4520	(500)
Manganese	26.6	J-(1.5)	2.5	J-(1.5)	343	J-(1.5)	6.8	J-(1.5)	106	J-(1.5)	323	J-(1.5)	348	J-(1.5)	350	J-(1.5)
Mercury	0.1	U	0.1	U	0.12	U	0.1	U	0.15	U	0.13	U	0.12	UU	0.12	U
Nickel	3	UU	2.7	UU	7.3	J-(4)	2.7	UU	2.7	J-(4)	9.4	J-(4)	9.7	J-(4)	9.7	J-(4)
Potassium	55.4	J(500)	2.3	J(500)	660	J(500)	8.1	J(500)	319	J(500)	767	J(500)	751	J(500)	731	J(500)
Selenium	1.3	J-(3.5)	0.66	J-(3.5)	3	UU	2.1	J-(3.5)	1.8	J-(3.5)	3	UU	3.3	UU	3.1	UU
Silver	0.45	U	0.67	UU	1.5	J-(1.0)	0.12	U	0.56	U	1.6	J-(1.0)	1.7	J-(1.0)	1.7	J-(1.0)
Sodium	195	J(500)	135	J(500)	169	J(500)	125	J(500)	171	J(500)	197	J(500)	138	J(500)	199	J(500)
Thallium	1.9	UU	1.7	UU	2.1	UU	1.7	UU	2.5	UU	2.2	UU	2.3	UU	2.2	UU
Vanadium	0.87	J-(5)	0.21	J-(5)	11.5	J-(5)	3.4	UU	6.7	J-(5)	15.1	J-(5)	14	J-(5)	15	J-(5)
Zinc	13.4	J-(6)	2.4	J-(6)	89	J-(6)	3.4	J-(6)	34.7	J-(6)	53.7	J-(6)	171	J-(6)	65.5	J-(6)
Cyanide	2.8	U	2.5	U	3.2	U	1.5	J(2.5)	3.8	U	3.2	U	0.15	J(2.5)	3.2	U

mg/kg = milligrams per kilogram
Qualifiers = Validator Qualifiers
(#) = Analytical Detection Limit
= Detected value
U = Undetected
UU = Estimated value at the undetected value
J = Estimated value

Table 4 Continued. Metal Analysis (mg/kg)
 Irwin Property Site
 Oswego County, NY

Analyte	WM-17		WM-18		WM-19		WM-20		WM-21		WM-22		WM-23		WM-24	
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Aluminum	8.3	UJ	83	J (20)	5050	(20)	5620	(20)	4720	(20)	5570	(20)	846	(20)	2420	(20)
Antimony	9.3	UJ	4	J (6)	4.9	UJ	7.8	U	8.9	(6)	8.2	(6)	1.9	J (6)	3.2	J (6)
Arsenic	1.6	UJ	3.5	R (1.0)	2.2	J (1.0)	1.4	J (1.0)	0.79	J (1.0)	1.4	(1.0)	1.7	U	1.3	U
Barium	7.5	J (20)	27.9	J (20)	4340	J (20)	3840	(20)	1920	(20)	1270	(20)	391	(20)	954	(20)
Beryllium	0.17	U	0.44	U	0.34	U	0.27	UJ	0.19	UJ	0.24	UJ	0.07	UJ	0.63	U
Cadmium	0.78	UJ	1.8	R (0.5)	0.4	UJ	0.65	U	1	(0.5)	1	(0.5)	0.83	U	0.63	U
Calcium	124	J (500)	387	J (500)	10500	(500)	15900	(500)	17800	(500)	16100	(500)	3040	(500)	132000	(500)
Chromium	1.3	J (1.0)	2.3	U (1.0)	11.3	J (1.0)	11.1	(1.0)	15.7	(1.0)	13.5	(1.0)	3.9	(1.0)	77.5	(1.0)
Cobalt	7.8	UJ	0.77	J (5)	6.6	J (5)	7	J (6)	6.5	J (5)	5.3	J (5)	1	UJ	247	J (5)
Copper	0.25	J (2.5)	2.4	J (2.5)	36.5	J (2.5)	38.8	(2.5)	36.7	(2.5)	27.3	(2.5)	19.8	(2.5)	38.4	(2.5)
Iron	158	(10)	4740	J (10)	14700	(10)	11200	(10)	9300	(10)	10900	(10)	19500	(10)	34100	(10)
Lead	1.6	(1.0)	5.2	J (1.0)	41.9	(1.0)	79	(1.0)	86.6	(1.0)	64.3	(1.0)	10.3	(1.0)	390	(1.0)
Magnesium	10.7	J	64.7	J (500)	3610	(500)	3810	(500)	3450	(500)	4120	(500)	291	J (500)	4450	(500)
Manganese	1.3	U	29	J (1.5)	327	J (1.5)	295	(1.5)	275	(1.5)	262	(1.5)	63.5	(1.5)	217	(1.5)
Mercury	0.23	U	0.52	R (0.1)	0.12	(0.1)	0.12	(0.1)	0.14	(0.1)	0.11	J (0.1)	0.14	J (0.1)	0.11	J (0.1)
Nickel	6.2	UJ	14.1	R (4)	8.4	J (4)	7.7	(4)	6.7	(4)	7.6	(4)	1.7	J (4)	26	(4)
Potassium	7.5	J (500)	31.4	J (500)	615	J (500)	588	J (500)	459	J (500)	447	J (500)	61.4	J (500)	241	J (500)
Selenium	0.91	J (3.5)	14.6	J (3.5)	2.8	UJ	4.5	U	4	U	4.6	U	3	J (3.5)	4.4	U
Silver	1.6	UJ	3.5	R (1.0)	2	J (1.0)	1.3	J (1.0)	1.3	J (1.0)	1.2	J (1.0)	2	J (1.0)	4.1	J (1.0)
Sodium	1070	(500)	647	J (500)	181	J (500)	323	UJ	282	UJ	292	UJ	497	UJ	400	UJ
Thallium	3.9	UJ	8.8	R (2.5)	2	UJ	3.2	U	2.9	U	3.3	U	4.1	U	3.1	U
Vanadium	0.51	J (5)	17.6	R (5)	12	J (5)	12.5	(5)	11.3	(5)	13.7	(5)	0.65	J (5)	1.5	J (5)
Zinc	3.2	J (6)	99	J (6)	44.3	J (6)	64.9	(6)	92.6	(6)	58.8	(6)	20	(6)	42.5	(6)
Cyanide	5.8	U	13.1	R (2.5)	0.13	J (2.5)	0.13	J (2.5)	0.14	J (2.5)	0.18	J (2.5)	0.51	J (2.5)	3.1	U

U = Undetected
 UJ = Estimated value at the undetected value
 J = Estimated value

mg/kg = milligrams per kilogram
 Qualifiers = Validator Qualifiers
 (#) = Analytical Detection Limit
 = Detected value

Table 5. Polychlorinated Biphenyls (PCBs) and Pesticide Analysis (Results as mg/kg)
 Irwin Property Site
 Oswego County, NY

Analyte	WM-1		WM-2		WM-3		WM-4		WM-5		WM-6		WM-7		WM-8		
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	
Polychlorinated Biphenyls	Aroclor-1016	0.052	U	0.008	UJ	1.4	UJ	0.039	U	0.037	U	0.13	U	0.087	U	0.039	U
	Aroclor-1221	0.052	U	0.008	UJ	1.4	UJ	0.039	U	0.037	U	0.13	U	0.087	U	0.039	U
	Aroclor-1232	0.052	U	0.008	UJ	1.4	UJ	0.039	U	0.037	U	0.13	U	0.087	U	0.039	U
	Aroclor-1242	0.25	J (0.052)	0.008	UJ	1.4	UJ	0.039	U	0.078	(0.037)	0.13	U	0.087	U	0.16	J (0.039)
	Aroclor-1248	0.052	UJ	0.008	UJ	1.4	UJ	0.039	U	0.037	U	0.13	U	0.087	U	0.039	U
	Aroclor-1254	0.073	JN (0.052)	0.008	UJ	1.4	UJ	0.039	U	0.025	U	0.13	U	0.087	U	0.12	J (0.039)
	Aroclor-1260	0.052	U	0.008	UJ	1.4	UJ	0.039	U	0.037	U	0.13	U	0.087	U	0.039	U
	Aroclor-1262	0.052	U	0.008	UJ	1.4	UJ	0.039	U	0.037	U	0.13	U	0.087	U	0.039	U
	Aroclor-1268	0.052	U	0.008	UJ	1.4	UJ	0.039	U	0.037	U	0.13	U	0.087	U	0.039	U
	alpha-BHC	0.027	U	0.0007	R	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.002	U
Pesticides	beta-BHC	0.002	U	0.001	J (0.0004)	0.49	R	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.002	U
	delta-BHC	0.027	U	0.0004	UJ	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.042	R	0.002	U
	gamma-BHC (Lindane)	0.0017	J (0.0027)	0.0006	R	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.002	U
	Heptachlor	0.0015	U	0.0004	UJ	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.0016	R
	Aldrin	0.027	U	0.0004	UJ	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.002	U
	Heptachlor epoxide	0.0032	J (0.0027)	0.0004	UJ	0.7	U	0.002	UJ	0.0018	U	0.069	U	0.043	U	0.002	U
	Endosulfan I	0.0027	U	0.0004	UJ	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.002	U
	Dieldrin	0.052	U	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.13	U	0.084	U	0.002	R
	4,4'-DDE	0.024	J (0.0052)	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.069	J (0.013)	0.019	J (0.0084)	0.0033	U
	Endrin	0.052	UJ	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.13	UJ	0.084	UJ	0.0039	U
	Endosulfan II	0.052	U	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.13	U	0.084	U	0.0039	U
	4,4'-DDD	0.052	U	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.13	U	0.084	U	0.0039	U
	Endosulfan sulfate	0.052	U	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.13	UJ	0.084	UJ	0.0039	U
	4,4'-DDT	0.027	UJ	0.004	UJ	7	UJ	0.02	UJ	0.019	UJ	0.069	UJ	0.043	UJ	0.02	UJ
	Methoxychlor	0.051	J (0.0052)	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.13	U	0.084	U	0.0039	U
Endrin ketone	0.022	J (0.0052)	0.0008	UJ	1.4	U	0.004	UJ	0.0037	U	0.13	U	0.084	U	0.0039	U	
alpha-Chlordane	0.027	U	0.0004	UJ	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.002	U	
gamma-Chlordane	0.0039	J (0.0027)	0.0004	UJ	0.7	U	0.002	UJ	0.0019	U	0.069	U	0.043	U	0.002	U	
Toxaphene	0.27	U	0.04	UJ	70	U	0.02	UJ	0.19	U	0.69	U	0.43	U	0.2	U	

mg/kg = milligrams per kilogram
 (#) = Analytical Detection Limit
 U = Undetected
 J = Estimated
 N = Presumptive evidence for the presence of the material
 NJ = Presumptive evidence for presence of the material at an estimated value
 R = Data is rejected

Table 5 Continued. Polychlorinated Biphenyls (PCBs) and Pesticide Analysis (Results as mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-9		WM-10		WM-11		WM-12		WM-13		WM-14		WM-15		WM-16		
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	
Polychlorinated Biphenyls	Aroclor-1016	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	U	0.041	U	0.041	U
	Aroclor-1221	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	U	0.041	U	0.041	U
	Aroclor-1232	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	U	0.041	U	0.041	U
	Aroclor-1242	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.046	(0.042)	0.078	J (0.041)	0.041	U
	Aroclor-1248	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	U	0.041	U	0.041	U
	Aroclor-1254	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	J (0.042)	0.023	J (0.041)	0.041	U
	Aroclor-1260	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	U	0.041	U	0.041	U
	Aroclor-1262	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	U	0.041	U	0.041	U
	Aroclor-1268	1.1	U	0.008	UJ	0.043	U	4.1	UJ	1.5	U	0.042	U	0.041	U	0.041	U
	alpha-BHC	0.055	U	0.0004	U	0.012	R	0.19	U	0.077	U	0.022	U	0.021	U	0.021	U
	beta-BHC	0.12	R	0.00034	R	0.034	R	0.19	U	0.077	U	0.022	U	0.017	R	0.021	U
	delta-BHC	0.050	NJ (0.055)	0.0004	UJ	0.022	U	0.19	U	0.077	U	0.022	U	0.021	U	0.021	U
	gamma-BHC (Lindane)	0.055	U	0.0004	UJ	0.016	U	0.19	U	0.077	U	0.022	U	0.013	R	0.021	U
	Heptachlor	0.055	U	0.0004	UJ	0.013	J (0.022)	0.19	U	0.077	U	0.022	U	0.021	U	0.021	U
Aldrin	0.055	U	0.0004	UJ	0.017	J (0.022)	0.19	U	0.077	U	0.022	U	0.021	U	0.021	U	
Heptachlor epoxide	0.055	U	0.00022	R	0.022	U	0.19	U	0.077	U	0.022	U	0.021	U	0.021	U	
Endosulfan I	0.055	U	0.0004	UJ	0.042	U	0.38	U	0.077	U	0.022	U	0.021	U	0.021	U	
Dieldrin	0.11	U	0.0008	UJ	0.042	U	0.38	U	0.077	U	0.022	U	0.041	U	0.041	U	
4,4'-DDE	0.11	U	0.0008	UJ	0.042	U	0.38	U	0.077	U	0.022	U	0.041	U	0.041	U	
Endrin	0.11	U	0.0008	UJ	0.042	U	0.38	U	0.077	U	0.022	U	0.041	U	0.041	U	
Endosulfan II	0.11	U	0.0008	UJ	0.042	U	0.38	U	0.077	U	0.022	U	0.041	U	0.041	U	
4,4'-DDD	0.11	U	0.0008	UJ	0.042	U	0.38	U	0.077	U	0.022	U	0.041	U	0.041	U	
Endosulfan sulfate	0.11	U	0.00099	J (0.0008)	0.042	U	0.38	U	0.077	U	0.022	U	0.041	U	0.041	U	
4,4'-DDT	0.11	UJ	0.00046	UJ	0.042	UJ	0.38	U	0.077	UJ	0.043	UJ	0.043	R	0.041	UJ	
Methoxychlor	0.55	UJ	0.004	UJ	0.22	UJ	1.9	U	0.77	UJ	0.18	R	0.34	R	0.79	R	
Endrin ketone	0.11	U	0.0008	UJ	0.042	U	0.38	U	0.077	U	0.022	U	0.041	U	0.12	R	
Endrin aldehyde	0.11	U	0.025	J (0.0008)	0.042	U	0.38	U	0.077	U	0.022	U	0.027	J (0.0041)	0.017	R	
alpha-Chlordane	0.055	U	0.0004	UJ	0.022	U	0.19	U	0.077	U	0.022	U	0.021	U	0.021	U	
gamma-Chlordane	0.055	U	0.0004	UJ	0.022	U	0.19	U	0.077	U	0.022	U	0.021	U	0.021	U	
Toxaphene	5.5	U	0.04	UJ	2.2	U	19	U	7.7	U	0.22	U	0.21	U	0.21	U	

mg/kg = milligrams per kilogram

(#) = Analytical Detection Limit

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J = Estimated

NJ = Presumptive evidence for the presence of the material

NJ = Presumptive evidence for presence of the material at an estimated value

R = Data is rejected

Table 5 Continued. Polychlorinated Biphenyls (PCBs) and Pesticide Analysis (Results as mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-17		WM-18		WM-19		WM-20		WM-21		WM-22		WM-23		WM-24		
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	
Polychlorinated Biphenyls	Aroclor-1016	2.7	U	5.9	UJ	0.039	U	0.042	U	0.039	U	0.045	U	0.32	U	0.04	U
	Aroclor-1221	2.7	U	5.9	UJ	0.039	U	0.042	U	0.039	U	0.045	U	0.32	U	0.04	U
	Aroclor-1232	2.7	U	5.9	UJ	0.039	U	0.042	U	0.039	U	0.045	U	0.32	U	0.04	U
	Aroclor-1242	2.7	U	5.9	UJ	0.36	NJ (0.039)	0.18	(0.042)	1.5	J (0.039)	0.76	NJ (0.045)	0.32	U	0.22	J (0.040)
	Aroclor-1248	2.7	U	5.9	UJ	0.039	U	0.042	U	0.039	U	0.045	U	0.32	U	0.04	U
	Aroclor-1254	2.7	U	5.9	UJ	0.21	(0.039)	0.15	(0.042)	0.64	(0.039)	0.39	(45)	0.32	U	0.11	(0.040)
	Aroclor-1260	2.7	U	5.9	UJ	0.039	U	0.042	U	0.039	U	0.045	U	0.32	U	0.04	U
	Aroclor-1262	2.7	U	5.9	UJ	0.039	U	0.042	U	0.039	U	0.045	U	0.32	U	0.04	U
	Aroclor-1268	2.7	U	5.9	UJ	0.039	U	0.042	U	0.039	U	0.045	U	0.32	U	0.04	U
	alpha-BHC	0.14	U	0.33	UJ	0.002	U	0.022	U	0.0014	J (0.002)	0.0023	U	0.017	U	0.002	U
	beta-BHC	0.14	U	0.33	UJ	0.01	R	0.0011	J (0.0022)	0.0029	R	0.0087	(0.0023)	0.017	U	0.0033	R
	delta-BHC	0.14	U	0.33	UJ	0.0049	R	0.001	J (0.0022)	0.065	J (0.002)	0.002	U	0.017	U	0.0018	U
	gamma-BHC (Lindane)	0.14	U	0.33	UJ	0.0077	R	0.0022	U	0.005	R	0.0049	J (0.0023)	0.017	U	0.0038	(0.002)
	Heptachlor	0.14	U	0.33	UJ	0.0038	J (0.002)	0.0022	U	0.014	J (0.002)	0.0049	NJ (0.0023)	0.017	U	0.0049	(0.002)
Aldrin	0.14	U	0.33	UJ	0.002	U	0.0022	U	0.00094	R	0.0018	U	0.017	U	0.0023	R	
Heptachlor epoxide	0.14	U	0.33	UJ	0.0042	R	0.0036	J (0.0022)	0.027	NJ (0.002)	0.025	J (0.0023)	0.017	U	0.0076	(0.002)	
Endosulfan I	0.14	U	0.33	UJ	0.0021	R	0.0022	U	0.0064	NJ (0.002)	0.0028	(0.0023)	0.017	U	0.0017	U	
Dieldrin	0.27	U	0.64	UJ	0.0039	R	0.0042	U	0.0049	R	0.0032	R	0.032	U	0.004	U	
4,4'-DDE	0.27	U	0.64	UJ	0.011	J (0.0039)	0.0023	J (0.0042)	0.017	J (0.004)	0.011	NJ (0.0044)	0.032	U	0.0025	U	
Endosulfan II	0.27	UJ	0.64	UJ	0.0092	R	0.0042	U	0.004	UJ	0.017	J (0.0044)	0.079	(0.032)	0.0034	(0.004)	
Endosulfan sulfate	0.27	U	0.64	UJ	0.0049	R	0.0028	U	0.023	(0.004)	0.0083	NJ (0.0044)	0.032	U	0.0053	J (0.002)	
4,4'-DDT	0.27	UJ	0.64	UJ	0.0066	NJ (0.0039)	0.0059	J (0.0042)	0.036	J (0.004)	0.0044	U	0.032	U	0.004	U	
Methoxychlor	1.4	UJ	3.3	UJ	0.024	NJ (0.0039)	0.022	UJ	0.022	R	0.023	U	0.032	U	0.004	U	
Endrin ketone	0.27	U	0.64	UJ	0.0081	R	0.0042	U	0.039	J (0.004)	0.0083	R	0.032	U	0.0045	R	
Endrin aldehyde	0.27	U	0.64	UJ	0.013	R	0.0042	U	0.017	R	0.0044	U	0.032	U	0.004	U	
alpha-Chlordane	0.14	U	0.33	UJ	0.002	U	0.0022	U	0.002	U	0.0023	U	0.017	U	0.0019	U	
gamma-Chlordane	0.14	U	0.33	UJ	0.0019	R	0.0022	U	0.017	R	0.0022	U	0.017	U	0.002	U	
Toxaphene	14	U	33	UJ	0.2	U	0.22	U	0.2	U	0.23	U	1.7	U	0.2	U	

mg/kg = milligrams per kilogram

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J = Estimated

N = Presumptive evidence for the presence of the material

NJ = Presumptive evidence for presence of the material at an estimated value

R = Data is rejected

Table 6. Semi-Volatile Organic Compounds (SVOCs) Analysis (mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-1		WM-2		WM-3		WM-4		WM-5		WM-6		WM-7		WM-8	
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Benzaldehyde	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Phenol	7.9	U	4.5	J (0.2)	68	U	0.38	(0.2)	18	(1.9)	2.9	(0.66)	4800	(660)	0.48	(0.2)
Bis(2-chloroethoxy)ether	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2-Chlorophenol	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2-Methylphenol	7.9	U	0.44	J (0.2)	21	J (68)	0.038	J (0.2)	0.54	J (1.9)	9.4	(0.66)	9800	(660)	0.21	(0.2)
2,2'-Oxybis(1-chloropropane)	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Acetophenone	7.9	U	2.2	J (0.2)	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
4-Methylphenol	7.9	U	1.2	J (0.2)	68	U	0.04	J (0.2)	0.48	J (1.9)	7.3	(0.66)	660	U	0.13	J (0.2)
N-Nitroso-D-n-propylamine	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Hexachloroethane	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Nitrobenzene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Isophorone	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2-Nitrophenol	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2,4-Dimethylphenol	7.9	U	0.2	UJ	68	UJ	0.2	UJ	0.56	J (1.9)	7.9	J (0.66)	660	U	0.26	J (0.2)
Bis(2-chloroethoxy)methane	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2,4-Dichlorophenol	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Naphthalene	2.2	J (7.9)	1.3	J (0.2)	530	(68)	0.2	U	0.21	J (1.9)	0.67	(0.66)	660	U	0.12	J (0.2)
4-Chloroaniline	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Hexachlorobutadiene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Caprolactam	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
4-Chloro-3-methylphenol	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2-Methylnaphthalene	7.9	U	0.46	J (0.2)	210	(68)	0.2	U	1.9	U	0.075	J (0.66)	660	U	0.13	J (0.2)
Hexachlorocyclopentadiene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2,4,6-Trichlorophenol	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2,4,5-Trichlorophenol	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
1,1'-Bi(phenyl)	7.9	U	0.2	UJ	22	J (68)	0.2	U	1.9	U	0.11	J (0.66)	660	U	0.044	J (0.2)
2-Chloronaphthalene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
3-Nitroaniline	16	U	0.4	UJ	140	U	0.4	U	3.8	U	1.3	U	1300	U	0.39	U
Dimethylphthalate	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2,6-Dinitrotoluene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Acephenanthrene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
3-Nitroaniline	16	U	0.4	UJ	140	U	0.4	U	3.8	U	1.3	U	1300	U	0.39	U
Acephenanthrene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2,4-Dinitrophenol	16	U	0.4	UJ	140	U	0.4	U	3.8	U	1.3	U	1300	U	0.39	U
4-Nitrophenol	16	U	0.4	UJ	140	U	0.4	U	3.8	U	1.3	U	1300	U	0.39	U
Dibenzofuran	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
2,4-Dinitrotoluene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Diethylphthalate	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Fluorene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
4-Chlorophenyl phenylether	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
4-Nitroaniline	16	U	0.4	UJ	140	U	0.4	U	3.8	U	1.3	U	1300	U	0.39	U
4,6-Dinitro-2-methylphenol	16	U	0.4	UJ	140	U	0.4	U	3.8	U	1.3	U	1300	U	0.39	U
N-Nitrosodiphenylamine	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
1,2,4,5-Tetrachlorobenzene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
4-Bromophenyl phenylether	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Hexachlorobenzene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Atrazine	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Pentachlorophenol	16	U	0.4	UJ	140	UJ	0.4	UJ	3.8	UJ	1.3	UJ	1300	U	0.39	UJ
Phenanthrene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.21	J (0.2)
Anthracene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Carbazole	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Di-n-butylphthalate	7.9	U	1.5	J (0.2)	68	U	0.2	U	1.9	U	0.66	U	660	U	0.37	J (0.2)
Fluoranthene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.022	J (0.2)
Pyrene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.03	J (0.2)
Butylbenzylphthalate	7.9	U	0.32	J (0.2)	68	U	0.2	U	1.9	U	0.66	U	660	U	0.022	J (0.2)
3,3'-Dichlorobenzidine	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Benzo(a)anthracene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	U
Chrysene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.021	J (0.2)
Bis(2-ethylhexyl)phthalate	17	(7.9)	0.2	UJ	17	J (68)	0.74	(0.2)	1.9	U	0.18	J (0.66)	660	U	2.7	J (0.2)
Di-n-octylphthalate	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.031	J (0.2)
Benzo(b)fluoranthene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.039	J (0.2)
Benzo(k)fluoranthene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	J (0.2)
Benzo(a)pyrene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.034	J (0.2)
Indeno(1,2,3-cd)pyrene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.023	J (0.2)
Dibenz(a,h)anthracene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	J (0.2)
Benzo(g,h,i)perylene	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.036	J (0.2)
2,3,4,6-Tetrachlorophenol	7.9	U	0.2	UJ	68	U	0.2	U	1.9	U	0.66	U	660	U	0.2	J (0.2)

U = Undetected at the analytical detection limit
J = Estimated value
mg/kg = milligrams per kilogram
(#) = Analytical Detection Limit

Table 6 Continued. Semi-Volatile Organic Compounds (SVOCs) Analysis (mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-9		WM-10		WM-11		WM-12		WM-13		WM-14		WM-15		WM-16	
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Benzaldehyde	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	1.4	(0.22)	2.1	U	4.3	U
Phenol	5.2	J	0.4	UJ	6.5	U	6.3	J(21)	7.6	U	1.5	(0.22)	0.89	J(2.1)	4.3	U
Bis(2-chloroethyl)ether	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2-Chlorophenol	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2-Methylphenol	1.8	J(11)	0.13	J(0.4)	6.5	U	21	UJ	2.9	J(7.6)	0.035	J(0.22)	2.1	U	4.3	U
2,2-Dichloro-1-chloropropane	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Acetophenone	11	U	0.4	UJ	38	(8.5)	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
4-Methylphenol	11	U	0.12	J(0.4)	6.5	U	3.9	J(21)	3.0	J(7.6)	0.039	J(0.22)	2.1	U	4.3	U
N-Nitroso-d-n-propylamine	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Hexachlorobutane	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Nitrobenzene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Isophenone	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
3-Nitrophenol	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,4-Dimethylphenol	11	U	0.4	UJ	23	(6.5)	21	UJ	2.1	J(7.6)	0.22	UJ	2.1	UJ	4.3	U
Bis(2-chloroethoxy)methane	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,4-Dichlorophenol	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Naphthalene	11	U	0.4	UJ	90	(6.5)	21	UJ	7.6	U	0.24	(0.22)	0.89	J(2.1)	0.64	J(4.3)
4-Chloroaniline	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Hexachlorobutadiene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Caprolactam	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
4-Chloro-3-methylphenol	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2-Methylnaphthalene	11	U	0.4	UJ	34	(6.5)	21	UJ	7.6	U	0.061	J(0.22)	0.31	J(2.1)	4.3	U
Hexachlorocyclopentadiene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,4,6-Trichlorophenol	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,4,5-Trichlorophenol	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
1,1'-Biphenyl	11	U	0.4	UJ	3.1	J(6.5)	21	UJ	5	J(7.6)	0.22	U	2.1	U	4.3	U
2-Chloronaphthalene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2-Nitroaniline	22	U	0.8	UJ	13	U	42	UJ	15	U	0.43	U	4.1	U	8.3	U
Dimethylphthalate	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,6-Dinitrotoluene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Acenaphthylene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
3-Nitroaniline	22	U	0.8	UJ	13	U	42	UJ	15	U	0.43	U	4.1	U	8.3	U
Acenaphthene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,4-Dinitrophenol	22	U	0.8	UJ	16	(6.5)	42	UJ	15	U	0.43	U	4.1	U	8.3	U
4-Nitrophenol	22	U	0.8	UJ	13	U	42	UJ	15	U	0.43	U	4.1	U	8.3	U
Dibenzofuran	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,4-Dinitrotoluene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Diethylphthalate	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Fluorene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
4-Chlorophenyl phenylether	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
4-Nitroaniline	22	U	0.8	UJ	13	U	42	UJ	15	U	0.43	U	4.1	U	8.3	U
4,6-Dinitro-2-methylphenol	22	U	0.8	UJ	13	U	42	UJ	15	U	0.43	U	4.1	U	8.3	U
N-Nitrosodiphenylamine	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
1,2,4,5-Tetrachlorobenzene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
4-Bromophenyl phenylether	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Hexachlorobenzene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Atrazine	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Pentachlorophenol	22	U	0.8	UJ	13	U	42	UJ	15	U	0.43	UJ	4.1	UJ	8.3	U
Phenanthrene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Anthracene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Carbazole	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Di-n-butylphthalate	11	U	0.4	UJ	6.5	U	21	UJ	7.6	J(7.6)	0.22	U	2.1	U	4.3	U
Fluoranthene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	UJ	2.1	U	4.3	U
Pyrene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	UJ	2.1	U	4.3	U
Butylbenzylphthalate	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
3,3'-Dichlorobenzidine	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Benzo(a)anthracene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	UJ	2.1	U	4.3	U
Chrysene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	UJ	2.1	U	4.3	U
Bis(2-ethylhexyl)phthalate	11	U	0.4	UJ	6.3	J(6.5)	350	J(21)	3.5	J(7.6)	0.29	(0.22)	0.58	J(2.1)	4.3	U
D-n-octylphthalate	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Benzo(b)fluoranthene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Benzo(k)fluoranthene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Benzo(a)pyrene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Indeno(1,2,3-cd)pyrene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Dibenz(a,h)anthracene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
Benzo(g,h,i)perylene	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U
2,3,4,6-Tetrachlorophenol	11	U	0.4	UJ	6.5	U	21	UJ	7.6	U	0.22	U	2.1	U	4.3	U

U = Undetected at the analytical detection limit
J = Estimated value
mg/kg = milligrams per kilogram
(#) = Analytical Detection Limit

Table 6 Continued Semi-Volatile Organic Compounds (SVOCs) Analysis (mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-17		WM-18		WM-19		WM-20		WM-21		WM-22		WM-23		WM-24	
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Benzaldehyde	14	J (14)	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	UJ	4.1	U
Phenol	3.7	U	360	UJ	7.3	(1.2)	0.15	J	63	(12)	23	(2.3)	70	J (6.8)	51	J (4.1)
Bis(2-chloroethyl)ether	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2-Chlorophenol	14	J (14)	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2-Methylphenol	2.1	U	360	UJ	0.65	J	0.042	J	58	(12)	10	(2.3)	14	(6.8)	29	(4.1)
2,2-Diethyl(1-chloropropane)	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Acetophenone	14	J (14)	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
4-Methylphenol	2.8	U	360	UJ	0.53	J	0.049	J	36	(12)	3.9	(2.3)	7.2	(6.8)	18	(4.1)
N-Nitroso-di-n-propylamine	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Hexachloroethane	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Nitrobenzene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Isophorone	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2-Nitrophenol	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,4-Dimethylphenol	14	U	360	UJ	0.56	J	0.055	J	12	U	7.7	J (2.3)	0.96	J	16	J (4.1)
Bis(2-chloroethyl)methane	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,4-Dichlorophenol	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Naphthalene	14	U	430	J (360)	1.3	(1.2)	0.069	J	210	(12)	19	(2.3)	1.4	J	14	(4.1)
4-Chloroaniline	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Hexachlorobutadiene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Caprolactam	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
4-Chloro-3-methylphenol	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2-Methylisophthalate	14	U	360	UJ	0.77	J	0.049	J	25	(12)	4.5	(2.3)	6.8	U	3.7	J
Hexachlorocyclopentadiene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,4,6-Trichlorophenol	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,4,5-Trichlorophenol	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
1,1'-Biphenyl	14	U	360	UJ	0.28	J	0.22	U	6.1	J	2.8	(2.3)	6.8	U	1.3	J
2-Chloronaphthalene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2-Nitroaniline	27	U	710	UJ	2.4	U	0.42	U	24	U	4.4	U	14	U	8	U
Dimethylphthalate	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,6-Dinitrotoluene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Acenaphthylene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
3-Nitroaniline	27	U	710	UJ	2.4	U	0.42	U	24	U	4.4	U	14	U	8	U
Acenaphthene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,4-Dinitrophenol	27	U	710	UJ	2.4	U	0.42	U	24	U	4.4	U	14	U	8	U
4-Nitrophenol	27	U	710	UJ	2.4	U	0.42	U	24	U	4.4	U	14	U	8	U
Dibenzofuran	14	U	360	UJ	0.13	J	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,4-Dinitrotoluene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Diethylphthalate	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Fluorene	14	U	360	UJ	0.19	J	0.22	U	12	U	2.3	U	6.8	U	4.1	U
4-Chlorophenyl-phenylether	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
4-Nitroaniline	27	U	710	UJ	2.4	U	0.42	U	24	U	4.4	U	14	U	8	U
4,6-Dinitro-2-methylphenol	27	U	710	UJ	2.4	U	0.42	U	24	U	4.4	U	14	U	8	U
N-Nitrosodiphenylamine	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
1,2,4,5-Tetrachlorobenzene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
4-Bromophenyl-phenylether	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Hexachlorobenzene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Atrazine	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Pentachlorophenol	27	U	710	UJ	2.4	UJ	0.42	UJ	24	U	4.4	UJ	14	U	8	U
Phenanthrene	14	U	360	UJ	0.82	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Anthracene	14	U	360	UJ	0.23	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Carbazole	14	U	360	UJ	0.12	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Di-n-butylphthalate	14	U	360	UJ	0.42	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Fluoranthene	14	U	360	UJ	0.78	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Pyrene	14	U	360	UJ	0.56	J (1.2)	0.022	J	12	U	2.3	U	6.8	U	4.1	U
Butylbenzylphthalate	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
3,3'-Dichlorobenzidine	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Benzofluoranthene	14	U	360	UJ	0.37	J (1.2)	0.022	J	12	U	2.3	U	6.8	U	4.1	U
Chrysene	14	J (14)	360	UJ	0.33	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Bis(2-ethylhexyl)phthalate	5.9	U	360	UJ	30	(1.2)	2.2	(2.2)	43	(12)	62	(2.3)	20	(6.8)	13	J
Di-n-octylphthalate	14	U	360	UJ	0.14	J (1.2)	0.22	U	1.5	J	3.1	(2.3)	6.8	U	4.1	U
Benzo(b)fluoranthene	14	U	360	UJ	0.41	J (1.2)	0.026	J	12	U	2.3	U	6.8	U	4.1	U
Benzo(k)fluoranthene	14	U	360	UJ	0.17	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Benzo(a)pyrene	14	U	360	UJ	0.31	J (1.2)	0.022	J	12	U	2.3	U	6.8	U	4.1	U
Indeno(1,2,3-cd)pyrene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Dibenz(a,h)anthracene	14	U	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U
Benzo(g,h,i)perylene	14	U	360	UJ	0.14	J (1.2)	0.22	U	12	U	2.3	U	6.8	U	4.1	U
2,3,4,6-Tetrachlorophenol	14	UU	360	UJ	1.2	U	0.22	U	12	U	2.3	U	6.8	U	4.1	U

U = Undetected at the analytical detection limit
 J = Estimated value
 mg/kg = milligrams per kilogram
 (B) = Analytical Detection Limit

Table 7. Volatile Organic Compounds (VOCs) Analysis (mg/kg)
Irwin Property Site
Oswego County, NY

Analyte	WM-1		WM-2		WM-8		WM-9		WM-10		WM-11		WM-12		WM-13		WM-14	
	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers	Result	Qualifiers
Dichlorodifluoromethane	1100	U	20	U	5.2	U	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Chloromethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Chloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Bromochloromethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Chloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Trichlorofluoromethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,1,2-Trichloro-1,2,2-trifluoroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Acetone	2200	U	6000	J(40)	10	J(40)	3.7	(3,7)	43	J(8)	15	U	7300	UJ	21	U	56	(15)
Carbon disulfide	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Methyl acetate	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Methylene chloride	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
trans-1,2-Dichloroethene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Methyl tert-butyl ether	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,1-Dichloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
cis-1,2-Dichloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
2-Propanone	2200	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Bromochloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Chloroform	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,1,1-Trichloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Cyclohexane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Carbon tetrachloride	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Benzene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,2-Dichloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,4-Dioxane	2200	R	400	R	100	R	28	R	80	R	150	R	7300	R	210	R	150	R
Trichloroethene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Methylcyclohexane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,2-Dichloropropane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Bromodichloromethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
cis-1,3-Dichloropropene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
4-Methyl-2-pentanone	2200	U	40	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
trans-1,3-Dichloropropene	6000	(1100)	550	J(20)	50	(5,2)	3.0	(1,4)	47	J(4)	15	U	7300	J(3000)	260	(10)	190	(7,4)
1,1,2-Trichloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Tetrachloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
2-Hexanone	2200	U	40	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Dibromochloromethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,2-Dibromoethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Chlorobenzene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Ethylbenzene	540	J(1100)	20	R	43	U	0.74	J(1,4)	59	J(4)	69	(7,7)	3600	UJ	13	(10)	7.4	U
o-Xylene	490	J(1100)	20	R	53	U	1	J(1,4)	44	J(4)	54	(7,7)	3600	UJ	10	U	4.8	J(7,4)
m,p-Xylene	1600	(1100)	20	R	140	U	3.4	(1,4)	160	J(4)	190	(7,7)	2600	J(3600)	43	(10)	8.4	(7,4)
Styrene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
Bromodichloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,1,2,2-Tetrachloroethane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,3-Dichlorobenzene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,4-Dichlorobenzene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,2-Dichlorobenzene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,2-Dibromo-3-chloropropane	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,2,4-Trichlorobenzene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U
1,2,3-Trichlorobenzene	1100	U	20	R	5.2	R	1.4	U	4	R	7.7	U	3600	UJ	10	U	7.4	U

mg/kg = milligrams per kilogram
(#) = Analytical Detection Limit
U = Undetected at the analytical detection limit
R = Estimated value
J = Data rejected
UJ = Estimated value of the undetected value

Table 7. Volatile Organic Compounds (VOCs) Analysis (mg/kg)
Iwin Property Site
Oswego County, NY

Analyte	WM-15		WM-16		WM-18		WM-20		WM-21		WM-22		WM-23		WM-24	
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Dichlorodifluoromethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Dichloromethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Chloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Chloroform	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Bromomethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Chloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Trichloroacromethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,1-Dichloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,1,2-Trichloro-1,2,2-trifluoroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,1,2-Trichloro-1,2,2-trifluoroethane	220	(55)	430	(140)	140	U	78	U	14	U	18	U	40	(23)	15	U
Acetone	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Carbon disulfide	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Methyl acetate	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Methylene chloride	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
trans-1,2-Dichloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Methyl tert-butyl ether	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,1,1-Trichloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
cis-1,2-Dichloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
2-Butanone	56	U	140	U	140	U	78	U	14	U	18	U	23	U	15	U
Bromochloromethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Chloroform	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,1,1-Trichloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Cyclohexane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Carbon tetrachloride	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Benzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,2-Dichloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,4-Dioxane	560	R	1400	R	1400	R	780	R	140	R	180	R	230	U	16	U
Trichloroethene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Methylcyclohexane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,2-Dibromopropane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Bromochloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
cis-1,3-Dichloropropane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
4-Methyl-2-pentanone	56	U	140	U	140	U	78	U	14	U	18	U	23	U	15	U
Toluene	710	(28)	1700	(70)	2900	J (69)	150	(39)	120	(69)	760	(91)	3700	(12)	300	(7.6)
trans-1,3-Dichloropropene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,1,2-Trichloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Tetrahydroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
2-Hexanone	56	U	140	U	140	U	78	U	14	U	18	U	23	U	15	U
Dibromochloromethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,2-Dibromoethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Chlorobenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Ethylbenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
o-Xylene	28	J (7.8)	42	J (70)	3400	J (69)	130	(39)	120	(69)	210	(81)	130	(12)	250	(7.6)
m-Xylene	27	J (2.9)	76	J (70)	6300	J (69)	230	(39)	480	(69)	710	(81)	430	(12)	610	(7.6)
p-Xylene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Bromobenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
Isopropylbenzene	28	U	70	U	1900	J (69)	39	U	69	U	81	U	12	U	7.6	U
1,1,2,2-Tetrachloroethane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,3-Dichlorobenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,4-Dichlorobenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,2-Dichlorobenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,2-Dibromo-3-chloropropane	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,2,4-Trichlorobenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U
1,2,3-Trichlorobenzene	28	U	70	U	69	U	39	U	69	U	81	U	12	U	7.6	U

mg/kg = milligrams per kilogram
 (R) = Rejected
 U = Undetected at the analytical detection limit
 J = Estimated value
 R = Data is rejected
 UJ = Estimated value of the undetected value

Table 8. Total Petroleum Hydrocarbon Results
 Irwin Property Site
 Oswego County, NY

Sample #	Sample ID	Total Petroleum Hydrocarbons (mg/kg)	Analytical Reporting Limit (mg/kg)
B4ME1	WM-1	16,500	529
B4MF1	WM-11	8,730	412
B4MF4/B4MG6*	WM-14	1,470	427-450
B4MF5/B4MG7*	WM-15	3,700	422-427
B4MF6/B4MG8*	WM-16	1,865	422

* Duplicate samples- Results are reported as mean concentration
 mg/kg - milligrams per kilogram