

New York State Department of Environmental
Conservation



FINAL ENGINEERING REPORT – PETER WINKELMAN COMPANY

Syracuse, Onondaga County, New York
NYSDEC Site Number: 734047

Januaery 2016

FINAL ENGINEERING REPORT

Peter Winkelman Company, Syracuse,
Onondaga County, New York

NYSDEC Site # 734047

Andrew R. Vitolins, PG
Associate Vice President

Prepared for:
NYSDEC
625 Broadway
Albany, NY 12233

Jeremy Wyckoff
Project Geologist

Prepared by:
Arcadis CE, Inc.
855 Route 146
Suite 210
Clifton Park
New York 12065
Tel 518 250 7300
Fax 518 250 7301

Our Ref.:
00266399.0000

Date:
January 2016

CERTIFICATION

I, Daniel Loewenstein, am currently a registered professional engineer licensed by the State of New York, and I certify that the groundwater monitoring and sump removal activities for the Peter Winkelman site in Syracuse, Onondaga County, New York, were implemented and completed in substantial conformance with the Department-approved Record of Decision (ROD) dated March 31, 2000.

I certify that the documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

NYS Professional Engineer #

Date

Signature

CONTENTS

Acronyms and Abbreviations	iv
1 BACKGROUND AND SITE DESCRIPTION	1-1
2 SUMMARY OF THE SITE REMEDY	2-1
2.1 Remedial Action Objectives	2-1
2.1.1 Groundwater RAOs	2-1
2.1.2 Soil RAOs	2-1
2.2 Description of the Selected Remedy	2-1
3 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS	3-1
3.1 Interim Remedial Measures	3-1
3.2 Operable Units	3-1
4 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED	4-1
4.1 Governing Documents	4-1
4.1.1 Site Specific Health & Safety Plan (HASP)	4-1
4.1.2 Quality Assurance Project Plan (QAPP)	4-1
4.2 Remedial Program Elements	4-1
4.2.1 Contractors and Consultants	4-1
4.3 Contaminated Materials Removal	4-1
4.3.1 Historical Activities	4-1
4.4 Remedial Performance/Documentation Sampling	4-2
4.5 Contamination Remaining at the Site	4-2
4.6 Soil Cover System	4-2
4.7 Other Engineering Controls	4-2
4.8 Institutional Controls	4-2
4.9 References	4-2

TABLES

Table 1. Summary of Groundwater Elevations

Table 2. Summary of Groundwater Sampling Results - Detected VOCs

Table 3. Summary of Groundwater Sampling Results - SVOCs

Table 4. Summary of Groundwater Sampling Results - Detected Metals

Table 5. Summary of Groundwater Sampling Results - Pesticides and PCBs

Table 6. Summary of Wipe Sampling Results - PCBs

FIGURES

Figure 1. Site Location

Figure 2. Site Map

Figure 3. Site Features and Sampling Locations

APPENDICES

Appendix A – Digital Copy of FER

Appendix B – Laboratory Analytical Data (CD)

ACRONYMS AND ABBREVIATIONS

IRM	Interim Remedial Measure
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PCB	Polychlorinated biphenyl
RAO	Remedial action objective
ROD	Record of decision
SCG	Screening, criteria, and guidance
SVOC	Semi-volatile organic compound
USEPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound

1 BACKGROUND AND SITE DESCRIPTION

The New York State Department of Environmental Conservation (NYSDEC) has investigated and remediated a 0.05-acre (Operable Unit 1 [OU-1] and OU-1A) portion of the Former Peter Winkelman site property located in Onondaga County, in the City of Syracuse (Figure 1), New York. The property was remediated in accordance with the Record of Decision (ROD) dated March 31, 2000 (NYSDEC 2012).

The site is located in the County of Onondaga, New York and is identified as a portion of the Onondaga County Tax Map # 32.01, Parcel 26. The site is situated on an approximately 0.21-acre area bounded by Interstate 690 to the north, Erie Boulevard to the south, the City of Syracuse composting operation and Greenway Avenue to the east, and the Post Office and Teal Avenue to the west (see Figures 1, 2 and 3).

An electronic copy of this FER with supporting documentation is included as Appendix A.

2 SUMMARY OF THE SITE REMEDY

2.1 Remedial Action Objectives

The following Remedial Action Objectives (RAOs) were identified for this site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.
- Prevent contact with contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer, to the extent practicable, to pre-disposal/pre-release conditions.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

2.1.2 Soil RAOs

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota due to ingestion/direct contact with contaminated soil that would cause toxicity or bioaccumulation through the terrestrial food chain.

2.2 Description of the Selected Remedy

The site was remediated in accordance with the remedy selected by the NYSDEC in the ROD dated March 31, 2000. The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. Between the summer of 1998 and March of 2000, interim remedial measures (IRMs) were initiated (by others) to remove the polychlorinated biphenyl (PCB) contamination from the groundwater and soil (see next section for details) at OU-1/OU-1A. Following the implementation of the IRMs and subsequent monitoring for PCBs, a ROD was signed in 2000 with the decision for no further remedial action. The ROD concluded that the potential for human exposure to site related contaminants of concern has been eliminated (NYSDEC 2012).

3 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The information and certifications made in the NYSDEC Site Briefing Report (NYSDEC 2012), long-term groundwater monitoring results (through August 2014), and well abandonment tasks conducted in 2015 were relied upon to prepare this report.

3.1 Interim Remedial Measures

As part of the 1998 through 2000 remedial activities, OU-1/OU-1A had the following performed:

- OU-1A (summer 1998): An IRM was implemented which involved clearing of vegetation, removal of transformers and fence, pulling up the large concrete pad, and proper disposal of all materials removed. Contaminated soil was excavated, up to the adjacent building, to approximately four feet below grade and backfilled with clean material.
- OU-1 (spring/summer 1998): Piezometers were installed along with a groundwater treatment system (See Figure 3). The groundwater treatment consisted of a skimmer to extract the PCB contamination from groundwater.

The groundwater treatment system was functioning until a fire at the site in 2004 disabled the operation. In 2014, the sumps that were damaged in the fire were sampled for PCB contamination, removed, and properly disposed in accordance with U.S. Environmental Protection Agency Guidance (USEPA) for PCB disposal (USEPA 2014).

3.2 Operable Units

OU-1/OU-1A is the area that was known to have the PCB oil leak as a result of a malfunctioning transformer while the property was owned by Peter Winkelman. OU-1A represents the surficial impacted area, including the soil. OU-1 encompasses the limited groundwater impacts from the PCB oil beneath the surface.

This OU-1/OU-1A area was remediated in accordance with the IRM and the groundwater treatment system. As a result, the 2000 ROD indicated no further remedial action was required for this area on the property.

4 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved ROD for the Peter Winkelman Company, Inc. site (March 31, 2000). The following activities were conducted:

- Groundwater monitoring; and
- Former groundwater remediation system sump removal.

4.1 Governing Documents

The March 31, 2000 ROD was the governing document for the activities presented herein. Site activities were performed in accordance with the ROD and site worker safety requirements mandated by the Occupational Safety and Health Administration.

4.1.1 Site Specific Health & Safety Plan (HASP)

The site work performed under this Remedial Action was in compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

A site-specific Health and Safety Plan (HASP) was prepared and followed during the work.

4.1.2 Quality Assurance Project Plan (QAPP)

The work described herein was performed in accordance with the ARCADIS CE, Inc. Generic Quality Assurance Project Plan for Work Assignments dated May 2011.

4.2 Remedial Program Elements

4.2.1 Contractors and Consultants

Groundwater monitoring and sump removal were performed by Arcadis CE, Inc. under NYSDEC Standby Work Assignment D007618-5.

4.3 Contaminated Materials Removal

4.3.1 Historical Activities

The soil at OU-1/OU-1A were found to contain PCBs resulting from the transformer leak that took place. An IRM was conducted (by others) to remove PCB-impacted soil in this 0.05-acre area to a depth of four feet below grade, after which the excavation was backfilled with clean material and regraded. The excavated soils were disposed at an approved disposal facility (by others).

The groundwater contamination was addressed using a groundwater treatment system with a skimmer to extract the PCB oil from the water (constructed and operated by others). In 2004, a fire at the facility

disabled the groundwater treatment system. PCBs were not detected in groundwater samples collected in August 2014 (See Tables 1 through 5 for 2014 groundwater sampling results). Accordingly, the sumps and wells associated with this treatment system were removed by Arcadis in 2015. Wipe samples (Table 6) were collected from the removed materials to assess disposal options and to properly manage the waste removed as part of this task.

4.4 Remedial Performance/Documentation Sampling

A table summarizing the final groundwater end-point sampling is included in Tables 1 through 5. Table 6 presents the laboratory results from the wipe sampling performed during the removal of the sump wells for the groundwater treatment system.

The groundwater results indicate no detection of PCBs in groundwater in 2014. The wipe sample results showed low concentrations of the PCB Aroclor-1260. However, specialized disposal of the well and sump materials was not required since the concentrations were less than 100 µg/100 cm².

Figure 3 shows the OU-1/OU-1A area and the sampling points, including the two sumps that were removed in 2015.

4.5 Contamination Remaining at the Site

The 2014 groundwater sampling results showed that PCBs are not present in the groundwater.

4.6 Soil Cover System

There is no soil cover system at the site.

4.7 Other Engineering Controls

The remedy for the site did not require the use of engineering control systems.

4.8 Institutional Controls

No environmental easements, notices, or deed restrictions were filed as part of the site remedy.

4.9 References

Malcolm Pirnie, Inc. (Malcolm Pirnie). 2011. Generic Quality Assurance Project Plan for Work Assignments, Standby Contract for Engineering Services (No. D007618).

New York State Department of Environmental Conservation (NYSDEC). 2012. Work Assignment Issuance/Notice to Proceed, Peter Winkelman Company, Site Code: 734047. Work Assignment D007618-5.

New York State Department of Environmental Conservation (NYSDEC). 2012. Site Record for Peter Winkelman Company, Inc. Site Code: 734047. Environmental Site Remediation Database.

U.S. Environmental Protection Agency (USEPA). 2014. Revisions to the PCB Q and A Manual. June 2014 Version. Available online at www.epa.gov/pcb.

TABLES



TABLE 1
SUMMARY OF GROUNDWATER ELEVATIONS
FINAL ENGINEERING REPORT
PETER WINKELMAN COMPANY, INC. OU-1/OU-1A
SYRACUSE, NY

Well	Measuring Point Elevation (ft. AMSL)	Ground Elevation (ft. AMSL)	6/4/2014		6/6/2014		8/19/2014	
			DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)
P-1	415.37	--	--	--	3.89	411.48	3.74	411.63
P-5	415.35	--	4.82	410.53	4.80	410.55	5.38	409.97
S-1	417.50	--	5.80	411.6977	5.97	411.53	5.86	411.6377
S-2	417.40	--	5.93	411.4693	5.85	411.55	5.72	411.6793

Elevations based on NAVD 88 datum.

-- Parameter Unknown

TABLE 2
SUMMARY OF GROUNDWATER SAMPLING RESULTS-DETECTED VOCs
FINAL ENGINEERING REPORT
PETER WINKELMAN COMPANY, INC. OU-1/OU-1A
SYRACUSE, NEW YORK

Sample ID	NYSDEC Class GA Standard or Guidance Value µg/L	P-1 6/5/2014 WATER µg/L	P-1 8/19/2014 WATER µg/L	P-5 6/6/2014 WATER µg/L	P-5 8/19/2014 WATER µg/L	S-1 6/6/2014 WATER µg/L	S-1 8/19/2014 WATER µg/L	DUPLICATE 8/19/14 (S-1) 8/19/2014 WATER µg/L	S-2 6/6/2014 WATER µg/L	S-2 8/19/2014 WATER µg/L
Sampling Date										
Matrix										
Units										
VOCs										
1,1,1-Trichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5	5.0 U	5.0 U	1.0 J	1.0 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	5.0 U	5.0 U	1.3 J	1.4 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5	5.0 U	5.0 U	5.0 U	0.79 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	2	5.0 U	5.0 U	1.1 J	0.91 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
 - Concentration exceeds corresponding NYSDEC Class GA Standard.

U - The compound was not detected at the indicated concentration.

J - Estimated value.

-- Not applicable

DUPLICATE 8/19/14 collected at S-1

TABLE 3
SUMMARY OF GROUNDWATER SAMPLING RESULTS-SVOCs
FINAL ENGINEERING REPORT
PETER WINKELMAN COMPANY, INC. OU-1/OU-1A
SYRACUSE, NEW YORK

Sample ID	NYSDEC Class GA Standard or Guidance Value µg/L	P-1 6/5/2014 WATER µg/L	P-5 6/6/2014 WATER µg/L	S-1 6/6/2014 WATER µg/L	S-2 6/6/2014 WATER µg/L
SVOCs					
Benzo(a)anthracene	0.002*	10 U	10 U	10 U	10 U
Benzo(a)pyrene	ND	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	0.002*	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	--	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	0.002*	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	5	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	10 U
Butylbenzylphthalate	--	10 U	10 U	10 U	10 U
Carbazole	--	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U
Di-n-butylphthalate	50	10 U	10 U	10 U	10 U
Di-n-octylphthalate	50*	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	--	10 U	10 U	10 U	10 U
Dibenzofuran	--	10 U	10 U	10 U	10 U
Diethylphthalate	50*	10 U	10 U	10 U	10 U
Dimethylphthalate	50*	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	10 U
Fluorene	50*	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	10 U
Hexachloroethane	5	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	0.002*	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	--	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	50*	10 U	10 U	10 U	10 U
Naphthalene	10*	10 U	10 U	10 U	10 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U
Pentachlorophenol	1	20 U	20 U	20 U	20 U
Phenanthrene	50	10 U	10 U	10 U	10 U
Phenol	1	10 U	10 U	10 U	10 U
Pyrene	50	10 U	10 U	10 U	10 U

Notes:

 - Concentration exceeds corresponding NYSDEC Class GA Standard.

U - The compound was not detected at the indicated concentration.

B - The compound was also detected in the associated Method Blank.

J - Estimated value.

* Guidance Value

** Applies to the sum of these compounds

-- Not applicable

DUPLICATE 8/19/14 collected at S-1

TABLE 3
SUMMARY OF GROUNDWATER SAMPLING RESULTS-SVOCs
FINAL ENGINEERING REPORT
PETER WINKELMAN COMPANY, INC. OU-1/OU-1A
SYRACUSE, NEW YORK

Sample ID	NYSDEC Class GA Standard or Guidance Value µg/L	P-1 6/5/2014 WATER µg/L	P-5 6/6/2014 WATER µg/L	S-1 6/6/2014 WATER µg/L	S-2 6/6/2014 WATER µg/L
Sampling Date					
Matrix					
Units					
SVOCs					
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	--	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	1**	20 U	20 U	20 U	20 U
2,4,6-Trichlorophenol	1**	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	1**	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	1**	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	10*	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	5	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	5	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10*	10 U	10 U	10 U	10 U
2-Chlorophenol	1**	10 U	10 U	10 U	10 U
2-Methylnaphthalene	--	10 U	10 U	10 U	10 U
2-Methylphenol	1	10 U	10 U	10 U	10 U
2-Nitroaniline	5	20 U	20 U	20 U	20 U
2-Nitrophenol	1**	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	1**	10 U	10 U	10 U	10 U
3-Nitroaniline	5	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	1**	20 U	20 U	20 U	20 U
4-Bromophenyl-phenylether	--	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	1**	10 U	10 U	10 U	10 U
4-Chloroaniline	5	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	--	10 U	10 U	10 U	10 U
4-Methylphenol	1**	10 U	10 U	10 U	10 U
4-Nitroaniline	5	20 U	20 U	20 U	20 U
4-Nitrophenol	1**	20 U	20 U	20 U	20 U
Acenaphthene	20	10 U	10 U	10 U	10 U
Acenaphthylene	--	10 U	10 U	10 U	10 U
Anthracene	50*	10 U	10 U	10 U	10 U

Notes:

 - Concentration exceeds corresponding NYSDEC Class GA Standard.

U - The compound was not detected at the indicated concentration.

B - The compound was also detected in the associated Method Blank.

J - Estimated value.

* Guidance Value

** Applies to the sum of these compounds

-- Not applicable

DUPLICATE 8/19/14 collected at S-1

TABLE 4
SUMMARY OF GROUNDWATER SAMPLING RESULTS-DETECTED METALS
FINAL ENGINEERING REPORT
PETER WINKELMAN COMPANY, INC. OU-1/OU-1A
SYRACUSE, NEW YORK

Sample ID	NYSDEC Class GA Standard or Guidance Value µg/L	P-1 6/5/2014 WATER µg/L	P-5 6/6/2014 WATER µg/L	S-1 6/6/2014 WATER µg/L	S-2 6/6/2014 WATER µg/L
Sampling Date					
Matrix					
Units					
TAL METALS (Total)					
Aluminum	2000	66 U	66 U	66 U	66 U
Arsenic	25	4.3 U	4.3 U	5.0 J	4.3 U
Barium	1,000	200 U	200 U	200 U	200 U
Cadmium	5	0.89 U	0.89 U	2.7 J	0.89 U
Calcium	--	126,000	168,000	116,000	125,000
Chromium	50	0.64 U	0.64 U	0.64 U	0.64 U
Cobalt		0.67 U	0.67 U	50 U	50 U
Copper	200	9.4 J	3.6 U	32.4	4.8 J
Iron	300	31.0 U	6,010	1,200	12,300
Lead	25	4.2 U	4.2 U	4.2 U	4.2 U
Magnesium	35,000*	12,100	12,700	10,300	11,200
Manganese	300	57.1	269	183	279
Nickel	100	5.3 J	1.2 J	8.6 J	15.3 J
Potassium	--	12,000	13,800	11,500	11,600
Sodium	20,000	36,500	59,100	53,800	52,500
Vanadium	--	1.1 U	1.1 U	1.1 U	1.1 U
Zinc	2,000*	89.7	6.5 J	2,810	2,640

Notes:

■ - Concentration exceeds corresponding NYSDEC Class GA Standard.

U - The compound was not detected at the indicated concentration.

B - The compound was also detected in the associated Method Blank.


*Guidance Value.

-- Not applicable

TABLE 5
SUMMARY OF GROUNDWATER SAMPLING RESULTS-PESTICIDES and PCBs
FINAL ENGINEERING REPORT
PETER WINKELMAN COMPANY, INC. OU-1/OU-1A
SYRACUSE, NEW YORK

Sample ID	NYSDEC Class GA Standard	P-1	P-1	P-5	P-5	S-1	S-1	DUPLICATE 8/19/14 (S-1)	S-2	S-2
Sampling Date		6/5/2014	8/19/2014	6/6/2014	8/19/2014	6/6/2014	8/19/2014	8/19/2014	6/6/2014	8/19/2014
Matrix		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Pesticides										
4,4'-DDD	0.3	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
4,4'-DDE	0.2	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
4,4'-DDT	0.2	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
Aldrin	ND	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
alpha-BHC	--	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
alpha-Chlordane	0.05	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
beta-BHC	--	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
delta-BHC	--	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
Dieldrin	0.004	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
Endosulfan I	--	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
Endosulfan II	--	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
Endosulfan sulfate	--	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
Endrin	ND	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
Endrin aldehyde	5	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
Endrin ketone	5	0.10 U	NS	0.10 U	NS	0.10 U	NS	NS	0.10 U	NS
gamma-BHC (Lindane)	0.05	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
gamma-Chlordane	0.05	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
Heptachlor	0.04	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
Heptachlor epoxide	0.03	0.050 U	NS	0.050 U	NS	0.050 U	NS	NS	0.050 U	NS
Methoxychlor	35	0.50 U	NS	0.50 U	NS	0.50 U	NS	NS	0.50 U	NS
Toxaphene	0.06	5.5 U	NS	5.8 U	NS	5.6 U	NS	NS	5.7 U	NS
PCBs										
Aroclor-1016	0.09*	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 U
Aroclor-1221	0.09*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1232	0.09*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1242	0.09*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1248	0.09*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1254	0.09*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1260	0.09*	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 U
Aroclor-1262	0.09*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1268	0.09*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

 - Concentration exceeds corresponding NYSDEC Class GA Standard.

U - The compound was not detected at the indicated concentration.

UJ- The compound was analyzed for, but not detected. The sample quantitation limit is an estimate.

*Applies to the sum of these compounds.

ND - Non-detectable concentration by the approved analytical methods.

-- Not applicable

DUPLICATE 8/19/14 collected at S-1

TABLE 6
SUMMARY OF WIPE SAMPLING RESULTS-PCBs
FINAL ENGINEERING REPORT
PETER WINKELMAN COMPANY, INC. OU-1/OU-1A
SYRACUSE, NEW YORK

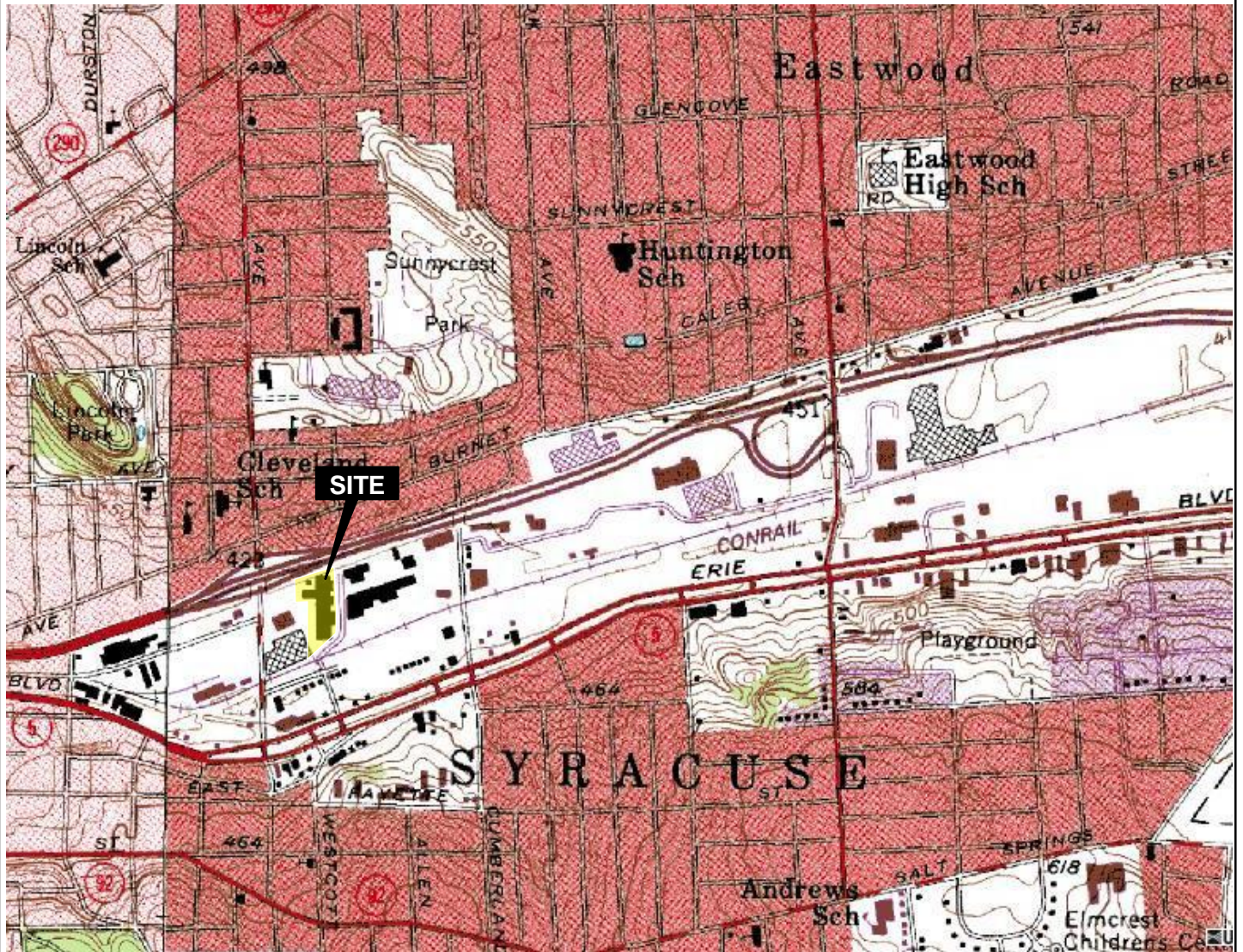
Sample ID	Wipe-1A	Wipe-1B	Wipe-1C	Wipe-2A	Wipe-2B	Wipe-2C
Sampling Date	6/4/2015	6/4/2015	6/4/2015	6/4/2015	6/4/2015	6/4/2015
Matrix	Wipe	Wipe	Wipe	Wipe	Wipe	Wipe
Units	µg/Wipe	µg/Wipe	µg/Wipe	µg/Wipe	µg/Wipe	µg/Wipe
PCBs						
Aroclor-1016	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor-1221	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor-1232	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor-1242	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor-1248	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor-1254	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor-1260	1.3	2.2	2.1	1.1	1.5	1.5
Aroclor-1262	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor-1268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Notes:

U - The compound was not detected at the indicated concentration. The reporting limit is presented.
Wipe area was conducted using a 100 cm² area in accordance with USEPA disposal guidance.

FIGURES





NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PETER WINKELMAN SITE
SYRACUSE, NEW YORK

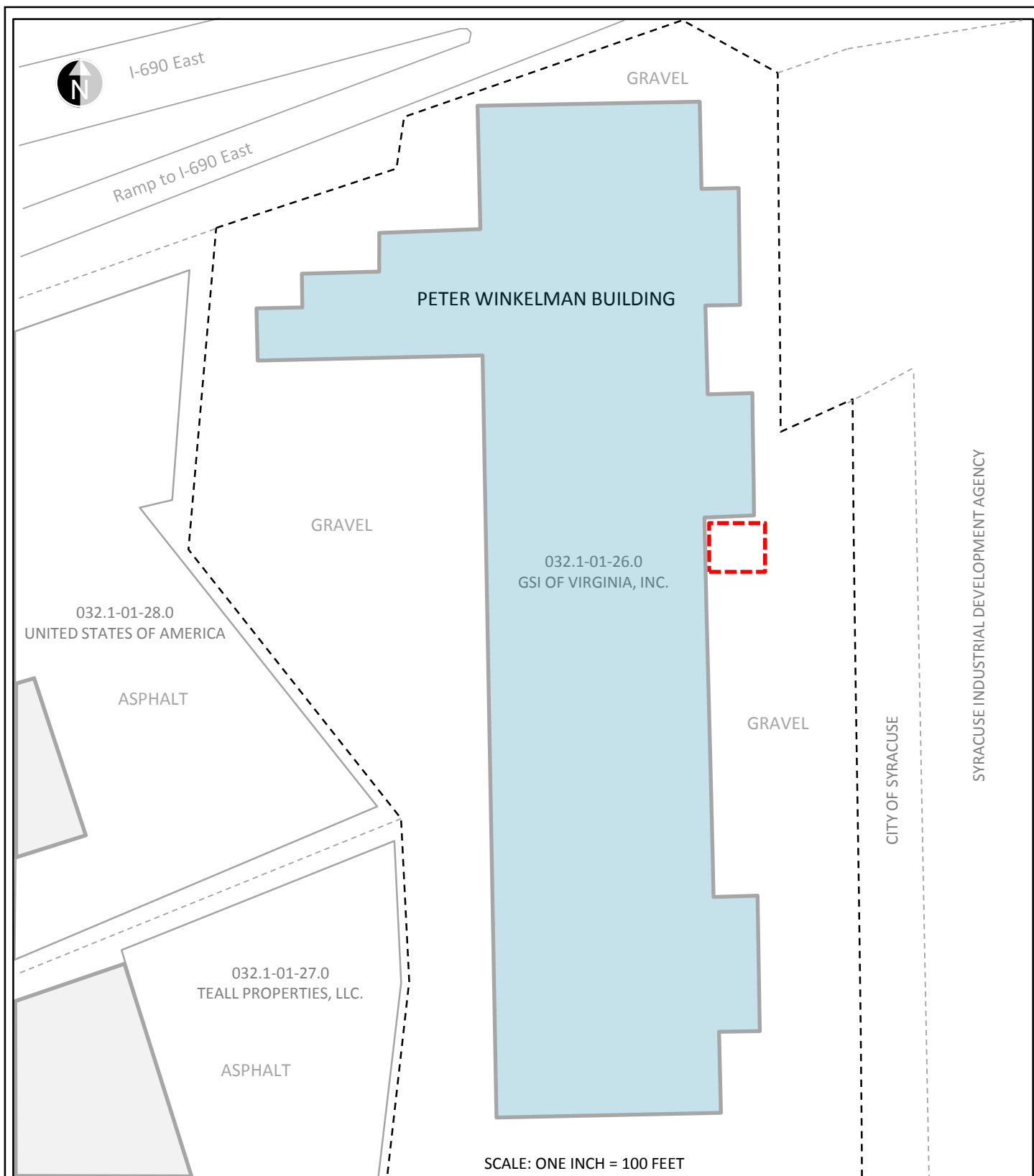
OU-1/OU-1A FINAL ENGINEERING REPORT

SITE LOCATION



Figure

1



LEGEND



APPROXIMATE PROPERTY LINE



BUILDING



APPROXIMATE PCB RELEASE AREA
(OU-1/OU-1A)

032.1-01-26.0
GSI OF VIRGINIA, INC.

TAX PARCEL ID/OWNER NAME

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PETER WINKELMAN SITE
SYRACUSE, NEW YORK

OU-1/OU-1A FINAL ENGINEERING REPORT

SITE MAP



Figure
2



APPENDIX A

Digital Copy of FER



APPENDIX B

Analytical Laboratory Data (CD)



Arcadis CE, Inc.

855 Route 146

Suite 210

Clifton Park, New York 12065

Tel 518 250 7300

Fax 518 250 7301

www.arcadis.com