

Figure 3-11

Supplemental Groundwater Assessment

Mass Removal in Various Areas and Wells with TCE Isoconcentration Contours, Upper Aquifer Groundwater, August-December 2003

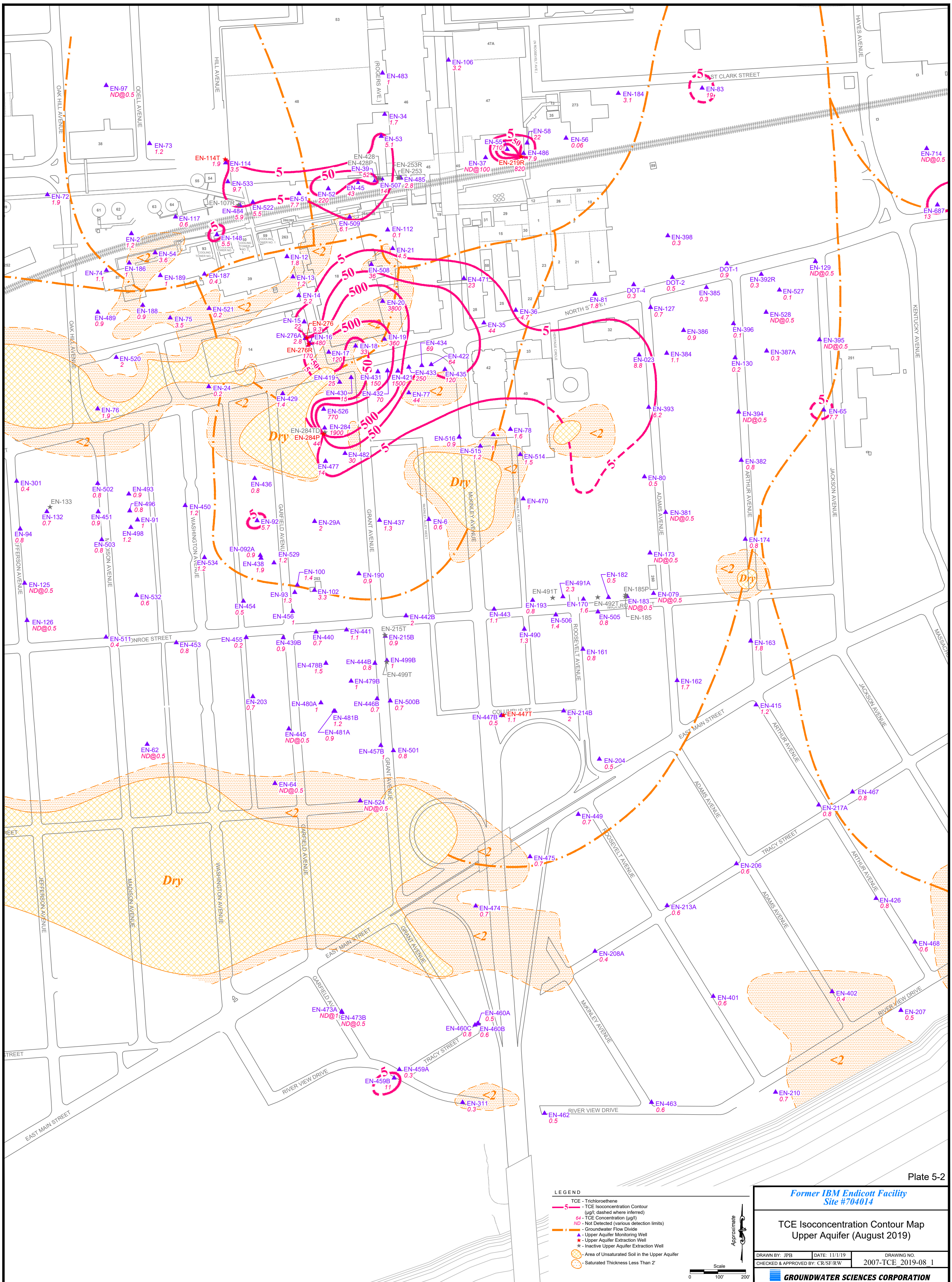
DRAWN BY: MHM DATE: 5/14/04

DRAWING NO.

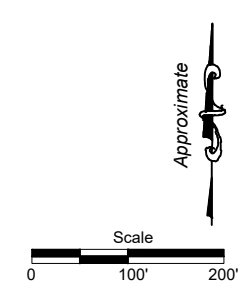
CHECKED & APPROVED BY: CGR

22007-045-B4

GROUNDWATER SCIENCES CORPORATION



- LEGEND**
- TCE - Trichloroethene
 - 5 - TCE Isoconcentration Contour (µg/l; dashed where inferred)
 - 50 - TCE Concentration (µg/l)
 - 64 - TCE Concentration (µg/l)
 - ND - Not Detected (various detection limits)
 - ▲ - Upper Aquifer Monitoring Well
 - ★ - Upper Aquifer Extraction Well
 - ☆ - Inactive Upper Aquifer Extraction Well
 - ⊘ - Area of Unsaturated Soil in the Upper Aquifer
 - ⊙ - Saturated Thickness Less Than 2'



**Former IBM Endcott Facility
Site #704014**

**TCE Isoconcentration Contour Map
Upper Aquifer (August 2019)**

DRAWN BY: JPB	DATE: 11/1/19	DRAWING NO.
CHECKED & APPROVED BY: CR/SF/RW	2007-TCE 2019-08 1	

GROUNDWATER SCIENCES CORPORATION



CERCLIS/NPL/INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION REQUEST

FORMER IBM ENDICOTT FACILITY
[REDACTED] NORTH STREET

ENDICOTT, NY 13760

Facility Id: [REDACTED]

EPA Facility Name: IBM
[REDACTED] N ST

ENDICOTT, NY 13760

EPA Facility Id: [REDACTED]

ADDRESS CHANGE INFORMATION

Revised street: NO CHANGE
Revised zip code: NO CHANGE

SITE DESIGNATION: CERCLIS, NYSDEC Registry

NPL Status: Not on the NPL
NFRAP (No Further Remedial Action Planned) Status: NO FURTHER REMEDIAL ACTION PLANNED

Non-NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION

CLASSIFICATION CODE: 02

REGION: 7

SITE CODE: [REDACTED]
DEC ID: [REDACTED]

CLASSIFICATION CODE DESCRIPTION:

Significant threat to the public health or environment - action required.

NAME OF SITE: Former IBM Endicott Facility
STREET ADDRESS: [REDACTED] North Street
CITY: Endicott

ZIP: 13760

TOWN: Union
COUNTY: Broome

ESTIMATED SIZE: 135 Acres

SITE TYPE: Dump- Structure- Lagoon- Landfill- Treatment Pond-

INSTITUTIONAL/ENGINEERING CONTROLS:
None reported

CROSS REFERENCES:

IDENTIFIER

SOURCE

INTERNATIONAL BUSINESS MACHINES

Alternate Site Name

RCRA EPA ID No.
EPA Site ID

SITE OWNER/OPERATOR/REPOSITORY INFORMATION:

CURRENT OWNER(S):

NAME: Huron Real Estate Associates, LLC
Christopher Pelto
ADDRESS: 1701 North Street
Endicott, NY 13760

Owner Type: Corporate or Commercial

OWNER(S) DURING DISPOSAL:

NAME: IBM CORPORATION - ENDICOTT FACILITY
ADDRESS: 1701 NORTH STREET
ENDICOTT, NY 13760

OPERATOR(S) DURING DISPOSAL:

NAME: IBM Corporate Environmental Affairs
Kevin Whalen
ADDRESS: 8976 Wellington Road
Manassas, VA 20110

Operator Type: Corporate or Commercial

DOCUMENT REPOSITORY(S):

NAME: George F. Johnson Memorial Library
Reference Librarian
ADDRESS: 1001 Park Street
Endicott, NY 13760

NAME: NYSDEC
Jessica LaClair
ADDRESS: 625 Broadway
Albany, NY 12233-7017

NAME: NYSDEC - Region 7
Stephanie Webb
ADDRESS: 615 Erie Blvd. West
Syracuse, NY 13204

HAZARDOUS WASTE DISPOSAL PERIOD: from 1979 Spill to 1979 Spill

SITE DESCRIPTION:

Location: The former IBM Endicott facility is a 135-acre site located in an urban area. The central portion of the facility is near at the intersection of McKinley Avenue and the railroad corridor in the village. Portions of the facility extend westward to Robble Avenue, northward to Watson Boulevard, eastward to Harding Avenue, and southward to south of North Street. The Susquehanna River is approximately one mile south of the facility.

Site Features: The site includes numerous current and former manufacturing buildings, office buildings, and ancillary support facilities. Paved parking areas are generally located around the periphery of the site buildings. There are a few small grass

areas between the sidewalks surrounding the site and the buildings and/or parking lots. An east-west railroad corridor bisects the facility and several public and private roadways intersect or transect the facility. Brixius Creek, a small tributary to the Susquehanna, passes along the eastern edge of the facility. The oldest portion of the facility (informally known as the Old Group buildings) located along the north side of North Street east of McKinley Avenue which are abandoned and not suitable for occupancy due to issues not related to the handling of hazardous substances.

Current Zoning and Land Use: The site is currently zoned for Commercial Industrial. The facility is currently owned by Huron Real Estate Associates, LLC, a real estate leasing and property management company. Huron leases manufacturing and office space in the facility to a variety of tenants. Occupancy and use of the facility changes from time to time as tenant needs and availability of leasable space changes. Most of the facility footprint is currently occupied or available for occupancy.

The surrounding parcels are currently used for a combination of commercial, industrial, and residential.

Past Use of the Site: The site has a history of manufacturing and research and development beginning in the early 1900s and until 2002, when IBM sold to Huron. Early industrial activity was associated primarily with shoe manufacturing by Endicott-Johnson and its predecessors in the western portion of the site. Endicott-Johnson ceased manufacturing operations in the village by about 1980. IBM and its predecessors also operated at the site beginning in the early 1900s in the Old Group buildings east of McKinley Avenue. IBM gradually expanded into areas previously occupied by Endicott-Johnson as the latter company reduced its manufacturing capacity. Mechanical business machines were manufactured by IBM and its predecessors until the 1950s. From the 1950s to the early 1980s, the facility was engaged primarily in the manufacture of mid-range, mainframe computers. In the early 1980s, operations at the facility primarily shifted to the manufacture of components (circuit cards, circuit panels, and ceramic substrates) in support of other IBM electronics manufacturing activities. The primary solvents used by IBM as part of its mainframe computer and electronic component manufacturing operations included TCE, PCE, TCA, methylene chloride, and Freon 113. The site was sold to Huron Real Estate Associates, LLC in 2002.

Following the discovery of a TCA release from an underground tank in December 1979, IBM immediately excavated and removed contaminated soils down to the water table. A Dense Non-Aqueous Phase Liquid (DNAPL) Recovery system began operating in January 1980 and continued until December 1982. A groundwater extraction and treatment system was installed and started operating in 1980. The system has been expanded and upgraded through the years and is still continuing to operate.

The Department and IBM entered into a Consent Order on August 4, 2004. This Consent Order superseded a Part 373 RCRA permit for the IBM facility.

Operable Units: The former IBM Endicott site is divided into seven operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. Boundaries of the operable units at the Endicott site are generally defined by the limits of hydraulic capture in the various components of the groundwater remediation program or by convenient geographical features.

* Operable Unit 1 (OU1), also known as the Railroad Corridor Source Area is approximately 40 acres. It is the on-site source area and incorporates the central portion of the facility from the railroad corridor northward.

* Operable Unit 2 (OU2), also known as the North Street Area, is approximately 30 acres. It is the on-site portion of the main plant area south of the railroad and generally north of North Street.

For purposes of investigation and remediation, OU1 and OU2 are considered together because they are both on-site areas separated only by the railroad.

* Operable Unit 3 (OU3), also known as the Southern Area, is the southern portion of the groundwater plume associated with the OU1 and OU2 source areas. OU3 extends approximately from Monroe Street southward to the Susquehanna River, and from just west of McKinley Avenue to just east of Arthur Avenue.

For purposes of investigation and remediation, OU3 is generally considered together with an area identified in the Consent Order as Off-Site Capture Zone A because the two areas are contiguous and together represent the off-site plume area south of the main plant area. Off-Site Capture Zone A is the northern portion of the off-site groundwater plume associated with the OU1 and OU2 on-site source areas. Off-Site Capture Zone A extends approximately from North Street southward to north of Broad Street, and from just west of Jefferson Avenue to just east of McKinley Avenue.

* Operable Unit 4 (OU4), also known as the Ideal Cleaners Area, is the source area and groundwater plume associated with the former dry-cleaning operation. Operable Unit 4 lies east of Off-Site Capture Zone A and extends southward from North Street to approximately Monroe Street. An area identified in the Consent Order as Off-Site Capture Zone B is part of OU4. Off-Site Capture Zone B is the plume area associated with the former Ideal Cleaners and extends from the source area to a line of extraction wells located along Monroe Street between Adams Avenue and the alley east of McKinley Avenue.

* Operable Unit 5 (OU5), also known as the Building 57 Area, is the source area and groundwater plume associated with Building 57/57A which is separate from and east of the main facility. OU5 includes Building 57/57A east of Hayes Avenue and north of the railroad tracks, as well as a former parking lot (known as Parking Lot 26) south of the railroad tracks.

* Operable Unit 6 (OU6) is the bedrock groundwater plume and includes all facility-related contamination in the bedrock aquifer.

* Operable Unit 7 (OU7), also known as the Northwestern Area, is the source area and groundwater plume associated with historic releases in this area. OU7 includes the portion of the former IBM facility northwest of the main facility and located west of Oak Hill Avenue and north of the railroad tracks.

Site Geology and Hydrogeology: The geology of the site is characterized by a sequence of unconsolidated glacial and post-glacial sediments overlying a buried bedrock valley. Three separate water-bearing units are defined in the vicinity of the site: the Upper Aquifer, the Lower Aquifer, and the Bedrock Aquifer. The Upper Aquifer extends beneath the site and is the water-bearing unit most impacted by site-related contamination. Natural groundwater flow in all three units is to the south, ultimately discharging to the Susquehanna River. Groundwater withdrawals for water supply or remediation purposes have altered the natural flow regime by creating artificial discharge and recharge points. Depth to groundwater at the site varies from about 10 to 40 feet below ground surface under pumping conditions.

CONFIRMED HAZARDOUS WASTE DISPOSED:

TYPE	QUANTITY
TRICHLOROETHENE (TCE)	UNKNOWN
TETRACHLOROETHYLENE (PCE OR "PERC.")	UNKNOWN
TRICHLOROETHYLENE (TCE)	UNKNOWN
BENZENE	UNKNOWN
TOLUENE	UNKNOWN
XYLENE (MIXED)	UNKNOWN
FREON	UNKNOWN
cis-1,2-dichloroethene	UNKNOWN
VOLATILE ORGANICS	UNKNOWN

METHYL CHLOROFORMATE	UNKNOWN
1,1,1 TCA	UNKNOWN
TETRACHLOROETHYLENE (PCE)	UNKNOWN
1,1-dichloroethane	UNKNOWN
vinyl chloride	UNKNOWN
1,1-dichloroethene	UNKNOWN
dichloroethene (cis-1,2-)	UNKNOWN
tetrachloroethene (PCE)	UNKNOWN
1,1,1-Trichloroethane(TCA)	UNKNOWN
1,1,1-TRICHLOROETHANE	UNKNOWN
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UNKNOWN
1,1,1-TCA	UNKNOWN

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Nature and Extent of Contamination

Operable Unit 1 (Railroad Corridor Source Area), Sub-Surface Soil:

The primary contaminant of concern in OU1 soils TCA. TCA was found at up to 48 parts per million (ppm) at depth (17 feet below ground surface) near the railroad tracks between Buildings 46 and 48. TCE was detected at 14 ppm in the same location. Groundwater data suggests that inaccessible areas (i.e., beneath buildings) may have isolated areas of soil contamination resulting from leaks from solvent/waste tanks and/or pipelines. A soil sampling plan is being developed for grassy areas outside of the fence.

Operable Unit 1 (Railroad Corridor Source Area), Groundwater: The primary contaminants of concern in OU1 groundwater are PCE, TCE, TCA, Freon 113, and their respective breakdown products. The highest concentrations of all these are found in the immediate vicinity of the railroad. The highest concentrations from the 2018 sampling are as follows: PCE 540 ppb; TCE 520 ppb; cis-1,2-DCE (a breakdown product) 15,000 ppb; TCA 75,000 ppb; 1,1-DCA (a breakdown product) 27,000 ppb; Freon-113 190 ppb.

Operable Unit 1 (Railroad Corridor Source Area), Soil Vapor: Results of 2016 sampling in buildings located within OU1 indicated that mitigation for soil vapor intrusion was needed in two buildings, which was performed in Buildings 45/46. Post mitigation samples collected confirmed the effectiveness of the system and indoor air concentrations were either below or at background levels. Building 47 results were below the NYSDOH guidelines for TCE and no actions were required at the time.

Operable Unit 2 (North Street Area), Sub-surface Soil: The primary contaminant of concern in OU2 soils is TCA. TCA was found at up to 11,000 ppm at depth (17 feet below ground surface) in one localized area north of Building 18 in the vicinity of a former TCA underground storage tank that was removed in 1980. TCE, toluene, and Freon 113 are found in a few localized areas, but at much lower concentrations (less than 100 ppm). Groundwater data suggests that inaccessible areas (i.e., beneath Buildings 18 and 41) may have isolated areas of soil contamination resulting from leaks from solvent/waste tanks and/or pipelines. A soil sampling plan is being developed for grassy areas outside of the fence.

Operable Unit 2 (North Street Area), Groundwater: The primary contaminants of concern in OU2 groundwater are TCE, TCA, and their respective breakdown products. Highest concentrations are found between Buildings 18 and 41. Based on the 2018 groundwater sampling the highest TCE concentration is 11,000 ppb and the highest TCA concentration is 2,200 ppb. Contaminant concentrations decline rapidly south of North Street.

Operable Unit 2 (North Street Area), Soil Vapor: Results of 2016 sampling in buildings located within OU2 indicated that

mitigation for soil vapor intrusion was needed in one building, which was performed in Building 42. Post mitigation samples collected to confirm the effectiveness of the systems indicated that indoor air concentrations were either below or at background levels. The remaining buildings sampled had results below the NYSDOH guidelines for TCE and no actions were required at the time.

Operable Unit 3 (Southern Area) and Off-Site Capture Zone A, Soil: OU3 and Off-Site Capture Zone A are off-site areas. There is no site-related soil contamination in off-site areas.

Operable Unit 3 (Southern Area) and Off-Site Capture Zone A, Soil Vapor: The primary contaminant of concern in OU3 and Off-Site Capture Zone A soil vapor is TCE. Concentrations range from 33,000 µg/m³ to non-detect. Concentrations are highest near the plant (opposite Building 41 along North Street) and decline with distance to the south. Most areas are less than 350 µg/m³.

Operable Unit 3 (Southern Area) and Off-Site Capture Zone A, Groundwater: The primary contaminant of concern in OU3 and Off-Site Capture Zone A groundwater is TCE. Concentrations in most areas are below the groundwater standard of 5 ppb. A few areas have concentrations of 20-30 ppb. In a localized area immediately south of North Street across from Building 18, several wells have TCE concentrations between 1,700 ppb and 13,000 ppb.

Operable Unit 4 (Ideal Cleaners Area), Soil: Soil contamination in OU4 is not significant. The remedy for OU4 (in-situ thermal treatment) has effectively removed PCE-related contamination from soil. The highest post-treatment PCE concentration in soil was 0.125 ppm.

Operable Unit 4 (Ideal Cleaners Area), Groundwater: The primary contaminant of concern in OU4 is cis-1,2-DCE, a breakdown product of PCE. PCE has essentially been eliminated from the plume following in-situ thermal treatment of the source zone. Breakdown products are also decreasing in area and concentration. A localized area immediately south of the source zone has residual cis-1,2-DCE concentrations greater than 50 ppb, with one monitoring well showing a concentration of 66 ppb.

Operable Unit 5 (Building 57 Area), Soil: Soil excavation and in-situ thermal treatment IRMs have removed areas of significant soil contamination. The highest remaining contaminant concentrations are within the allowable limit for residential use: 11 ppm (TCA) and 7.7 ppm (TCE), both in the Parking Lot 26 area of OU5. In the Building 57/57A portion of OU5, all remaining soil contamination is below criteria for unrestricted use.

Operable Unit 5 (Building 57 Area), Groundwater: The primary contaminant of concern remaining in OU5 groundwater is Freon 113. One on-site well within the Freon source area has concentrations up to 7,000 ppb and a nearby off-site well has concentrations up to 8,700 ppb. Two other wells have concentrations up to 450 ppb. Other wells are near or below the groundwater standard for Freon 113. Other site-related contaminants (TCE, TCA, and their respective breakdown products) range in concentration from non-detect up to approximately 120 ppb.

Operable Unit 6 (Bedrock Aquifer), Groundwater: The primary contaminants of concern in OU6 groundwater (the bedrock aquifer) are TCE and its breakdown products. TCE is found at concentrations up to 1000 ppb. Breakdown products (primarily cis-1,2-DCE) are found at concentrations up to 1900 ppb.

Operable Unit 7 (Northwest Area), Soil: An area of soil contamination that pre-dated IBM's acquisition of the property was removed by IBM upon its purchase of the property in 1984. Excavated soil was contaminated with PCE, TCE, TCA, toluene, and chromium associated with Endicott-Johnson manufacturing activities. It was determined that no further actions were needed regarding soil contamination.

Operable Unit 7 (Northwest Area), Groundwater: The primary contaminants of concern in OU7 groundwater are TCE, TCA, and their breakdown products. All are relatively small in area and low in concentration. TCE is found in two small, localized areas south

of Clark Street at concentrations of 12 ppb and 23 ppb. Other contaminants are generally near the groundwater standard.

ASSESSMENT OF HEALTH PROBLEMS:

Direct contact with contaminants in soil is unlikely since the majority of the site is an active industrial facility that is covered with buildings and pavement. In addition, access is restricted, further limiting the potential for contact exposures. People are not drinking the contaminated groundwater because the area is served by a public water supply that is routinely tested to ensure that it meets drinking water standards. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the overlying buildings, is referred to as soil vapor intrusion.

Soil vapor intrusion and the potential for soil vapor intrusion has been identified in both on- and off-site buildings. The on-site indoor air results indicate that either the air levels are consistent with background indoor air levels and are not of concern or that levels are below or slightly above the NYSDOH air guidelines. In the later, the possibility of health effects in workers exposed to these levels is low, but monitoring within the on-site occupied buildings is on-going. NYSDOH has recommended that reasonable and practical actions be taken to reduce indoor air concentrations within the on-site buildings to the extent that is possible. Mitigation systems (systems that ventilate/remove the air beneath the building) have been and will be installed in all buildings within the off-site defined soil vapor intrusion mitigation area to prevent the indoor air quality from being affected by the contamination in soil vapor beneath the buildings. The responsible party will also continue to track properties within the soil vapor intrusion mitigation area to identify new or modified buildings that might require mitigation systems.

PROJECT COMPLETIONS:

Operable Unit 01 - RAILROAD CORRIDOR SOURCE AREA			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Investigation		03/30/2019	Actual
Operable Unit 01A - IRM Groundwater Extraction and Treatment			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Extraction Well - EN-114T	10/24/2013	Actual
Remedial Action	IRM Extraction Well - EN-114T	01/30/2014	Actual
Operable Unit 01B - IRM Clean Water Injection			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	Injection Well EN-509T	11/02/2010	Actual
Remedial Action	IRM Injection Well EN-509T	04/03/2012	Actual
Operable Unit 01C - IRM Sediment Removal			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Storm Sewer Sediment Removal	01/12/2012	Actual
Remedial Action	IRM Storm Sewer Sediment Removal	11/29/2012	Actual
Operable Unit 02 - NORTH STREET AREA			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Investigation		03/30/2019	Actual
Operable Unit 02A - IRM Groundwater Extraction and Treatment			

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	EN-284 Permanent Piping	05/30/2004	Actual
Remedial Action	EN-284 Permanent Piping	01/27/2005	Actual
Remedial Design	Extraction Wells T-91 and T-92	03/31/2005	Actual
Remedial Action	Extraction Wells T-91 and T-92	04/10/2005	Actual
Remedial Design	Extraction Wells EN-91, EN-92, and EN-284	03/30/2007	Actual
Remedial Design	Extraction Well EN-451T/451P	04/27/2007	Actual
Remedial Action	Extraction Wells EN-91, EN-92, and EN-284	10/10/2007	Actual
Remedial Action	Extraction Well EN-451T/451P	07/18/2008	Actual
Remedial Design	IRM Garfield GTF Air Stripper	09/25/2013	Actual
Remedial Action	IRM Garfield GTF Air Stripper	11/07/2013	Actual
Operable Unit 02B - IRM Clean Water Injection			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Injection Well EN-525T	07/07/2010	Actual
Remedial Design	IRM Injection Well EN-509T	11/02/2010	Actual
Remedial Design	IRM Injection Well EN-530T	10/24/2011	Actual
Remedial Action	IRM Injection Well EN-509T	04/03/2012	Actual
Remedial Action	IRM Injection Well EN-530T	07/26/2012	Actual
Remedial Design	IRM Injection Well EN-532T	08/06/2013	Actual
Remedial Action	IRM Injection Well EN-532T	10/30/2013	Actual
Operable Unit 02C - IRM Sediment Removal			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Storm Sewer Sediment Removal	01/12/2012	Actual
Remedial Action	IRM Storm Sewer Sediment Removal	11/29/2012	Actual
Operable Unit 03 - SOUTHERN AREA and OFF-SITE CAPTURE ZONE A			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Investigation		03/31/2015	No Further Action
Remedial Design		03/31/2015	Actual
Remedial Action		03/31/2015	Actual
Operable Unit 03A - Groundwater Extraction and Treatment			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design		02/14/2006	Actual
Remedial Action		05/24/2006	Actual
Remedial Design	IRM Extraction Well EN-447T Upgrade	06/28/2013	Actual
Remedial Action	IRM Extraction Well EN-447T Upgrade	09/05/2013	Actual
Operable Unit 04 - IDEAL CLEANERS AREA			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Investigation		11/02/2010	No Further Action
Operable Unit 04A - IRM In-Situ Thermal Treatment			
PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Action	In-Situ Thermal IRM	07/20/2010	Actual

OPERABLE UNIT	PROJECT	DESCRIPTION	END DATE	STATUS
Operable Unit 05 - BUILDING 57 AREA	PROJECT			
	Remedial Action		03/30/2016	Actual
	Remedial Design		03/30/2016	Actual
	Remedial Investigation		03/30/2016	Actual
Operable Unit 05A - Groundwater Extraction and Treatment	PROJECT			
	Remedial Design	IRM EWs EN-623, EN-624, and Hayes GTF Upgrades	04/28/2006	Actual
	Remedial Action	IRM EWs EN-623, EN-624, and Hayes GTF Upgrades	08/31/2006	Actual
	Remedial Design	IRM Extraction Well - EN-709	03/30/2011	Actual
	Remedial Action	IRM Extraction Well - EN-709	06/19/2013	Actual
Operable Unit 05C - Soil Excavation	PROJECT			
	Remedial Design	IRM Soil Excavation - Lot 26	03/21/2011	Actual
	Remedial Action	IRM Soil Excavation - Lot 26	05/31/2011	Actual
Operable Unit 05D - In-Situ Thermal Treatment	PROJECT			
	Remedial Design	IRM In-Situ Thermal Treatment	09/16/2011	Actual
	Remedial Action	IRM In-Situ Thermal Treatment	01/31/2013	Actual
Operable Unit 06 - BEDROCK GROUNDWATER	PROJECT			
	Remedial Investigation		03/26/2009	Actual
Operable Unit 06A - IRM Groundwater Extraction and Treatment	PROJECT			
	Remedial Design	EN-CAF Well Replacement	05/09/2006	Actual
	Remedial Action	EN-CAF Well Replacement	10/10/2007	Actual
Operable Unit 07 - NORTHWEST AREA	PROJECT			
	Remedial Investigation		03/30/2018	Actual
Operable Unit 07A - IRM Groundwater Extraction and Treatment	PROJECT			
	Remedial Design	Robble Ave GTF and piping for GW treatment	09/07/2006	Actual
	Remedial Action	Robble Ave GTF and piping for GW treatment	12/06/2007	Actual
Operable Unit 08 - REMAINDER OF SITE	PROJECT			
	Site Characterization		01/04/2010	No Further Action
Operable Unit 09 - VAPOR INTRUSION ON SITE				

PROJECT	DESCRIPTION	END DATE	STATUS
Site Characterization		02/01/2006	Actual

The following project completion(s) have been modified or deleted from the registry. Data reflects previous information.

Operable Unit 02B - IRM Clean Water Injection

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	Extraction Wells T-91 and T-92	03/31/2005	Actual
Remedial Action	Extraction Wells T-91 and T-92	04/10/2005	Actual

Operable Unit 02C - IRM Groundwater Extraction - Wells EN-284, T-91 and T-92

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design		03/30/2007	Actual
Remedial Action	Perm well installation EN-284, 91 & 92	10/10/2007	Actual

Operable Unit 02D - IRM Groundwater Extraction - Well EN-451

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	Extraction Well EN-451T & P	04/27/2007	Actual
Remedial Action	Extraction well EN-451T & P	07/18/2008	Actual

Operable Unit 02E - IRM Clean Water Injection - Well EN-525T

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	Injection Test Well EN-525T	07/07/2010	Actual

Operable Unit 02F - IRM Clean Water Injection - Well EN-530T

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Injection Well EN-530T	10/24/2011	Actual
Remedial Action	IRM Injection Well EN-530T	07/26/2012	Actual

Operable Unit 02G - IRM Clean Water Injection - Well EN-509T

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Injection Well EN-509T	11/02/2010	Actual
Remedial Action	IRM Injection Well EN-509T	04/03/2012	Actual

Operable Unit 02H - IRM Sediment Removal - Storm Sewers

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Storm Sewer Sediments	01/12/2012	Actual
Remedial Action	IRM Storm Sewer Sediments	11/29/2012	Actual

Operable Unit 05A - IRM Groundwater Extraction - Wells EN-623 and EN-624

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	GW Recovery well Enhancement Hayes Ave GTF Bldg57	04/28/2006	Actual
Remedial Action		08/31/2006	Actual

Operable Unit 05B - IRM Groundwater Extraction - Well EN-709 - Lot 26

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design	IRM Extraction Well - Lot 26	03/30/2011	Actual
Remedial Action	IRM Extraction Well - Lot 26	06/19/2013	Actual

The New York State Department of Environmental Conservation has not publicly updated the following fields since 2003:

ANALYTICAL DATA AVAILABLE FOR:	Air-	Surface Water-	Groundwater-X	Soil-X	Sediment-
APPLICABLE STANDARDS EXCEEDED IN:	Groundwater-X	Drinking Water-X	Surface Water-	Air-	

GEOTECHNICAL INFORMATION:

SOIL/ROCK TYPE: Gravel.
GROUNDWATER DEPTH: Range: 10 to 15 feet.

LEGAL ACTION:	Type: Consent Order	State-X	Federal-
STATUS:	Negotiation in Progress-	Order Signed-X	
REMEDIAL ACTION:	Proposed- Under Design-	In Progress-	Completed-X
NATURE OF ACTION:	Groundwater pump & treat system.		

USEPA COMPREHENSIVE ENVIRONMENTAL RESPONSE
COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)

SITE INFORMATION

EPA-ID:	██████████	Site-ID:	██████████
Site Name:	IBM		
Site Street:	██████ N ST		
Site City/State/Zip:	ENDICOTT, NY 13760		

NFRAP (No Further Remedial Activity Planned) Status: NO FURTHER REMEDIAL ACTION PLANNED

USGS Hydrological Unit: 02050103	NPL Status Indicator: Not on the NPL
Incident Category:	RCRA Flag: YES (RCRA FACILITY)
Non-NPL Status: NFRAP	Non-NPL Stat Date: 06/01/1980
Federal Facility Flag: Not a Federal Facility	

SITE ALIAS INFORMATION

Alias Name:	IBM CORP/SYSTEMS MFG DIV	Alias ID: 101
Alias Street:	██████ NORTH ST	
Alias City/State/Zip:	ENDICOTT, NY 13760	

Alias Name:	IBM CORP - ENDICOTT	Alias ID: 201
Alias Street:	██████ NORTH ST.	
Alias City/State/Zip:	ENDICOTT, NY 13760	

OPERABLE UNIT INFORMATION

Operable Unit ID: 00

Operable Unit Name: SITEWIDE

ACTION INFORMATION

Name:	Discovery	Start Date:		Operable Unit ID: 00
Lead:	EPA Fund-Financed	Completion Date:	06/01/1980	
Qualifier:		Fin Budget Src:		

Name:	Preliminary Assessment	Start Date:		Operable Unit ID: 00
Lead:	EPA Fund-Financed	Completion Date:	06/01/1980	
Qualifier:	NFRAP (No Futher Remedial Action Planned)	Fin Budget Src:	Remedial	

Name:	Archive Site	Start Date:		Operable Unit ID: 00
Lead:	EPA In-House	Completion Date:	06/01/1980	
Qualifier:		Fin Budget Src:		

FINANCIAL INFORMATION

No financial information was provided



CERCLIS/NPL/INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION REQUEST

ENDICOTT-JOHNSON, INC.
FRANKLIN STREET

ENDICOTT (V), NY 13760

Facility Id: [REDACTED]

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

SITE DESIGNATION: NYSDEC Registry

Special Note: This site is one of 421 Inactive Hazardous Waste Disposal Sites that reportedly are being reinvestigated for chlorinated hydrocarbons that may pose soil gas vapor intrusion hazards. Prior to 2003, many of these sites were determined to be cleaned up or not to pose hazards.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION

CLASSIFICATION CODE: C

REGION: 7

SITE CODE: [REDACTED]
DEC ID: [REDACTED]

CLASSIFICATION CODE DESCRIPTION:

Remediation Complete (formerly D2). Sites may still require some degree of site management associated with either operation, maintenance, and monitoring or with institutional/engineering controls (IC/ECs).

NAME OF SITE: Endicott-Johnson, Inc.
STREET ADDRESS: Franklin Street
CITY: Endicott (V)

ZIP: 13760

TOWN: Union
COUNTY: Broome

ESTIMATED SIZE: 5.5 Acres

SITE TYPE: Dump- Structure-X Lagoon- Landfill- Treatment Pond-

INSTITUTIONAL/ENGINEERING CONTROLS:

CONTROL: IN-PLACE DATE:
Ground Water Use Restriction 04/12/2011
Landuse Restriction 04/12/2011
Site Management Plan 04/12/2011
Deed Restriction 04/12/2011

CROSS REFERENCES:
None reported

SITE OWNER/OPERATOR/REPOSITORY INFORMATION:

CURRENT OWNER(S):

NAME: Titan Services Group
 Christopher Pelto
 ADDRESS: [REDACTED] North Street
 Endicott, NY 13760

Owner Type: Innocent Owner NonRegistry-HazSubs

OWNER(S) DURING DISPOSAL:

NAME: ENDICOTT-JOHNSON, INC.
 ADDRESS:
 NY

OPERATOR(S) DURING DISPOSAL:

HAZARDOUS WASTE DISPOSAL PERIOD: from 1918 to 1983

SITE DESCRIPTION:

Location: The property is a 5.5 acre lot located at 901 Franklin Street in Endicott, NY. Site Features: The property is a vacant lot. The surface of the site is relatively flat with the exception of the northern edge, which rises abruptly approximately 7 feet to the original elevation. Franklin Street runs along the southeast boundary of the parcel. Current Zoning/Use(s): The parcel is zoned for Industrial use, but currently is not being used for any purpose. Site buildings were demolished in the 1980's and the property is vacant and undeveloped.

Historical Use(s): The site was the location of a small manufacturing plant for the Endicott-Johnson Shoe Manufacturing Company. There were two buildings on the property which were used for manufacturing shoe "cements" (cements are the glues used to hold shoes together). There were twelve underground tanks on the property that were used for storing solvents and raw materials used in making the shoe cements. Leakage from and around the underground tanks resulted in contamination of the environment.

Site Geology and Hydrogeology: The natural soils at the site consist of gravels, sands, silts, and clays of glacial and glacial-lacustrine origin. The regional groundwater system consists of an upper and lower aquifer separated by an impermeable layer of silt and clay. At the site, groundwater is encountered at approximately 5 to 10 feet below ground surface and generally flows south to southwest.

CONFIRMED HAZARDOUS WASTE DISPOSED:

TYPE	QUANTITY
1,1,1-TRICHLOROETHANE (TCA)	UNKNOWN
MONOCHLOROETHANE	UNKNOWN
DICHLOROETHANE	UNKNOWN
BENZENE	UNKNOWN
2-BUTANONE (A.K.A. METHYL-ETHYL-KETONE; MEK)	UNKNOWN
TOLUENE	UNKNOWN
ACETONE	UNKNOWN
ETHYL ACETATE	UNKNOWN

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Nature and Extent of Contamination: Remediation at the site is complete. Deed restrictions are in place to address residual

contamination in groundwater (above standards) and in soil gas. Prior to remediation, the primary contaminant of concern was toluene in soil and groundwater. Other volatile organics (both halogenated and non-halogenated) were detected during the investigation. A "legacy site" soil vapor investigation was performed in 2006 and 2007, and it was determined that while contaminated vapors exist on site, the site did not present a vapor contamination threat to off-site properties.

ASSESSMENT OF HEALTH PROBLEMS:

People are not expected to come into direct contact with contaminants in the soil because the majority of the contamination has either been remediated or removed. People may come into direct contact with contaminants in groundwater if they dig below the surface. People are not drinking contaminated groundwater associated with the site because the area is served by a public water supply that obtains its water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the on-site soil vapor (air spaces within the soil), which in turn may move into any future buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential for soil vapor intrusion to occur will be evaluated for any future on-site buildings. Sampling indicates soil vapor intrusion is not a concern for off-site buildings.

PROJECT COMPLETIONS:

Operable Unit 01 - REMEDIAL PROGRAM

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Investigation		11/01/1990	Actual
Remedial Design		09/01/1992	Actual
Remedial Action		09/01/1993	Actual

The New York State Department of Environmental Conservation has not publicly updated the following fields since 2003:

ANALYTICAL DATA AVAILABLE FOR:	Air-	Surface Water-	Groundwater-X	Soil-X	Sediment-
APPLICABLE STANDARDS EXCEEDED IN:	Groundwater-X	Drinking Water-	Surface Water-	Air-	

GEOTECHNICAL INFORMATION:

SOIL/ROCK TYPE: Glacial till.
 GROUNDWATER DEPTH: Range: 10 to 15 feet.

LEGAL ACTION:	Type: Consent Order	State-X	Federal-
STATUS:	Negotiation in Progress-	Order Signed-X	
REMEDIAL ACTION:	Proposed- Under Design-	In Progress-	Completed-X
NATURE OF ACTION:	Vacuum extraction + groundwater pump & treat.		



CERCLIS/NPL/INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION REQUEST

ENDICOTT AREA-WIDE INVESTIGATION
ENDICOTT AREA-WIDE INVESTIGATION

ENDICOTT, NY 13760-

Facility Id: [REDACTED]

ADDRESS CHANGE INFORMATION

Revised street: **ENDICOTT AREA / WIDE INVESTIGATION**

Revised zip code: **13760**

SITE DESIGNATION: NYSDEC Registry

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION

CLASSIFICATION CODE: **N**
CLASSIFICATION CODE DESCRIPTION:
No further action

REGION: **7**

SITE CODE: [REDACTED]
DEC ID: [REDACTED]

NAME OF SITE: **Endicott Area-Wide Investigation**
STREET ADDRESS: **Endicott Area-Wide Investigation**
CITY: **Endicott** ZIP: **13760-**

TOWN: **Union**
COUNTY: **Broome**

SITE TYPE: **Dump- Structure- Lagoon- Landfill- Treatment Pond-**

ESTIMATED SIZE:

INSTITUTIONAL/ENGINEERING CONTROLS:
None reported

CROSS REFERENCES:
IDENTIFIER

SOURCE

The following cross reference(s) have been deleted from the registry. Data reflects previous information.
[REDACTED] HW Site ID

SITE OWNER/OPERATOR/REPOSITORY INFORMATION:
CURRENT OWNER(S):

OWNER(S) DURING DISPOSAL:

OPERATOR(S) DURING DISPOSAL:

APPLICANT REQUESTOR(S):

DOCUMENT REPOSITORY(S):

NAME: GEORGE F. JOHNSON MEMORIAL LIBRARY
REFERENCE DESK
ADDRESS: 1001 PARK STREET
ENDICOTT, NY 13760

HAZARDOUS WASTE DISPOSAL PERIOD:

SITE DESCRIPTION:

In 1979, IBM in Endicott reported a spill of 4,100 gallons of TCA. The first comprehensive hydrogeologic report prepared by IBM occurred in 1980 and indicated a much larger solvent plume was present (TCE, PCE, DCA, DCE, methylene chloride, vinyl chloride, and Freon). Groundwater remediation (pump and treat) and monitoring began in 1979-1980 and has been continuing ever since.

Groundwater contamination from the former IBM facility has resulted in detectable levels of contaminants in indoor air in structures, including off-site locations in the Village of Endicott and Town of Union. TCE and PCE are the primary contaminants of concern with respect to indoor air. See site # [REDACTED] for more information. In 2003, the NYSDEC determined that it was necessary to do further investigation in Endicott beyond the solvent plume area that IBM claimed responsibility for. This site (Endicott Area Wide Study) encompasses most of the town of Union (about 20 square miles) which includes the Village of Endicott.

A standby consultant was tasked by the NYSDEC to perform a Phase 1 records search and a Preliminary Site Investigation in Endicott to identify additional sources of groundwater, soil gas, and indoor air pollution. The consultant was also tasked with indoor air sampling and mitigating structures with soil vapor intrusion issues as necessary. Indoor air testing was completed in 74 structures during the heating seasons of 2004 and 2005.

The DEC's consultant completed the Phase 1 work, combining several databases from Broome County, interviewing local officials, and using Sanborn maps to identify properties that may have contributed to solvent contamination in Endicott. Preliminary Site Assessment work plans were developed for two areas (South Central Endicott and East Endicott) and field work has been completed in one area (South Central Endicott.) The consultant's contract expired and the DEC hired a second contractor to pick up where the first left off.

Site Assessment work plans for all seven areas were developed and implemented. All of the field work and reports are complete and in the local document repository. Indoor air testing has been performed every heating season since the start of the project through 2009. Some homes continue to be monitored on a periodic basis. Several homes have been mitigated as a result of the indoor air sampling effort.

The investigation is completed and no further action is anticipated at this time. If continued monitoring indicates a vapor intrusion issue, mitigation systems can be installed as needed.

CONFIRMED HAZARDOUS WASTE DISPOSED:

None reported

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Groundwater contamination from various sources has resulted in detectable levels of contaminants in indoor air in a few

structures in the Village of Endicott and Town of Union. TCE and PCE are the primary contaminants of concern with respect to indoor air. Properties are being monitored on a periodic basis and will be mitigated as necessary.

ASSESSMENT OF HEALTH PROBLEMS:

None provided

PROJECT COMPLETIONS:

Operable Unit 01 - Area wide study

PROJECT	DESCRIPTION	END DATE	STATUS
Site Characterization		06/30/2010	Actual

Operable Unit 01A - Installation of Mitigation Systems in Areas 1-7

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Design		04/01/2015	Actual
Remedial Action		04/01/2015	Actual

The New York State Department of Environmental Conservation has not publicly updated the following fields since 2003:

ANALYTICAL DATA AVAILABLE FOR:	Air-	Surface Water-	Groundwater-	Soil-	Sediment-
APPLICABLE STANDARDS EXCEEDED IN:	Groundwater-	Drinking Water-	Surface Water-	Air-	

GEOTECHNICAL INFORMATION:

SOIL/ROCK TYPE:

GROUNDWATER DEPTH:

LEGAL ACTION:

STATUS:	Type:	State-	Federal-
REMEDIAL ACTION:	Negotiation in Progress-	Order Signed-	
NATURE OF ACTION:	Proposed- Under Design-	In Progress-	Completed-



CERCLIS/NPL/INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION REQUEST

JUNE STREET PLUME TRACKDOWN

JUNE STREET

ENDICOTT, NY 13760

Facility Id: [REDACTED]

ADDRESS CHANGE INFORMATION

Revised street: NO CHANGE

Revised zip code: NO CHANGE

SITE DESIGNATION: NYSDEC Registry

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION

CLASSIFICATION CODE: N

REGION: 7

SITE CODE: [REDACTED]

CLASSIFICATION CODE DESCRIPTION:

No further action

DEC ID: [REDACTED]

NAME OF SITE: June Street Plume Trackdown

STREET ADDRESS: June Street

CITY: Endicott

ZIP: 13760

TOWN: Union

COUNTY: Broome

SITE TYPE: Dump- Structure- Lagoon- Landfill- Treatment Pond-

ESTIMATED SIZE:

INSTITUTIONAL/ENGINEERING CONTROLS:

None reported

CROSS REFERENCES:

IDENTIFIER

SOURCE

The following cross reference(s) have been deleted from the registry. Data reflects previous information.

[REDACTED] HW Site ID

[REDACTED] HW Site ID

SITE OWNER/OPERATOR/REPOSITORY INFORMATION:

None reported

HAZARDOUS WASTE DISPOSAL PERIOD:

SITE DESCRIPTION:

See Site No. [REDACTED]. The June Street area of investigation covers approximately 250 acres on the border of the Town of Union and the Village of Endicott. This area is approximately bounded by; the Nanticoke Creek to the north, N.Nanticoke Ave. to the east, the Norfolk Southern Railroad to the south and to the west by open space beyond Frey Ave. The neighborhood is composed primarily of tightly packed residential housing, with mixed commercial and some light industrial in the south east extent of the study area.

The groundwater plume is primarily composed of TCE. There is a soil gas plume of TCE that correlates to this area as well. Most of the groundwater samples collected have been grab samples, although a small number of monitoring wells have been installed. Elevated levels of contaminant have been observed on the west end of June Street, on the corner of Dwight Avenue and Jennings Street, and at the east end of Maple Street. Broome County historic records and aerial photographs indicate that a landfill existed on June Street; this may be the source. Other possible source(s) could be 312 Maple Street or 325 Jennings Street.

The groundwater flow direction has recently been determined to move from roughly east south-east to west north-west. The demonstrated groundwater flow path indicates that the landfill on which the June Street neighborhood is built most likely is not the source of contaminant. The TCE plume is believed to originate to the south east, from one of the potential sources indicated above.

Additional site characterization is planned to better define the extent of the contaminant plume. For additional information and details of the continued investigation, see Former Canada Dry Bottling Facility - Site No. [REDACTED]

CONFIRMED HAZARDOUS WASTE DISPOSED:

None reported

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

None provided

ASSESSMENT OF HEALTH PROBLEMS:

None provided

PROJECT COMPLETIONS:

None reported

The New York State Department of Environmental Conservation has not publicly updated the following fields since 2003:

ANALYTICAL DATA AVAILABLE FOR:	Air-	Surface Water-	Groundwater-	Soil-	Sediment-
APPLICABLE STANDARDS EXCEEDED IN:	Groundwater-	Drinking Water-	Surface Water-	Air-	

GEOTECHNICAL INFORMATION:

SOIL/ROCK TYPE:

GROUNDWATER DEPTH:

LEGAL ACTION:

STATUS:

REMEDIAL ACTION:

NATURE OF ACTION:

Type:

Negotiation in Progress-

Proposed-

Under Design-

State-

Order Signed-

In Progress-

Federal-

Completed-