

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

September 26, 2002

RCRA Corrective Action  
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: JMT Facility (former General Electric/Black & Decker Site)  
Facility Address: 200 State Street, Brockport, NY 14420  
Facility EPA ID #: NYD0001919 NYD00222-1919

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

If yes - check here and continue with #2 below.  
 If no - re-evaluate existing data, or  
 if data are not available, skip to #8 and enter "IN" (more information needed) status code.

**BACKGROUND**

**Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

**Definition of "Migration of Contaminated Groundwater Under Control" EI**

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

**Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRAs). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

**Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Is **groundwater** known or reasonably suspected to be “contaminated”<sup>1</sup> above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

X If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

Site Description: The facility is located at 200 State Street in Brockport, New York. The facility is approximately 28.6 acres in size, and is located in a largely industrial area. The facility is bounded to the north by State Street and the New York State Barge Canal, to the east by the Owens-Illinois, Inc. facility, and to the west by the Brockport Cold Storage Company facility (See Figure 1). The former 3M/Dynacolor site, a listed inactive hazardous waste disposal site, is also located on the west side of the facility. To the south of the facility are railroad tracks and other industrial facilities. The property was originally used as a New York State fairground. It was subsequently purchased by New York Frozen Foods, Inc., and was developed into a cold storage business. The original plant building still exists, but the plant building is currently larger due to various additions constructed over time by GE.

GE owned and operated the facility from 1949 to 1984. Black & Decker purchased the property in 1984 and operated the facility through 1986. Both GE and Black & Decker manufactured small household electrical appliances, including mixers, electric knives, can openers, etc. The County of Monroe Industrial Development Agency (COMIDA) purchased the facility from Black & Decker in 1988 and leased the facility to Kleen-Brite Laboratories, Inc. (Kleen-Brite), which used the facility for packaging various household products. JMT purchased the property from COMIDA in 1993. As of 2002, the site is vacant.

GE and then Black & Decker operated a hazardous waste treatment/storage/disposal (TSD) facility under interim status. Operations at the facility that generated wastes included various cleaning, degreasing, electroplating and metal finishing operations. The TSD units included six surface impoundments and one sludge drying bed. Closure of these units was completed in August 1987 in accordance with a NYSDEC approved Closure Plan. The facility is currently in the post-closure care period, which began on October 13, 1988. The facility was issued a NYS Part 373 Post-Closure Permit for the post-closure care of these units. The permit also specifies requirements for corrective action.

Groundwater is contaminated with solvents related to historic plating operations that were conducted at the site. Trichloroethene (TCE) is the primary contaminant, and the related TCE breakdown products cis-1,2-dichloroethene (1,2-DCE) and vinyl chloride are also present. 1,1,1-trichloroethane is also present in certain areas. Concentrations of TCE range up to approximately 50 parts per million (or 50,000 parts per billion) in certain areas of the site. These values are far above the protective levels which are 5 parts per billion, or lower. NYSDEC Technical Operation Guidance Series (TOGS) 1.1.1 provides a compendium of “protective” levels for ambient water quality criteria for New York State waters, including groundwater. TOGS 1.1.1 was last updated in 1998. Current groundwater quality conditions at this site are monitored quarterly, and reported semi-annually, as required by a 6NYCRR Part 373 Post-Closure Permit.

References: Post-Closure Permit Application, Black & Decker, 1987; NYSDEC Technical Operation Guidance Series (TOGS) 1.1.1, June 1998; JMT Facility 2001 Annual Groundwater Monitoring Report, January 2002.

Footnotes:

<sup>1</sup>“Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

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3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”<sup>2</sup> as defined by the monitoring locations designated at the time of this determination)?

If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”<sup>2</sup>).

If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”<sup>2</sup>) - skip to #8 and enter “NO” status code, after providing an explanation.

If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s): The facility has been conducting groundwater monitoring since the early 1980s. In response to evidence of a release, a groundwater migration control system was installed at the site and began operation in 1988. Quarterly performance monitoring of this system has been conducted since that time. The system initially included a 300-foot long collection system that was constructed in the bedrock through the use of controlled blasting. Blasting was used to insure a continuous hydraulically connected zone was created in the bedrock. Earlier attempts to establish a hydraulic barrier using conventional wells showed that technology that could address heterogeneity in the bedrock would be necessary at this site. The on-site groundwater migration control system was enhanced during 1999. During this work approximately 150 additional feet of trench was blasted, and part of the original installation was refractured (See Figure 1 for location of fracture zone and monitoring well network). The enhancements were undertaken to make the system more robust and to address concerns about declining hydraulic performance of the original system. The routine monitoring of the original system showed the water level targets for nearby observations wells were not being achieved. Results following system enhancements show increased yields from the system and improved hydraulic performance (See Figures 2 and 3 for recent overburden and upper bedrock potentiometric maps). Water quality monitoring shows that groundwater downgradient of the migration control system is meeting ambient water quality criteria, indicating that contaminant migration from the site is being effectively controlled.

During the mid-1990s the NYSDEC required groundwater investigations downgradient of the site to determine if contamination had migrated off-site prior to installation of the groundwater migration control system. Results from this investigation showed that a remnant plume is present off-site, under a residential area. A quarterly groundwater monitoring program includes monitoring both on-site and in the off-site area. Results from this program show that groundwater quality in the off-site area is stable over the approximate 6 year period that the off-site well network has been in place. A concentration trend plot for well OSL-3BI, which is located in this area, is attached (See Figure 4). The on-site wells show decreasing contaminant levels, indicating that contaminant levels and contaminant mass remaining in the environment are being reduced in part due to operation of the on-site groundwater collection and treatment system. A concentration trend plot for well GEB-18B, which is located in the heart of the on-site plume, is attached (See Figure 5). A concentration trend plot for the influent from the on-site groundwater recovery, which provides an integrated measure of the groundwater quality being intercepted, is attached (See Figure 6).

In response to the presence of the off-site plume, an off-site groundwater recovery and treatment system was constructed and placed in operation during 2001 (See Figure 7 for site plan of this system). This system, located at 98 Lyman Street, has been implemented as part of an Off-Site Groundwater Interim

Corrective Measures Implementation Plan. This plan describes the measures that are currently being taken to reduce contaminant levels in the heart of the off-site plume, as well as requiring a future assessment of the effectiveness of these actions. Part of the plan is structured to assess the extent to which matrix diffusion of contaminants into the bedrock and natural attenuation may be controlling the effectiveness and timeframe for remediation of the off-site area. Following completion of the monitoring program specified in the Off-Site Groundwater Interim Corrective Measures Implementation Plan, the NYSDEC will make a final remedy determination regarding further remedial action and monitoring that may be needed for this area.

References: JMT Facility Compliance Monitoring Program Sampling and Analysis Plan, June 1999; JMT Facility 2001 Annual Groundwater Monitoring Report, January 2002; Off-Site Groundwater Investigation Report, August 1996; Off-Site Groundwater Interim Corrective Measures Implementation Plan, February 2000.

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<sup>2</sup> “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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4. Does "contaminated" groundwater discharge into surface water bodies?

If yes - continue after identifying potentially affected surface water bodies.

If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): Tributary #3 to Brockport Creek is the potentially affected surface water body. Direct monitoring of site storm water discharge has demonstrated that contaminated groundwater infiltrates into storm sewer lines in certain on-site areas. This has been determined through a comprehensive storm water monitoring program that included testing at a number of points on-site within the storm sewer network as well as at the location where the storm sewer discharges to Tributary #3 to Brockport Creek. Testing in Tributary #3 to Brockport Creek has occasionally detected site-related volatile organic contaminants, but at levels below those considered protective.

References: JMT Facility Outside Container Storage Area/Degreaser Area RCRA Facility Investigation Report, August 1996; JMT Facility Outside Container Storage Area/Degreaser Area Corrective Measures Study Report, January 2000.

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5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration<sup>3</sup> of each contaminant discharging into surface water is less than 10 times their appropriate groundwater “level,” and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

\_\_\_\_\_ If yes - skip to #7 (and enter “YE” status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of key contaminants discharged above their groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

  X   If no - (the discharge of “contaminated” groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of each contaminant discharged above its groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations<sup>3</sup> greater than 100 times their appropriate groundwater “levels,” the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

\_\_\_\_\_ If unknown - enter “IN” status code in #8.

Rationale and Reference(s): There is no direct measurement available for the contaminant levels in the groundwater immediately prior to discharge to the storm sewer. However, by inference from contaminant levels in the on-site plume, contaminant levels at certain points of infiltration into the storm sewer system may be more than 100 times their appropriate groundwater levels (typically 5 ug/l for contaminants of concern at this site). As discussed in response to a prior EI question, longterm groundwater monitoring indicates a downward trend in contaminant levels on-site. In addition, interim corrective measures have been implemented to reduce groundwater infiltration into the storm sewer system. As part of the interim measures, during 1997, certain sections of storm sewer sewer were removed and replaced with welded high density polyethylene piping and manholes. A follow-up monitoring program was conducted to evaluate contaminant levels at numerous points within the on-site sewer network, as well as at the last access point before the storm sewer discharges to the municipal storm sewer system. This program also included storm event monitoring to assess temporal changes in contaminant levels during short-term storm events. This program indicated that storm water quality for the storm water being discharged to the municipal system was consistently below the potentially applicable level of 40 ug/l for TCE, which is the effluent limit for the classified receiving water. Monitoring was also conducted where the storm sewer discharge “daylights” as Tributary #3 to Brockport Creek. At this location, contaminant levels were often non-detectable and were consistently below their appropriate groundwater levels (5 ug/l). Due to the intermittent nature of flow in the storm sewer at the point of discharge from the site, meaningful contaminant flux calculations cannot be made.

References: JMT Facility Outside Container Storage Area/Degreaser Area RCRA Facility Investigation Report, August 1996; JMT Facility Interim Corrective Measures Implementation Plan, August 1997; JMT Facility Outside Container Storage Area/Degreaser Area Corrective Measures Study Report, January 2000.

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<sup>3</sup> As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented<sup>4</sup>)?

**X** If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,<sup>5</sup> appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

If unknown - skip to 8 and enter “IN” status code.

Rationale and Reference(s): A final remedy decision has not been made yet regarding the groundwater discharge to surface water. As discussed in the previous responses, investigations, interim measures and monitoring have examined this issue and support a determination that the discharge is currently acceptable. A corrective measures study has been submitted that addresses this discharge, but there are other issues related to the storm sewer that currently preclude completion of the remedy selection process at this time. These other issues concern polychlorinated biphenyl (PCB) contaminated sediments within the storm sewer network and Tributary #3 to Brockport Creek. The PCB contamination is not related to groundwater migration, but must be addressed before a final remedy decision is made. Interim corrective measures to address the PCB contamination began during 2001 and additional measures are currently in progress during 2002. These actions include soil removals on-site, storm sewer cleaning both on and off-site, and sediment and soil removal through a residential area along Tributary #3 to Brockport Creek. Although the section of Tributary #3 to Brockport Creek in the residential area will be addressed during 2002, cleanup of the remainder of Tributary #3 will extend into the 2003 construction season.

References: On-Site Storm Sewer System Interim Corrective Measures Implementation Plan, March 2002,

as amended May 2002; Off-Site Storm Water Drainageway Interim Corrective Measures Implementation Plan, April 2002, as amended May 2002, August 2002 and September 2002.

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<sup>4</sup> Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

<sup>5</sup> The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

X If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

If no - enter "NO" status code in #8.

If unknown - enter "IN" status code in #8.

Rationale and Reference(s): The facility's 6NYCRR Part 373 Post-Closure hazardous waste management permit requires future monitoring of the groundwater both on and off-site. Details regarding the groundwater monitoring program are specified in the Compliance Monitoring Program Sampling and Analysis Plan, last revised June 1999. This plan specifies monitoring locations, sampling frequencies testing requirements, data evaluation, and reporting for the groundwater program.

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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

- X  YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the JMT (former General Electric/Black & Decker facility, EPA ID # NYD0001919, located at 200 State Street, Brockport, New York. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
- NO - Unacceptable migration of contaminated groundwater is observed or expected.
- IN - More information is needed to make a determination.

Completed by: (signature) Lawrence M. Thomas Date: September 26, 2002  
(print) Lawrence M. Thomas  
(title) Engineering Geologist 2

Supervisor: (signature) E. Dassatti Date: 9/27/02  
(print) Edwin Dassatti  
(title) Director, Bureau of Solid Waste and Corrective Action  
(State) New York State Department of Environmental Conservation

Location where References may be found:

NYSDEC  
Division of Solid & Hazardous Materials  
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Albany, NY 12233-7258

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**O'BRIEN & GERE**  
ENGINEERS, INC.

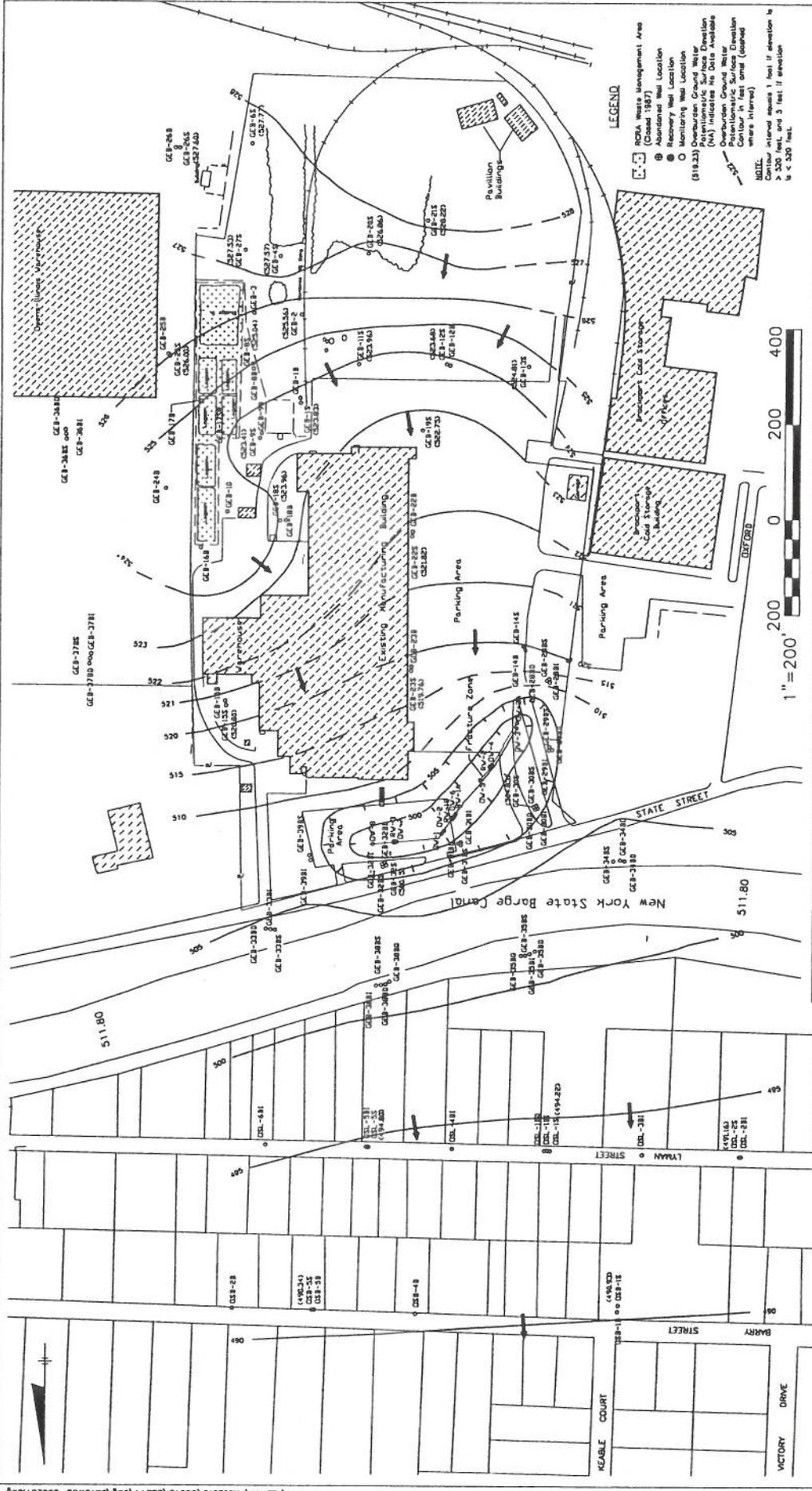
FILE NO. 28214

DATE July 2001

FIGURE NO. 1

**SITE AND VICINITY MAP**

JMT FACILITY  
BROCKPORT, NEW YORK



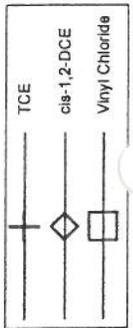
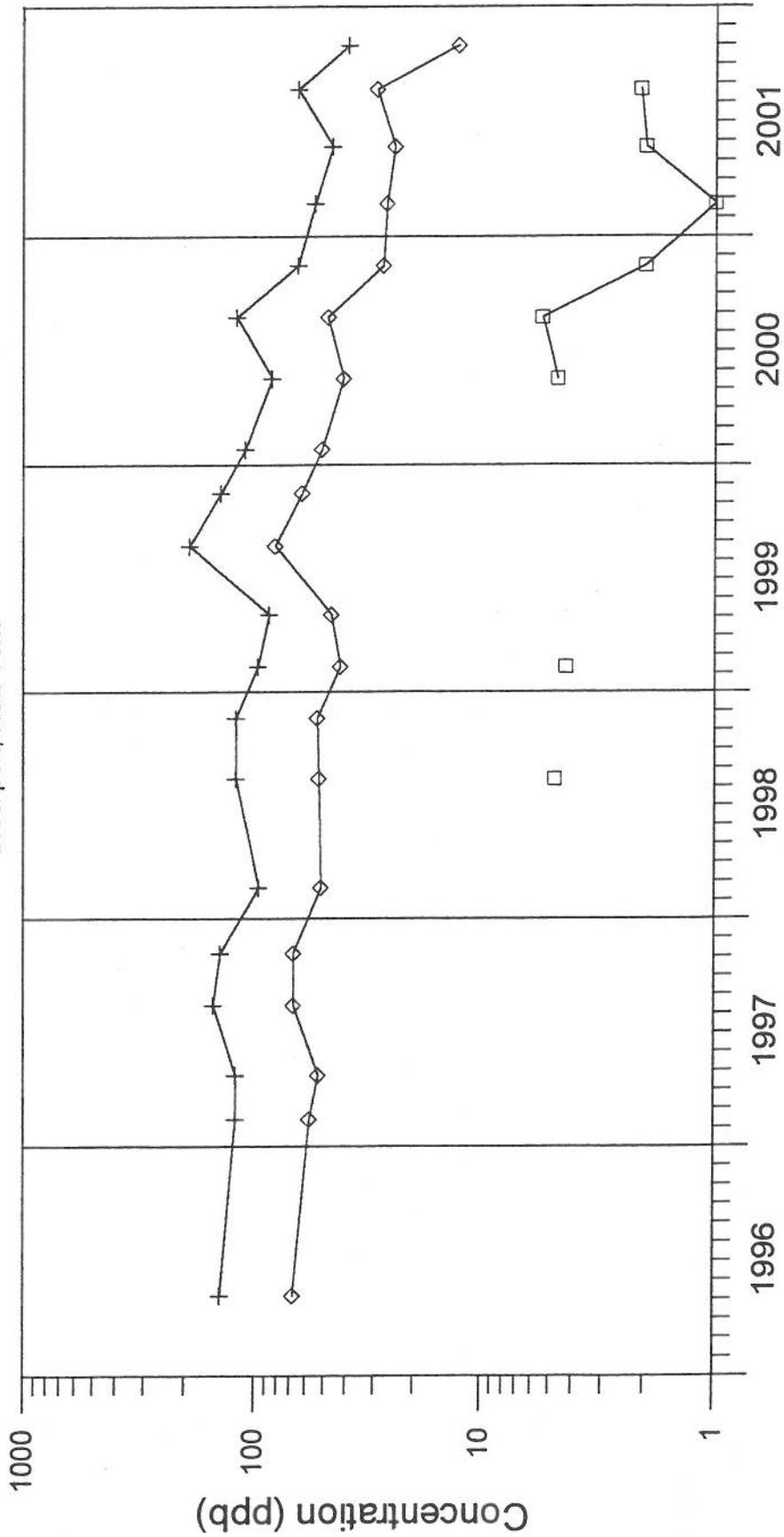
	<b>POTENTIOMETRIC SURFACE MAP FOR THE OVERBURDEN GROUND WATER ON FEBRUARY 5, 2001</b>		<b>JMT FACILITY BROCKPORT, NEW YORK</b>
	FILE NO. 28214	DATE DECEMBER 2001	FIGURE NO. 2



FIGURE 4

CHEMICAL CONCENTRATIONS AT MONITORING WELL OSL-3BI

JMT Facility  
Brockport, New York

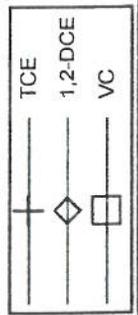
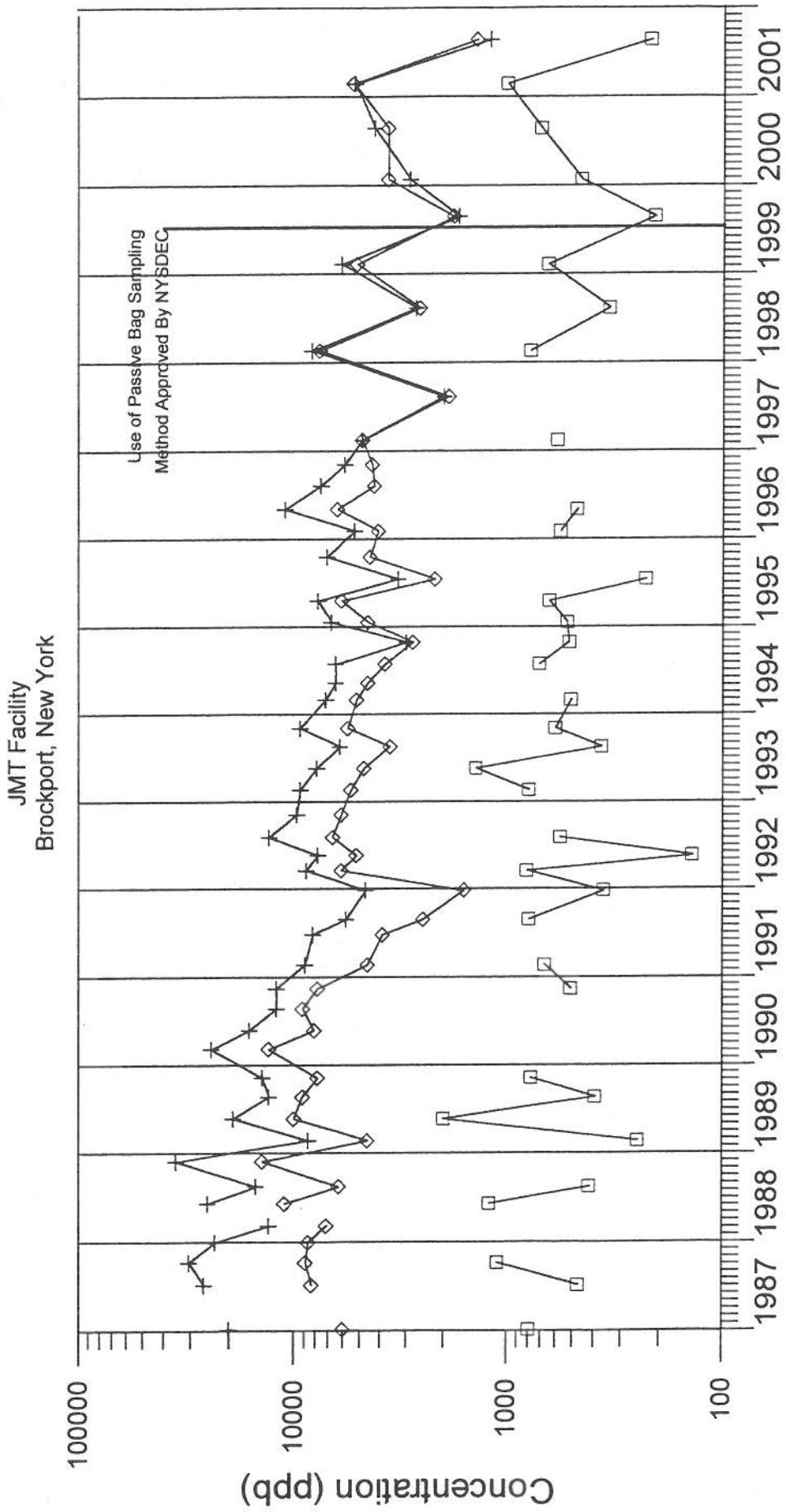


For Clarity, Non Detects Are Not Shown.



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**FIGURE 5**  
**CONCENTRATIONS OF TCE AND ITS BIODEGRADATION PRODUCTS AT MONITORING WELL GEB-18B**



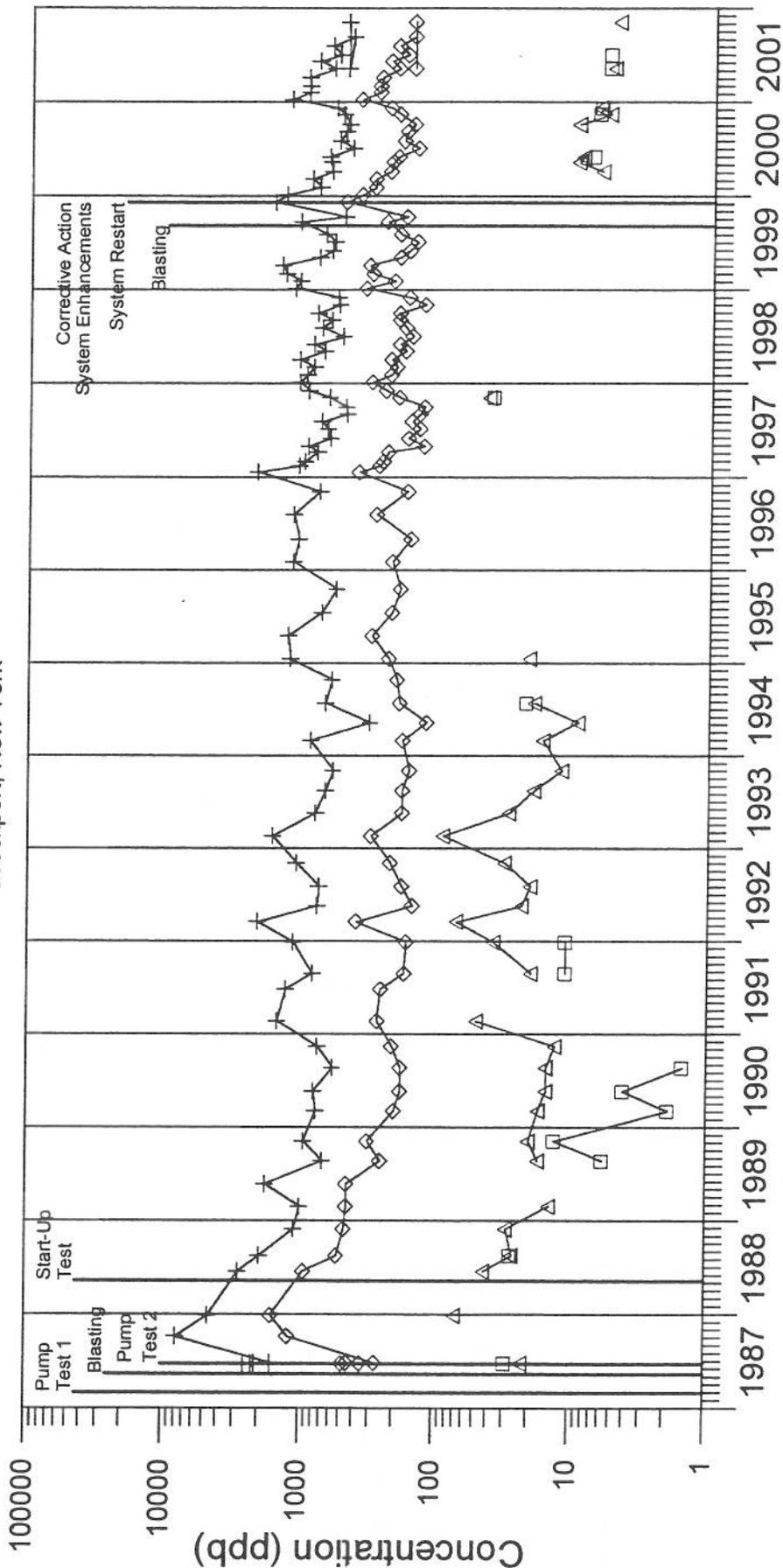
For Clarity, Non Detects Are Not Shown.



FIGURE 6

CONCENTRATIONS OF INDICATOR COMPOUNDS  
AT INFLUENT TO THE AIR STRIPPER

JMT Facility  
Brockport, New York



For Clarity, Non Detects Are Not Shown.  
Data shown prior to December 1999 is from former recovery well RW-1A.  
After December 1999, the air stripper influent consists of the combined flow from recovery wells RW-1B, RW-2 and RW-3.



Figure 7 - Off-Site Groundwater Interim Corrective Measure

