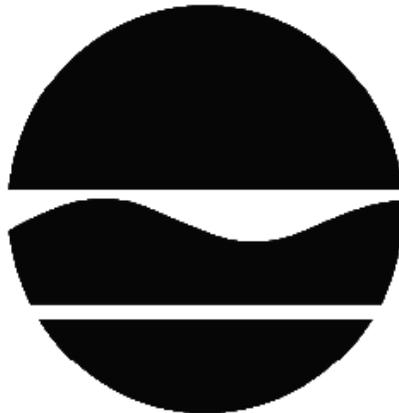


# PROPOSED DECISION DOCUMENT

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Ekonol Polyester Resins  
Voluntary Cleanup Program  
Wheatfield, Niagara County  
Site No. V00653  
October 2010



Prepared by  
Division of Environmental Remediation  
New York State Department of Environmental Conservation

# PROPOSED DECISION DOCUMENT

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Wheatfield, Niagara County  
Site No. V00653  
October 2010

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## **SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN**

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Decision Document (DD). The disposal or release of contaminants at this site, as more fully described in Section 6 of this document, have contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the Voluntary Cleanup Program (VCP) is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

## **SECTION 2: CITIZEN PARTICIPATION**

The Department seeks input from the community on all Proposed Decision Documents. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

NYSDEC Region 9  
Attn: Jeff Konsella, P.E.  
270 Michigan Ave  
Buffalo, NY 14203  
Phone: (716) 861-7220

**A public comment period has been set from: 11/17/2010 to 12/16/2010**

Written comments may also be sent through 12/16/2010 to:

Jeffrey Konsella  
Department of Environmental Conservation  
Division of Environmental Remediation  
270 Michigan Ave  
Buffalo, NY 14203-2999  
jakonsel@gw.dec.state.ny.us

The proposed remedy may be modified based on new information or public comments.

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Therefore, the public is encouraged to review and comment on all of the alternatives identified here.

### **SECTION 3: SITE DESCRIPTION AND HISTORY**

The Ekonol Polyester Resins facility is an active manufacturing facility located on the northeastern end of a larger, active industrial parcel. It is located on the west side of Walmore Road, approximately one-half mile north of Niagara Falls Boulevard (NYS Route 62), in the Town of Wheatfield. The greater industrial parcel is located to the east of the Niagara Falls International Airport, and to the south of the Niagara Falls Air National Guard Base. Residential and commercial properties are present on the east side of Walmore Road. An underground concrete tank was used at the Ekonol facility from the 1970s thru 1999 for collection of rinsates from the building floor drain system. During the 1999 tank removal, TCE and Phenols were detected in site soils. The site remedial program is being conducted by BP America (BP) under a voluntary cleanup agreement. The site is being managed as a single operable unit, and a phased site investigation was conducted from 2000-2004. Investigations indicate VOCs (such as TCE and breakdown products) and SVOCs (such as Phenol) at high concentrations in soil, overburden and bedrock groundwater. A Remedial Alternatives Report was approved in July 2006. The report identified a preferred remedy of in situ injections of either emulsified zero valent iron (EZVI) or other compounds for treatment of groundwater within the fractured bedrock. Bench scale testing using bedrock cores was conducted in 2006/2007. In June 2007 a report was issued which indicated successful treatment of site contaminants with an emulsified carbon substrate (vegetable oil). A pilot study work plan was approved in August 2007 for the injection of the carbon substrate, followed by injections of commercially available bacteria (bioaugmentation) to further degrade the bedrock groundwater contaminants. The Pilot Study was performed in 2008, and subsequent groundwater performance monitoring was conducted in 2008/2009. A remedial action work plan was approved in April 2010 for the full scale injection of substrate into the bedrock aquifer.

A site location map is attached as Figure 1.

### **SECTION 4: LAND USE AND PHYSICAL SETTING**

The Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings when assessing the nature and extent of contamination. For this site alternatives that may restrict the use of the site to criteria as described in Part 375-1.8(g) are being evaluated in addition to unrestricted SCGs.

A comparison of the appropriate SCGs for the identified land use against the unrestricted use SCGs for the site contaminants is available in the RI.

### **SECTION 5: ENFORCEMENT STATUS**

The site investigation and remediation is being performed under the Voluntary Cleanup Program. BP is a former owner who retained certain environmental responsibilities in a property transaction. BP signed a voluntary cleanup agreement (Index #B9-0636-03-05) with the DEC in September 2003.

## **SECTION 6: SITE CONTAMINATION**

### **6.1: Summary of the Remedial Investigation**

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.4.

#### **6.1.1: Standards, Criteria, and Guidance (SCGs)**

The remedy must conform with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/2393.html>

#### **6.1.2: RI Information**

The analytical data collected on this site includes data for soil, groundwater, and soil gas.

The data has identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in section 6.4. Additionally, the RI Report contains a full discussion of the soil and groundwater data. The contaminant(s) of concern identified at this site is/are:

trichloroethene (TCE)	vinyl chloride
1,1,1- trichloroethane	phenol
1,1-dichloroethane	1,2-dichloroethene
Tetrachloroethene (PCE)	

The contaminant(s) of concern exceed the applicable standards, criteria and guidance for groundwater. In addition, soil vapor and indoor air sampling of the office space located south of the former underground tank location (see Figure 4) was performed. The sampling and data were summarized in a June 29, 2009 letter to the Department. Based upon concentrations of tetrachloroethene detected in the office building indoor air and sub-slab soil vapor, vapor mitigation of the office building is required.

## **6.2: Interim Remedial Measures**

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

## **6.3: Summary of Human Exposure Pathways**

This section describes the current or potential human exposures to persons at or around the site that may result from the contamination. A more detailed discussion of the human exposure pathways can be found in the RI Report (or appropriate document) available at the document repository. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

Contamination is generally limited to the property, which is fenced to prevent public access. In addition, the plant property is paved and there is no potential for contact with site soils. The area is served by public water, so there is no potential for exposures to groundwater. While there may be some off-site migration of bedrock groundwater contaminants to the south, the adjacent property (Bell Aerospace) has similar bedrock groundwater contaminants from past operations. The Bell facility has bedrock groundwater control and treatment systems operating under requirements of the RCRA program.

The volunteer has also agreed to install a sub-slab depressurization system in the office portion of an adjacent building. This will mitigate potential indoor air exposure pathways associated with PCE, which was detected in the sub-slab soil gas in concentrations in excess of DOH criteria.

#### **6.4: Summary of Environmental Assessment**

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

An underground concrete tank was used at the facility from the 1970s thru 1999 for collection of rinsates from the building floor drain system. During the 1999 tank removal, TCE and Phenols were detected in site soils. While the source of the contamination (tank and associated soils) has been removed, significant impacts to the bedrock groundwater remain. Investigations indicate VOCs (such as TCE and breakdown products) and SVOCs (such as Phenol) at high concentrations in soil, overburden and bedrock groundwater. TCE in soils was detected at up to 39ppm. TCE and/or its breakdown products were detected in overburden GW at up to 230ppm, and in bedrock GW at up to 780ppm. The extent of bedrock groundwater contamination has been determined, and bedrock groundwater impacts are generally limited to within the larger industrial property boundaries. Bedrock groundwater flow is to the south toward the adjacent former Bell aerospace facility. The Bell facility has similar bedrock groundwater TCE contamination, from its own historical uses, and is managed under the RCRA program.

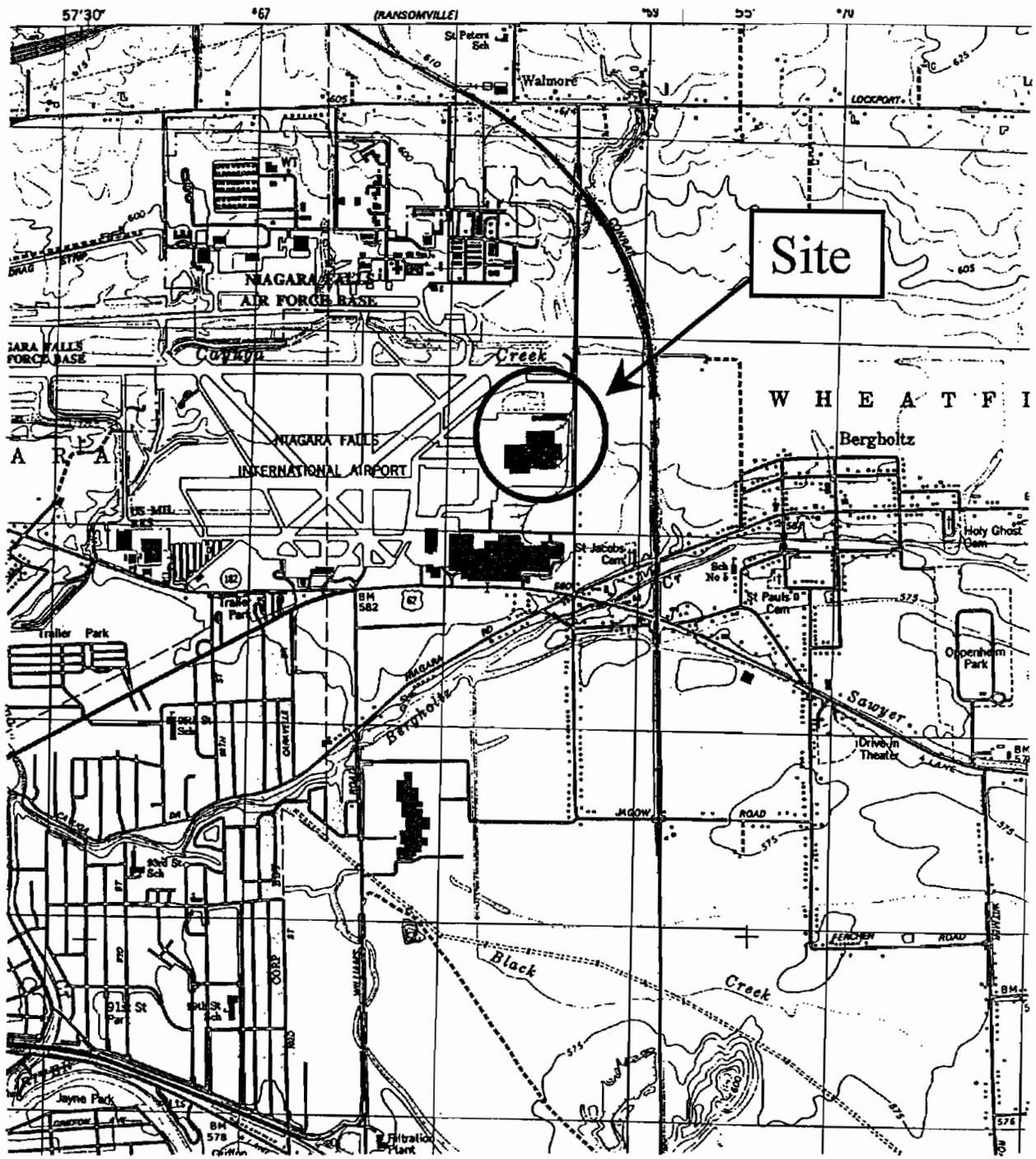
#### **SECTION 7: ELEMENTS OF THE PROPOSED REMEDY**

The alternatives developed for the site and the evaluation of the remedial criteria are present in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation.

The elements of the proposed remedy, as shown in Figure 2 and 3, are as follows:

The remedy to be undertaken by the VCP participant calls for: a passive bioreactor for the treatment of shallow groundwater; in-situ bioremediation treatment of bedrock groundwater; and performance monitoring of the remedial systems. The overburden groundwater treatment will be accomplished by use of a bioreactor comprised of two parallel trenches filled with a mixture of gravel and organic mulch. The trenches will create a preferential pathway for overburden groundwater flow, and groundwater contact with the organic mulch will enhance the natural biological degradation of the contaminants. The bedrock groundwater treatment will be accomplished by injections of emulsified carbon substrate (vegetable oil) into the bedrock aquifer. This carbon substrate will enhance the natural biodegradation of the contaminants in the bedrock aquifer. Performance monitoring will be performed for two years after initial treatments, and results will be presented in a report to the Department. Additional treatment and expansion of the treatment area will be considered as necessary based upon the results of the initial treatments.

While the remedy may result in a significant reduction in site contaminants, it is expected that some contaminants will remain at the site above SCGs. The remedial program will therefore also include an appropriate Site Management Plan and Environmental Easement to ensure the long term effectiveness of the remedy.



**LEGEND**

Not To Scale

Adapted from USGS 7.5 Minute Topographic Maps,  
(Tonawanda West, NY)



**Figure 1**

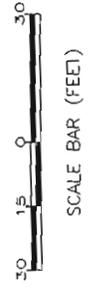
**Site Location Map  
BP Amoco  
Ekonol Facility  
Wheatfield, NY**

**PARSONS ENGINEERING SCIENCE, INC.**  
DESIGN \* RESEARCH \* PLANNING  
180 LAWRENCE BELL DRIVE - SUITE 100 \* WILLIAMSVILLE, N.Y. 14221 \* 716 / 633-7074  
OFFICES IN PRINCIPAL CITIES

**LEGEND:**

- EXISTING SHALLOW INVESTIGATION WELL
- ⊕ EXISTING REPLACEMENT BEDROCK INVESTIGATION WELL
- ⊙ OVERBURDEN PERFORMANCE MONITORING WELL
- ⊛ BIOREACTOR MONITORING WELL

 MULCH AND GRAVEL BIOREACTOR

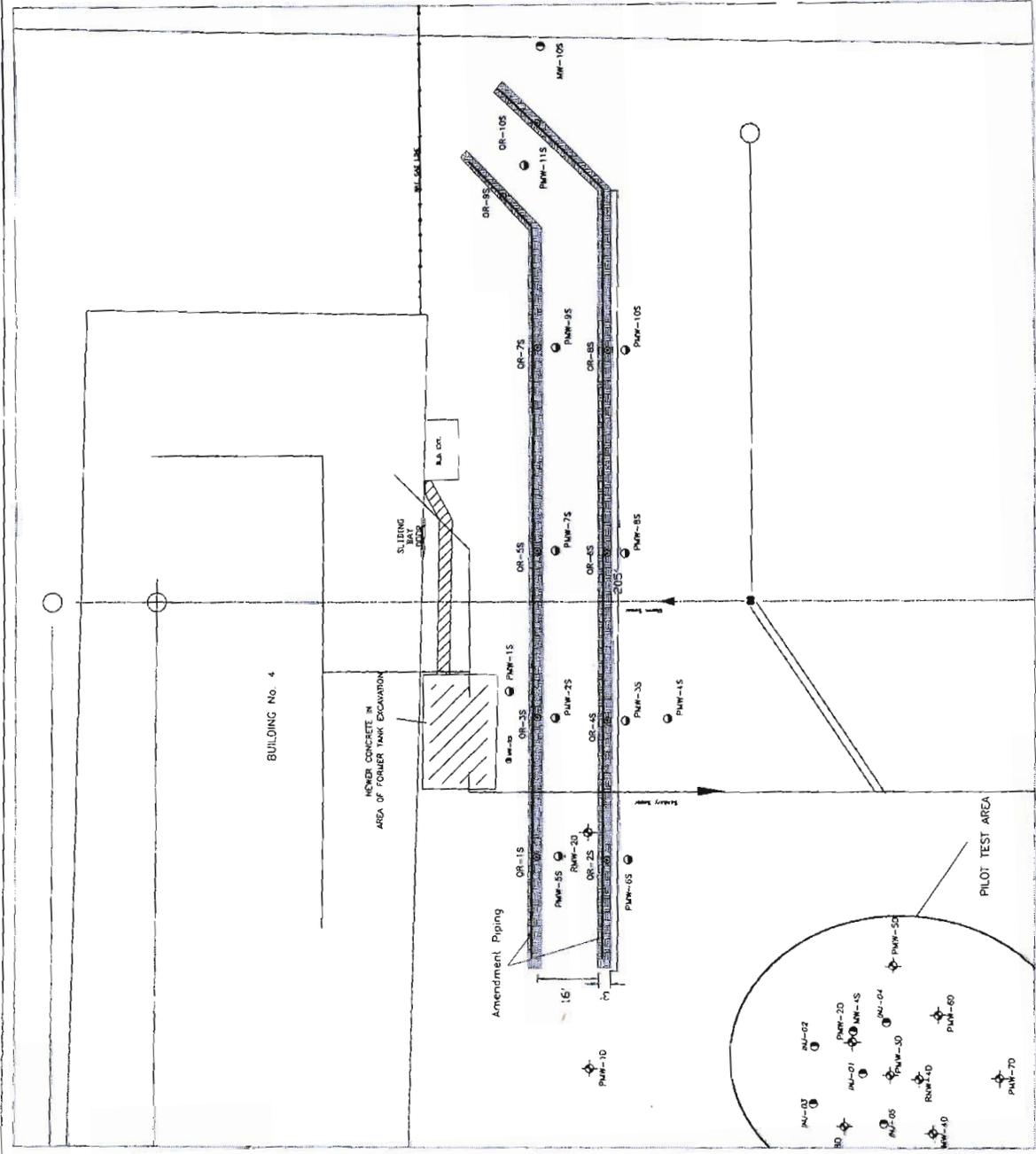


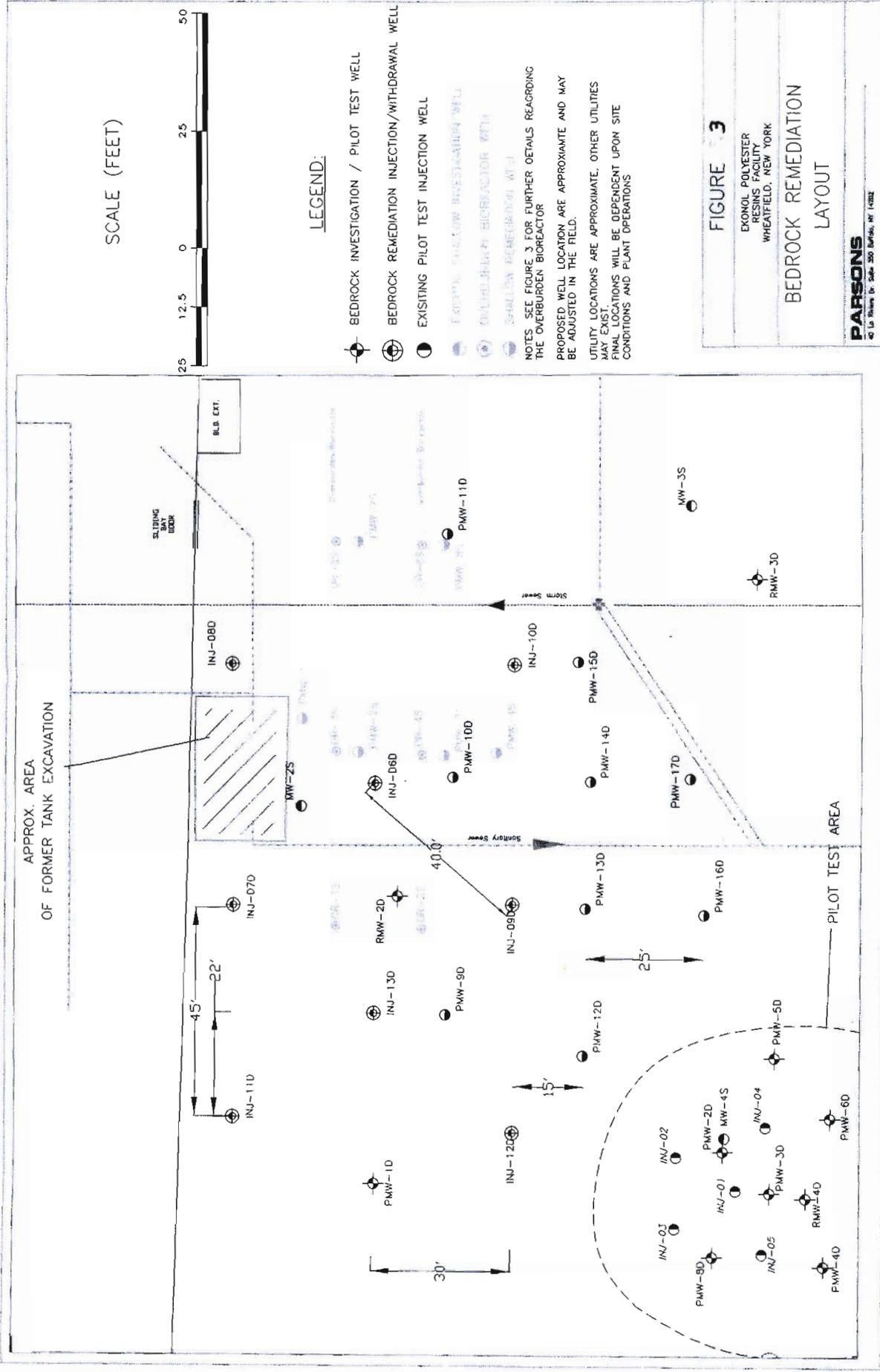
NOTES: UTILITY LOCATIONS ARE APPROXIMATE  
OTHER UTILITIES MAY EXIST  
FINAL LOCATIONS WILL BE DEPENDENT UPON  
SITE CONDITIONS AND PLANT OPERATIONS

FIGURE 2

EKONOL POLYESTER  
RESINS FACILITY  
WHEATFIELD, NEW YORK

BIOREACTOR COMPONENTS  
- PLAN VIEW





SCALE (FEET)

**LEGEND:**

- BEDROCK INVESTIGATION / PILOT TEST WELL
- ⊕ BEDROCK REMEDIATION INJECTION/WITHDRAWAL WELL
- EXISTING PILOT TEST INJECTION WELL
- ⊙ EXISTING PILOT TEST WITHDRAWAL WELL

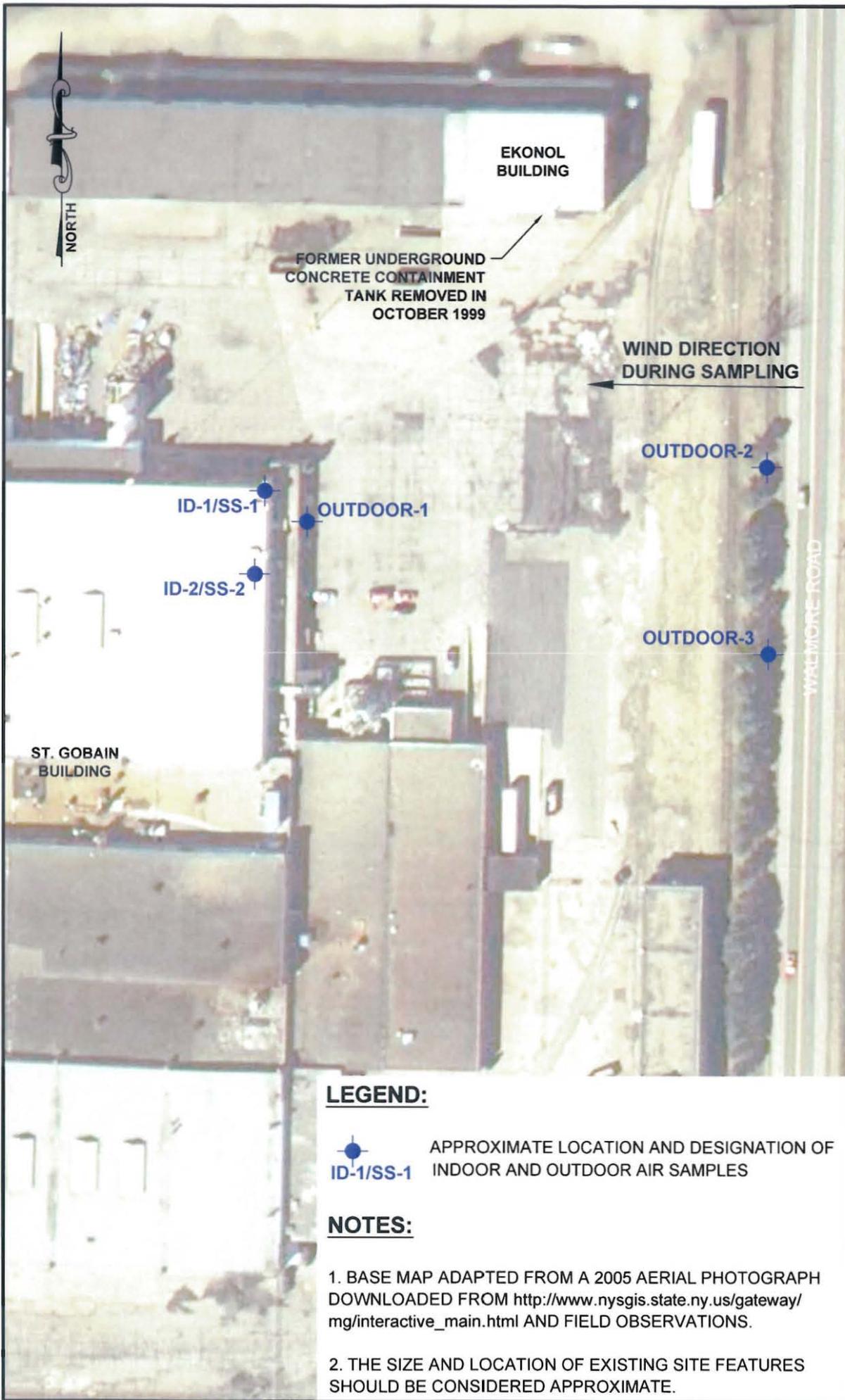
**FIGURE 3**

EXONOL POLYESTER  
RESINS FACILITY  
WHEATFIELD, NEW YORK

**BEDROCK REMEDIATION  
LAYOUT**

**PARSONS**  
40 La Plaine Dr. Suite 300 Buffalo, NY 14202

P:\EGONOL\1315144\G00 G5\2009rwp\ER-2009 ES-2010 BEDRX REM.dwg  
NO XREFS



**LEGEND:**



APPROXIMATE LOCATION AND DESIGNATION OF INDOOR AND OUTDOOR AIR SAMPLES

**NOTES:**

1. BASE MAP ADAPTED FROM A 2005 AERIAL PHOTOGRAPH DOWNLOADED FROM [http://www.nysgis.state.ny.us/gateway/mg/interactive\\_main.html](http://www.nysgis.state.ny.us/gateway/mg/interactive_main.html) AND FIELD OBSERVATIONS.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW DATE: APRIL 2009	
 <b>GZA GeoEnvironmental of New York</b>	
APPROXIMATE SCALE IN FEET 	
<b>RT ENVIRONMENTAL SERVICES</b> <b>SAINT GOBAIN PROPERTY</b> <b>6600 WALMORE ROAD FACILITY</b> WHEATFIELD, NEW YORK	<b>VAPOR INTRUSION ASSESSMENT</b> <b>SITE PLAN AND AIR SAMPLING LOCATIONS</b>
PROJECT No. <b>21.0056475.00</b>	
FIGURE No. <b>4</b>	