Preliminary Conceptual Site Model
Former General Latex and Chemical Corporation Facility Site, Ashland, Ohio

DATE: March 28, 2008

Purpose and Objectives

The purpose of this technical memorandum is to present a preliminary conceptual site model (CSM) for the former General Latex and Chemical Corporation (GLCC) Facility site (site) located in Ashland, Ohio (Figure 1). GLCC is a wholly owned subsidiary of the Dow Chemical Company (Dow). CH2M HILL has prepared this preliminary CSM based on current knowledge of the site history, sources of contamination, migration pathways, and potential receptors.

The sources of information to develop this preliminary CSM were limited to the reports prepared in support of previous investigations prior to CH2M HILL's management of this site. A list and a brief summary of these reports are presented in the Previous Investigations section below.

Background

The facility was in operation from 1954 to 2001. GLCC owned and operated the facility from 1954 to 2000; in 2000 Dow acquired GLCC. Facility operations consisted of latex and polyurethane plants that included storage tanks, agitators, mixers, and vulcanizers for the production of liquid latex and polyurethane products. The key raw chemicals included natural latex, neoprene; isoprene GRS 2000-type latex, trichlorofluoromethane (Freon-11), toluene diisocyanate (TDI), which was replaced in the mid-1980s with methyl diphenyl diisocyanate (MDI), and polymeric diphenyl methane diisocyanate (PAPI).

After facility operations ceased, unused raw materials and products were shipped to retailers and other Dow facilities by February 2002, the equipment was removed from the property.

Site Location and Layout

The site is located in the northeastern portion of Ashland, Ohio. The approximately 7-acre site is relatively flat and zoned as heavy industrial. It includes a building that was constructed in 1954, with expansions to the building occurring in 1967 and 1970, along with two former wastewater lagoons located in the western portion of the property. A former rail spur and a small drainage ditch lie between the western side of the building and the former lagoons (refer to Figure 2).

Former Underground and Aboveground Storage Tanks

During operations, several underground storage tanks (UST), aboveground storage tanks (AST), and settling tanks were located inside and outside the building during facility operations. These tanks stored natural latex, ammonia latex, neoprene latex, GRS 2000-type latex, isoprene, heating oil, Freon-11, PAPI, TDI, MDI, and settled material from wastewater treatment.

USTs Located Inside the Building

Six USTs were located inside the building. Two USTs (22,500-gallon capacity each) stored natural latex, two USTs (11,000-gallon capacity each) stored neoprene latex, one UST (11,000-gallon capacity) stored GRS 2000-type latex, and one UST (11,000-gallon capacity) stored isoprene. These USTs were taken out of service in 1984. Once emptied and cleaned, these USTs were filled with low-density cement in 1986. Access to these tanks through the indoor floor was sealed.

USTs Located Outside the Building

Four USTs were located outside the building. Three USTs (3,000-gallon capacity each) stored heating oil, and one UST (5,200-gallon capacity) stored Freon-11. These USTs, including the piping and tank ancillaries, were removed in 1984.

ASTs Located Inside the Building

A number of ASTs existed inside the building that supported the latex and polyurethane plants. The number, contents, and size of these ASTs are unknown. By the end of 2002, these ASTs were removed.

Settling Tanks Outside the Building

By 1976, the concrete wastewater treatment settling tanks located outside the building were taken out of service. These tanks were cleaned out and filled with clean dirt fill, capped with concrete, and served as a floor for an outside storage area. Based on a review of the reports, the location of these tanks is unknown.

Accidental Releases

During operations, seven known accidental releases of raw chemicals occurred and were documented, as identified in the Phase II property investigation report (Roffman 2003a). The chemicals released include TDI, natural latex, Freon-11, ammonia latex, and polymeric MDI. At the time, cleanup activities began immediately and releases were reported to the proper authorities within the Ohio Environmental Protection Agency (Ohio EPA). Accidental discharge reports were prepared and submitted to Ohio EPA, as necessary. Cleanup activities included cleaning up the remaining chemical on the ground surface and excavating contaminated soil, as needed. Based on known current site conditions, these reported spills do not appear to be related to the current soil and groundwater impacts.

Waste Generation, Storage, Disposal, and Regulatory Status

During operations, the facility had a National Pollutant Discharge Elimination System (NPDES) permit, was listed as a conditionally exempt small quantity generator (CESQG), and disposed of facility wastewater in the lagoons.

National Pollutant Discharge Elimination System

The facility had an NPDES permit from at least 1975, until the facility's closure in early 2002, for discharge of nonsanitary wastewater including process wastewater, parking lot drainage, cooling tower blowdown, loading dock drainage, and noncontact cooling water. This process water was discharged to the lagoons and an onsite drainage ditch. The required monitoring included flow, chemical oxygen demand (COD), biological oxygen demand (BOD), total suspended solids (TSS), and oil and grease (O&G).

Conditionally Exempt Small Quantity Generator

Currently, the facility is listed as a CESQG of hazardous waste with the U.S. Environmental Protection Agency (USEPA; Generator No. OHD001008341). The date of original notification is unknown. Hazardous waste generated included flammable solvents and residues of chemicals added during the compounding of chemical formulation and the mixing processes.

Wastewater Disposal

During operations, the lagoons were used for treating facility wastewater. From 1954 to 1975, the lagoons received untreated wastewater, and from 1975 to 1981, the lagoons received only treated wastewater while coagulated solid waste was sent offsite to a sanitary landfill. From February 1981 to operational shutdown (2001), treated wastewater was sent to the City of Ashland sanitary sewer system. After wastewater discharge to the lagoons ceased, the north lagoon and approximately two-thirds of the south lagoon were backfilled and leveled. The backfill activities were implemented sometime after the discharge to the lagoons ceased; further details are unknown.

Previous Investigations

GLCC has been conducting site investigations at the facility since 2001. Until January 2008, the site was under environmental management of Roffman Associates, Inc. The facility is not under an environmental regulatory program, but the site investigations and reports were completed in accordance with Ohio Voluntary Action Program (VAP) regulations. This procedure apparently was followed so the facility could exercise the option to enter the Ohio VAP if desired. Activities conducted include investigation activities to support preparation of a Phase II property investigation report, including a Phase I property investigation report (Roffman 2003a); soil and groundwater fate and transport modeling report (Roffman 2003b), remedial action planning and remediation (soil) report (Roffman 2004), and various quarterly groundwater monitoring reports from December 2004 to September 2007.

Phase I Report

A Phase I property assessment was performed by Roffman Associates, Inc. and included a property inspection, interviews with former facility personnel, a review of existing facility records, and a drive-by inspection of adjoining operations. The Phase I assessment identified the following areas for further investigation:

- Former south lagoon area
- Former north lagoon area
- Former heating oil UST area
- Former Freon-11 UST area and former MDI spill area
- Former TDI and latex spill areas (located near the dock area northwest of the building)
- Former Freon-11 spill area
- Former rail spur area

These areas are presented in Attachment 1, Figure 1.

Phase II Report

Smalley and Associates, Inc., under contract with Roffman, conducted the Phase II property investigations in the areas identified for further investigation in the Phase I assessment. The investigations were completed in five stages from 2001 to 2003 and included soil borings, soil sampling, monitoring well installations, and groundwater sampling.

Soil and groundwater impacts exist primarily in the western and southwestern area of the site near the former lagoons and former Freon-11 UST. The soil showed elevated levels (compared to Ohio VAP direct contact soil standards) of volatile organic compounds (VOC), semivolatile organic compounds (SVOC), and Freon-11. Groundwater showed elevated levels of VOCs and Freon-11 (compared to Ohio VAP generic unrestricted potable use standards [UPUS]).

Remedial Action Planning and Remediation (Soil) Report

The areas of elevated VOC and SVOC levels (as reported in the Phase II) were spot removed, with confirmation samples collected. A total of 400 tons of soil was disposed of as nonhazardous waste. All confirmation samples returned results below Ohio VAP generic direct contact soil standards.

Quarterly Groundwater Sampling Reports

The latest quarterly sampling report (September 2007) shows elevated levels (compared to the Ohio VAP generic UPUS) of VOCs and Freon-11 in groundwater.

Final Land Use

The final land use goals are to gain regulatory closure of the site under the most appropriate regulatory program as soon as possible. GLCC intends to divest the property to an entity that will support highest and best use for the community or the environment. Parceling off the portion of the property containing the lagoons is possible to support this goal.

Regional Geology and Hydrogeology

The regional geology surrounding the facility is characterized by unconsolidated glacial deposits underlain by bedrock. Underlying the unconsolidated deposits, the bedrock topography is characterized by flat uplands dissected by steep, broad, buried bedrock valleys. According to the *Groundwater Resources of Ashland County Map* developed by the Ohio Department of Natural Resources (ODNR 1979), the facility is located above a flat upland area of bedrock, approximately 0.125 mile southwest of the edge of a buried bedrock valley that trends to the northwest-southeast (refer to Figure 3).

Unconsolidated Deposits

The unconsolidated deposits overlying the bedrock flat uplands are characterized by deposits of till (with lesser amounts of sand and gravel). The unconsolidated deposits of the buried bedrock valleys are characterized by deposits of sand and gravel (with lesser amounts of silt and clay). According to the *Drift Thickness of Ohio Map* developed by ODNR (2000), the glacial deposits in the region range from 25 to 100 feet thick in the bedrock flat upland areas and are greater than 100 feet thick in the buried valleys.

Bedrock

Bedrock in the region consists of Mississippian-age sandstone, siltstone, and shale of the Cuyahoga Group. Depth to bedrock varies depending on the thickness of surficial deposits.

Groundwater Zones

The groundwater zones in the region are composed of the saturated unconsolidated deposits, as well as the underlying bedrock sandstone and shale. Descriptions of these groundwater zones follow.

Saturated Unconsolidated Deposits

The uppermost regional aquifers are the saturated till overlying the bedrock flat upland areas and the saturated sand and gravel deposits of the buried valleys. According to the *Groundwater Resources of Ashland County Map* developed by ODNR (1979), the saturated till deposits may provide yield ranging from 5 to 25 gallons per minute (gpm), and the saturated sand and gravel deposits found in the buried valleys may yield in the range of 400 to greater than 1,000 gpm.

Saturated Bedrock

The underlying bedrock aquifer consists of the Mississippian-age sandstone and shale. According to the *Groundwater Resources of Ashland County Map* developed by ODNR (1979), the bedrock in this region may provide yield in the range of less than 10 gpm.

Regional Groundwater Flow Direction

According to the *Potentiometric Surface of the Unconsolidated Aquifers in Ashland County Map* (ODNR 2006a) and the *Potentiometric Surface of the Consolidated Aquifers in Ashland County Map* (ODNR 2006b), the regional groundwater flow for both the saturated unconsolidated deposits and the saturated bedrock is primarily to the northeast until the intersection with the northwest-southeast trending buried bedrock valley. From there, the groundwater flow

is primarily to the southeast. Figures 4 and 5 present the unconsolidated and consolidated aquifers potentiometric surface maps, respectively, with the site location shown for reference.

Site Geology and Hydrogeology

As in the regional geology, the site geology is characterized by unconsolidated glacial deposits underlain by bedrock. The facility is located above a bedrock flat upland and exhibits deposits consistent with regional geology understanding.

Unconsolidated Deposits

In general, the site unconsolidated deposits consist predominantly of sandy, gravelly clay, and silt units with intermittent clayey, silty sand, and gravel units. These unconsolidated deposits range from 52 to 60 feet thick.

Bedrock

The site bedrock lithology has not been confirmed; no samples from the site bedrock were raised to the surface for lithologic evaluation. It is reasonable to assume, however, that the site bedrock is consistent with the regional bedrock (Mississippian-age sandstone and shale of the Cuyahoga group).

Groundwater Zones

The groundwater zones beneath the site are composed of the saturated unconsolidated deposits, as well as the saturated underlying bedrock. Descriptions of these groundwater zones follow.

Saturated Unconsolidated Deposits

The uppermost groundwater zone at the site is the unconsolidated aquifer, consisting of saturated sandy, gravelly clay, and silt units with intermittent clayey, silty sand, and gravel units.

Groundwater elevations above mean sea level (amsl) at the site are unclear because the top casing for each monitoring well was measured with an automatic level and then referenced to an arbitrary 100-foot elevation point. These relative groundwater elevation measurements range from approximately 73 to 94 feet in monitoring wells with screened intervals as shallow as 5 to 10 feet below ground surface (bgs) to as deep as 59 to 69 feet bgs.

Hydraulic conductivity of the unconsolidated deposits was evaluated by conducting slug tests, which yielded hydraulic conductivities of 2.36×10^{-5} feet per minute (ft/min) (1.2×10^{-5} centimeters per second [cm/sec]) at MW-1 and 6.96×10^{-3} ft/min (3.5×10^{-5} cm/sec) at MW-10.

Saturated Bedrock

There is no site-specific data for the bedrock.

Site Hydrology

The only surface water body on or near the site is the southern portion of the south lagoon that was not backfilled. During a November 2007 site walk, CH2M HILL observed that this area had approximately 1 foot of standing water within its border.

Contaminant Distribution

The following sections present the analytical results for soil and groundwater collected at the site during previous investigations and site distribution.

Soil

During the Phase II investigation (Roffman 2004), surface (0 to 4 feet bgs) and subsurface (4 to 8 feet bgs and 8 to 12 feet bgs) soil samples were collected from locations within and near the areas identified for further investigation in the Phase I investigation and analyzed for VOCs, SVOCs, and metals. These soil sampling locations are presented in Attachment 1, Figure 1.

- **VOCs** were the primary constituents detected in soil at the site and were generally detected in the former north and south lagoon areas, with the highest concentrations in the 4- to 8-foot bgs interval and in the former Freon-11 UST area.
- **SVOCs and metals** were detected to a lesser extent and with generally lower concentrations in surface and subsurface soil at the site.

Areas of elevated concentrations of VOCs and SVOCs were spot removed, with confirmation samples collected as part of the soil remediation activities (Roffman 2004). The areas for spot removal were determined by comparing the analytical concentrations in soil to various site-specific soil standards including soil standards for groundwater protection, direct contact soil standards for multiple chemicals for the commercial/industrial land use category and the construction/excavation land use category, and soil standards for the protection of indoor air (Roffman 2003a). Attachment 1, Figure 2 shows the soil areas that were spot removed in support of the remedial activities.

Groundwater

The latest quarterly sampling report (September 2007) shows concentrations of VOCs and Freon-11. The groundwater contaminant distribution onsite is divided into two different plumes, Freon-11 and chlorinated VOCs (refer to Figure 6).

The Freon-11 plume is concentrated near the former Freon-11 UST at the southwestern corner of the building and extends to the northeast. Elevated levels of Freon-11 have been detected in groundwater monitoring wells MW-5 (abandoned), MW-11, and MW-16. Freon-11 also has been detected further downgradient (MW-7) and in the deeper groundwater zone (MW-14) at lower levels.

The chlorinated VOCs plume is located in the western and northwestern portion of the site. Trichloroethylene (TCE), vinyl chloride, and to a lesser extent cis-1,2-dichloroethylene (cis-1,2-DCE) have been detected in groundwater monitoring wells MW-3, MW-6, MW-9,

MW-10, MW-12, and MW-15; however, VOCs have not been detected in the deeper groundwater zone in this portion of the site (MW-13D).

Natural attenuation processes appear to be actively attenuating VOCs in the groundwater based on monitoring conducted from 2002 through 2006. Temporal data plots prepared by Roffman are included in Attachment 2 of this Tech Memo. They illustrate that TCE, 1,2-DCE and freon concentrations were relatively stable, decreasing, or below detection limits across the site during this time. Groundwater monitoring data also indicate anaerobic conditions that support that natural attenuation processes apparently responsible for the observed trends of VOCs in groundwater.

Potential Contaminant Source Areas

CH2M HILL has identified the following potential contaminant sources at the site, which have the potential to impact groundwater (onsite and offsite) and indoor air quality:

- VOCs in soil and groundwater in the former north and south lagoon areas may impact the site and offsite groundwater.
- Freon-11 in soil and groundwater in the area of the former Freon-11 UST area may impact the site groundwater and building indoor air quality.
- TCE in groundwater near MW-12, MW-6, and MW-15 may impact the building indoor air quality.

Potential Migration Pathways

CH2M HILL has identified the following potential migration pathways at the site:

- **Soil leaching** is the migration pathway by which Freon-11 in the former Freon-11 UST area and VOCs in the former north and south lagoon areas could be transported from subsurface and surface soil to groundwater.
- **Groundwater transport** (advection and diffusion) is the migration pathway by which VOCs in groundwater beneath the north and south lagoon areas could be transported to offsite groundwater.
- **Vapor intrusion** is the migration pathway by which Freon-11 and TCE could be transported from subsurface soil and groundwater to indoor air in the building.

Potential Human and Ecological Receptors

The following potential human receptors were identified that may be affected by the site:

- **Onsite worker receptors**: Currently, the site is not used and there are no onsite workers. If the site building is reused, future onsite workers potentially may be exposed to VOCs in indoor air that have volatilized and migrated from either subsurface soil or shallow groundwater beneath the current buildings.

- **Construction worker receptors**: Due to subsurface soil contamination present onsite, future occupational receptors may include construction workers performing intrusive construction activities in or around the site.
- **Trespassing receptors**: There is the potential for trespassers to enter the site. Current adult and older child trespassers may be exposed to surface sediment in the drainage ditch and unfilled portion of the south lagoon.
- **Offsite receptors**: Offsite receptors include nearby people working and visiting adjacent properties. Future offsite receptors could be exposed to VOCs in indoor air due to vapor intrusion if the VOCs in groundwater are migrating offsite.

Ecological receptors may access the standing water in the unfilled portion of the south lagoon, but their presence is expected to be transient and minimal due to the standing water's isolation within the site and surrounding industrial area. Additionally, the standing water is not intended to be permanent. If the habitat is incorporated into the future land use, these receptors will be considered at that point.

Preliminary Conceptual Site Model Uncertainties

CH2M HILL identified the following uncertainties associated with the preliminary CSM presented above:

- The lateral and vertical extent of observed VOC impacts to shallow site groundwater is unknown due to a lack of monitoring wells in certain areas, specifically:
  - Groundwater in the western half of the property in the former lagoon areas
  - Groundwater south of the 1967 and 1970 building additions, in the area of the former Freon-11 UST
- The local groundwater elevation, flow direction, and gradient beneath the site. The historical relative elevation groundwater measurements and the subsequent interpretation of the groundwater potentiometric surface are not consistent with the current conceptual understanding of the site geology and regional groundwater flow direction
- Site lithology is not well understood, specifically as related to understanding contamination fate and transport.
- The physical and chemical characteristics of any sediment and surface water contamination that may be present in the unfilled portion of the south lagoon and drainage ditch, because these areas and media have not been previously sampled.
- The physical and chemical characteristics of any sediment remaining in the filled-in former north lagoon and northern portion of the former south lagoon. Although numerous soil samples were collected previously from the former lagoon areas, only composite samples were collected, which represent a sample over a range of several feet; the bottom sediment layer of the lagoons' sediment was not defined.

References

Ohio Department of Natural Resources (ODNR). 1979. *Groundwater Resources of Ashland County*. State of Ohio Department of Natural Resources, Division of Geological Survey. Columbus, OH. http://ohiodnr.com/water/pubs/maps/default.htm.

Ohio Department of Natural Resources (ODNR). 2000. *Drift Thickness of Ohio*. State of Ohio Department of Natural Resources, Division of Geological Survey. Columbus, OH. http://ohiodnr.com/water/pubs/maps/default.htm.

Ohio Department of Natural Resources (ODNR). 2006a. *Potentiometric Surface of the Unconsolidated Aquifers in Ashland County*. State of Ohio Department of Natural Resources, Division of Geological Survey. Columbus, OH. http://ohiodnr.com/water/pubs/maps/default.htm.

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Roffman Associates Inc. (Roffman). 2003a. *Phase II Property Investigation*. June.

Roffman Associates Inc. (Roffman). 2003b. *Soil and Groundwater Fate and Transport Modeling*. June.

Roffman Associates Inc. (Roffman). 2004. *Remedial Action Planning and Remediation Report*. January.

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Figure 3. Site Location and Groundwater Resources

Figure 4. Site Location and Unconsolidated Aquifer Potentiometric Surface Map

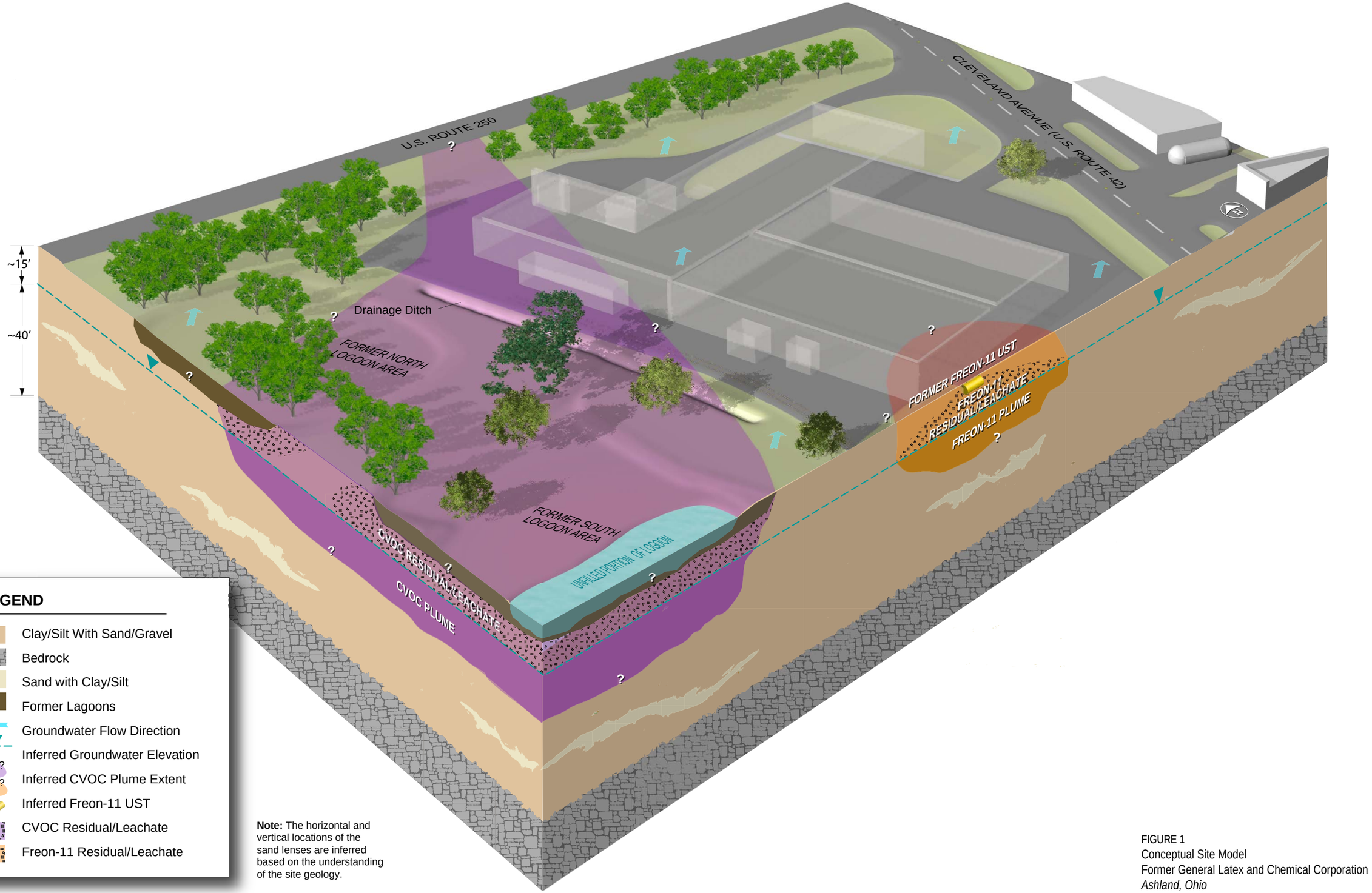
Figure 5. Site Location and Consolidated Aquifer Potentiometric Surface Map

Figure 6. Extent of VOC and Freon-11 in Shallow Groundwater (September 2007)

List of Attachments

Attachment 1. Historical Investigation and Soil Remediation

Attachment 2. Concentration Temporal Plots



Note: The horizontal and vertical locations of the sand lenses are inferred based on the understanding of the site geology.

FIGURE 1
Conceptual Site Model
Former General Latex and Chemical Corporation
Ashland, Ohio

CH2MHILL

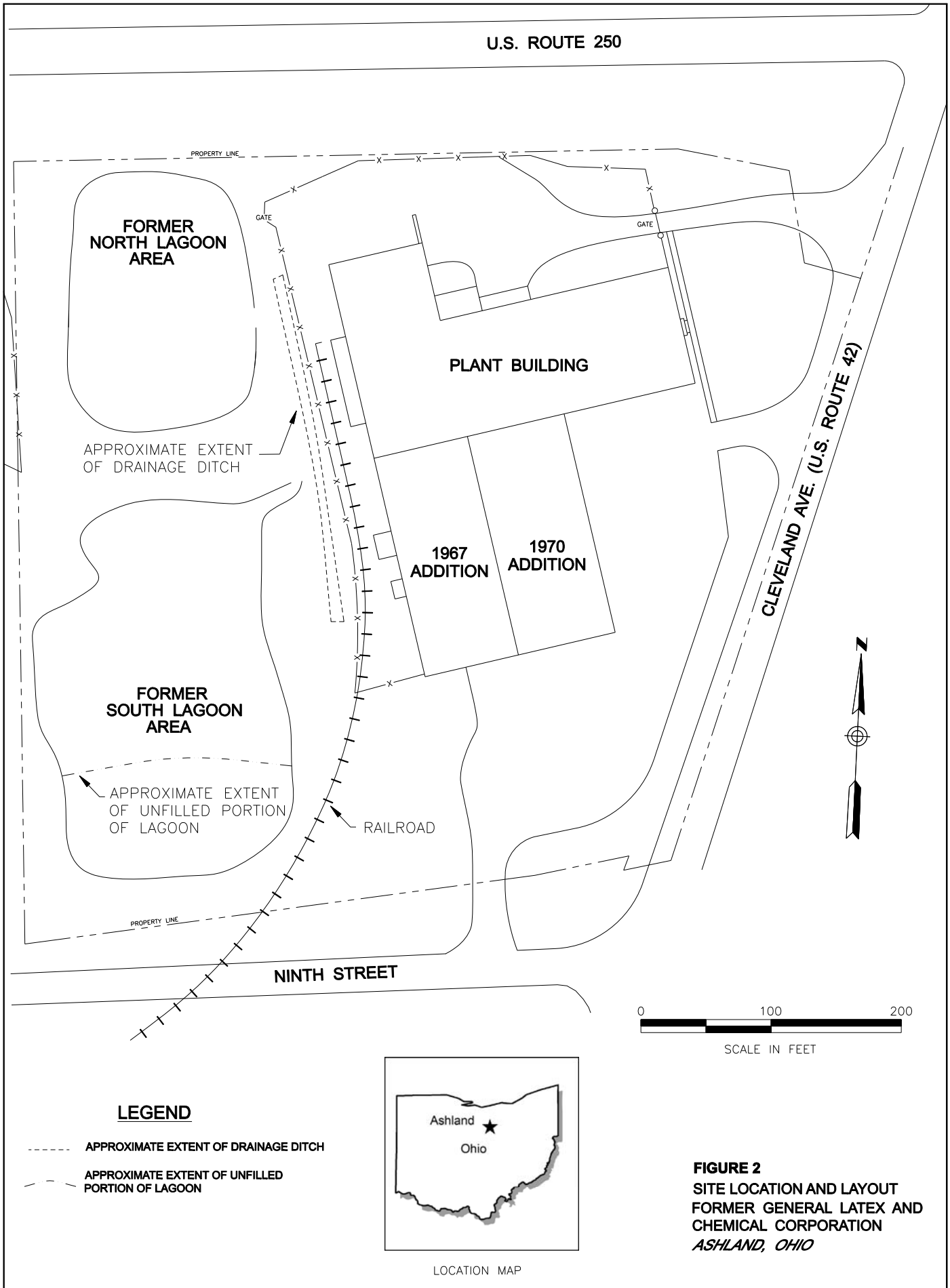


FIGURE 2
SITE LOCATION AND LAYOUT
FORMER GENERAL LATEX AND CHEMICAL CORPORATION
ASHLAND, OHIO

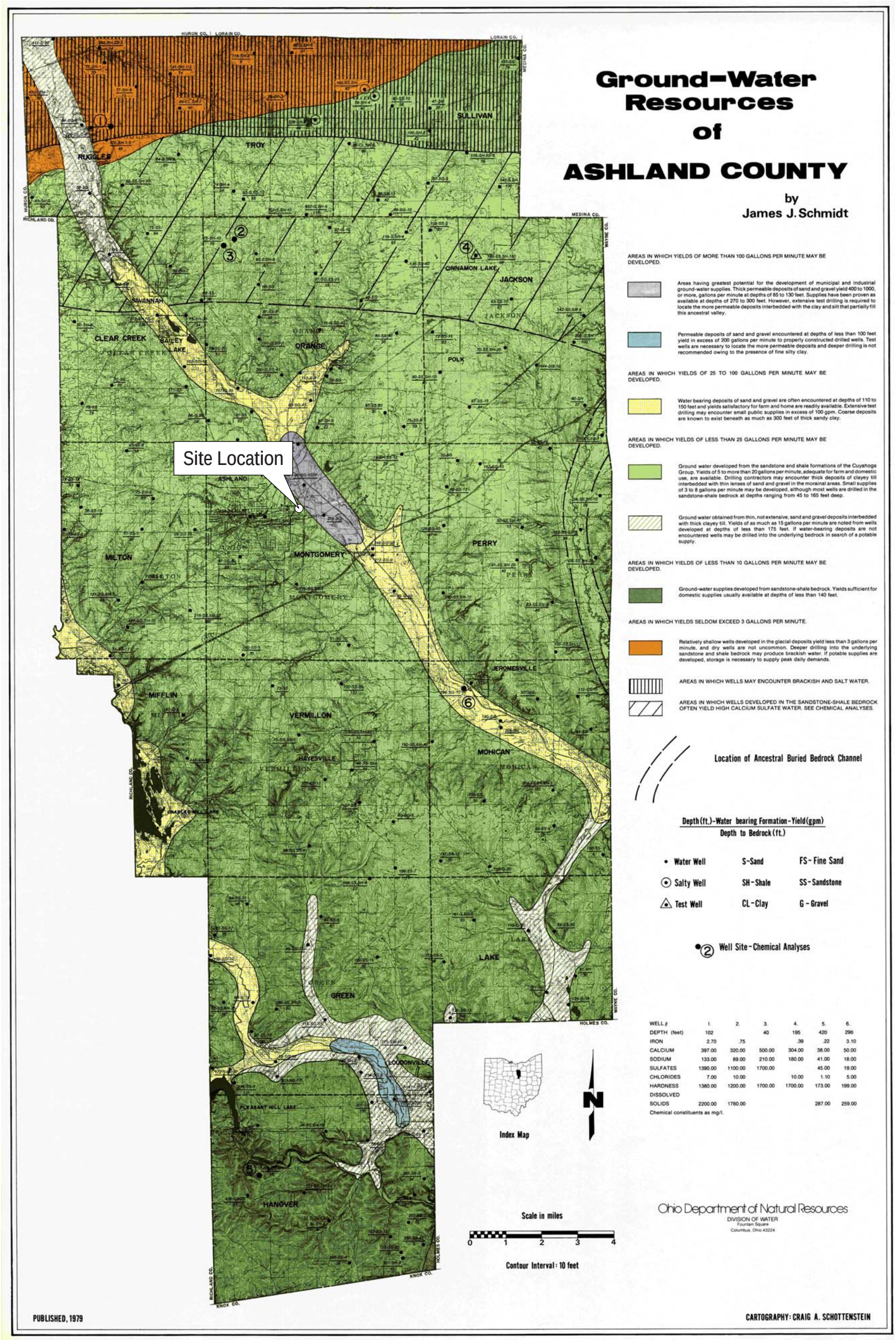
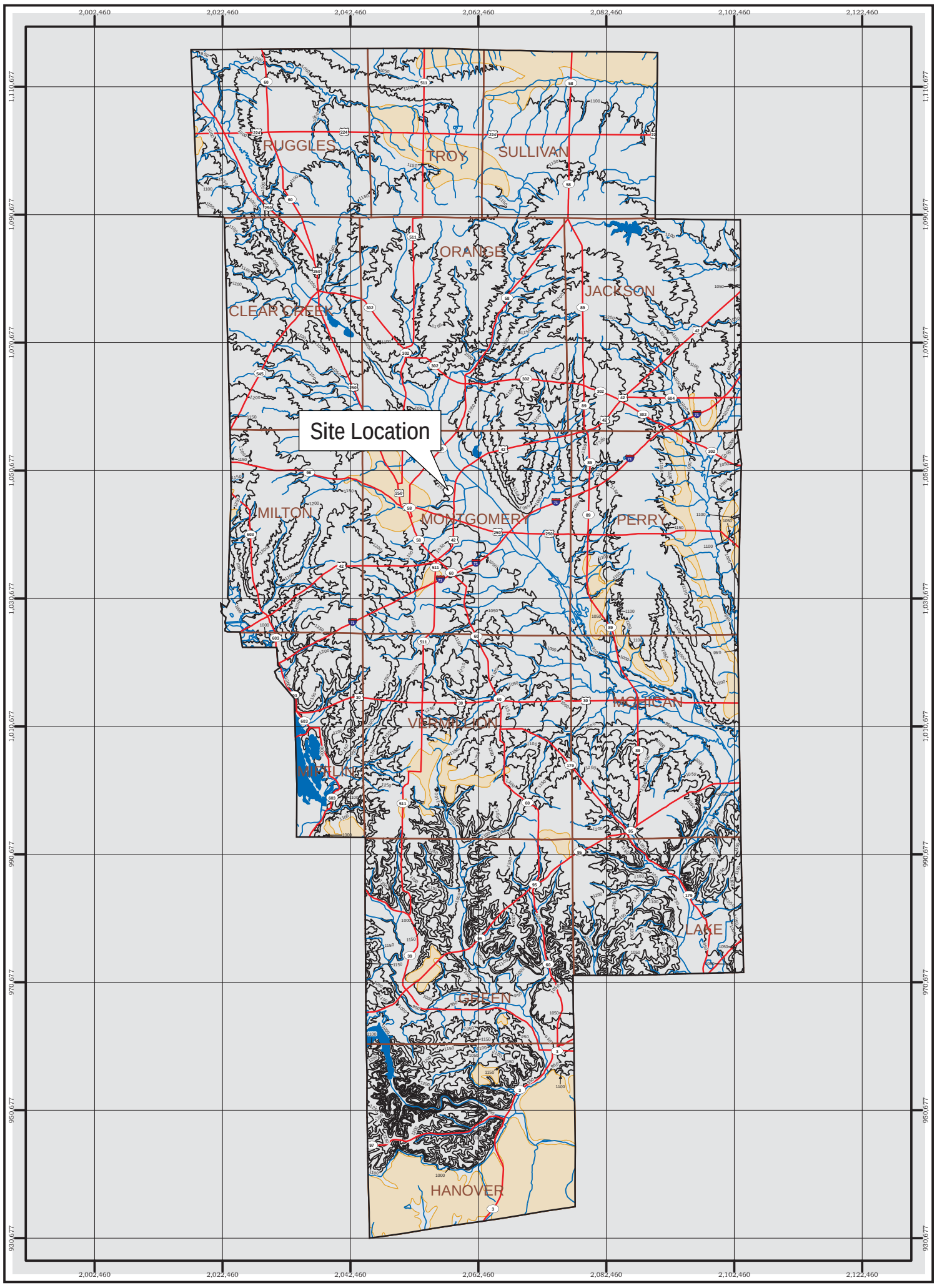


Figure 3
Site Location and Groundwater Resources
Former General Latex and Chemical Corporation
Ashland, Ohio



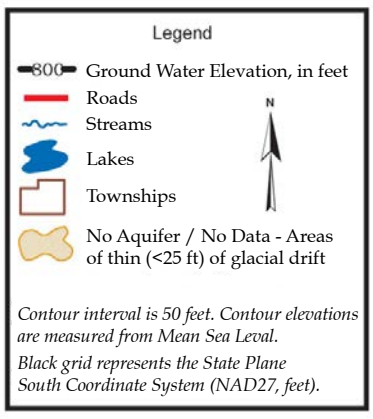
Potentiometic Surface of the Unconsolidated Aquifers in Ashland County

by
Kathy Sprowls
Ohio Department of Natural Resources
Division of Water

This map shows the elvation of the ground water level that was measured from individual water wells completed in the unconsolidated (sand and gravel) aquifers within Ashland Count.

Ground water potentiometric surface (water level) maps indicated the elevation and general direction of ground water flow. Ground water flows from areas of higher head elevations to lower head elevations in a direction perpendicular to the contour lines. This map only depicts the horizoontal gradient.

These maps could be used to determine ground water recharge and discharge areas, as input data into ground water modeling programs, and to locate monitoring wells in the correct locations to satisfy compliance monitoring. These maps could also be used to assist in preparing water resouce plans, to assist in preparing technical studies, the mapping of stress areas, and in possible ground water diversion issues. Since these maps were created from existing data collected over a fifty-year period, field verification of the ground water flow direction should be conducted before any site specific work is conducted.



Disclaimer

This map was created using static water level readings from water well records collected over a 50(+/-)year period. The Division of Water has technically reviewed this map but disclaims any resoponsibility or liability for interpretations or decisions based thereon. In no event shall the Division of water have any liability whatsoever for payment of any kind, including but not limited to any loss of profits arising out of use of or reliance on the maps.

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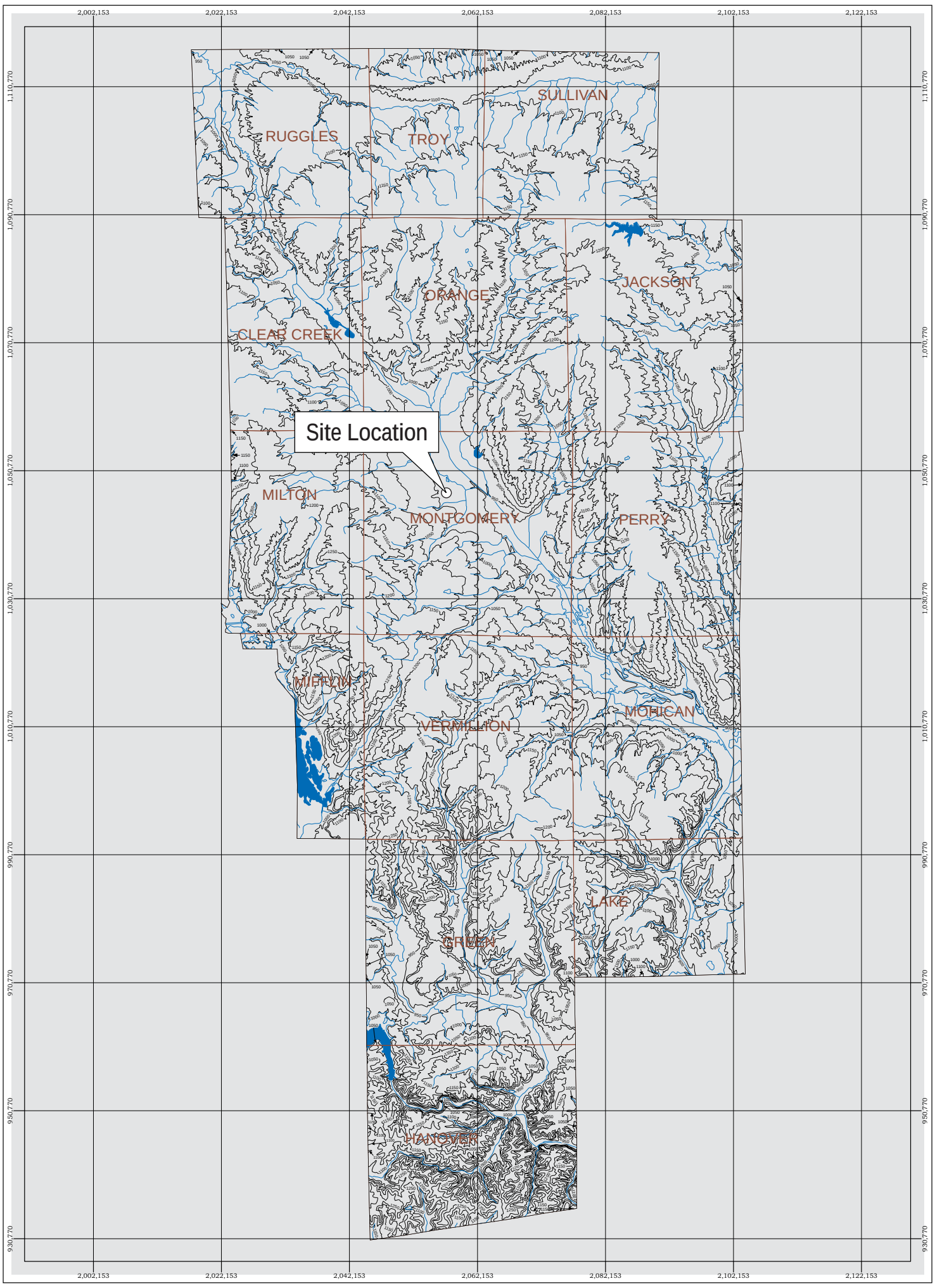
www.dnr.state.oh.us
May, 2006
Cartography by Carolyn Rund and Mark Steiner

Figure 4
Site Location and Unconsolidated Aquifer Potentiometric Surface Map
Former General Latex and Chemical Corporation
Ashland, Ohio



Potentiometic Surface of the Consolidated Aquifers in Ashland County

by
Kathy Sprowls
Ohio Department of Natural Resources
Division of Water

This map shows the elvation of the ground water level that was measured from individual water wells completed in the consolidated (bedrock) aquifers within Ashland Count.

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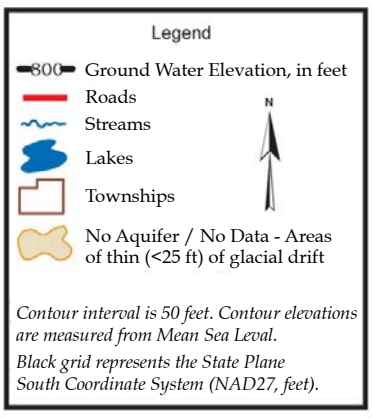

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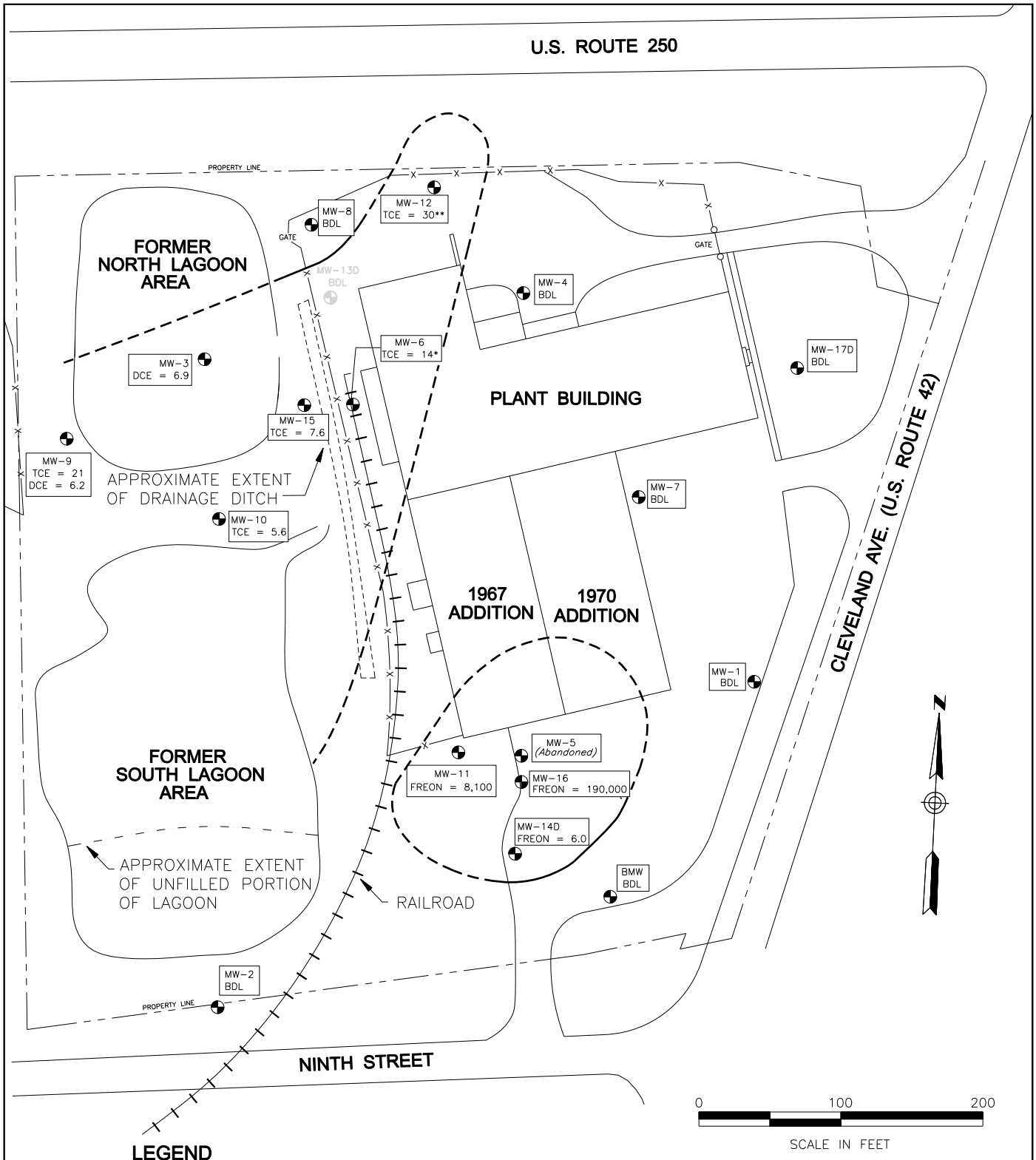
May, 2006

Cartography by Carolyn Rund and Mark Steiner

Figure 5
Site Location and Consolidated Aquifer Potentiometric Surface Map
Former General Latex and Chemical Corporation
Ashland, Ohio



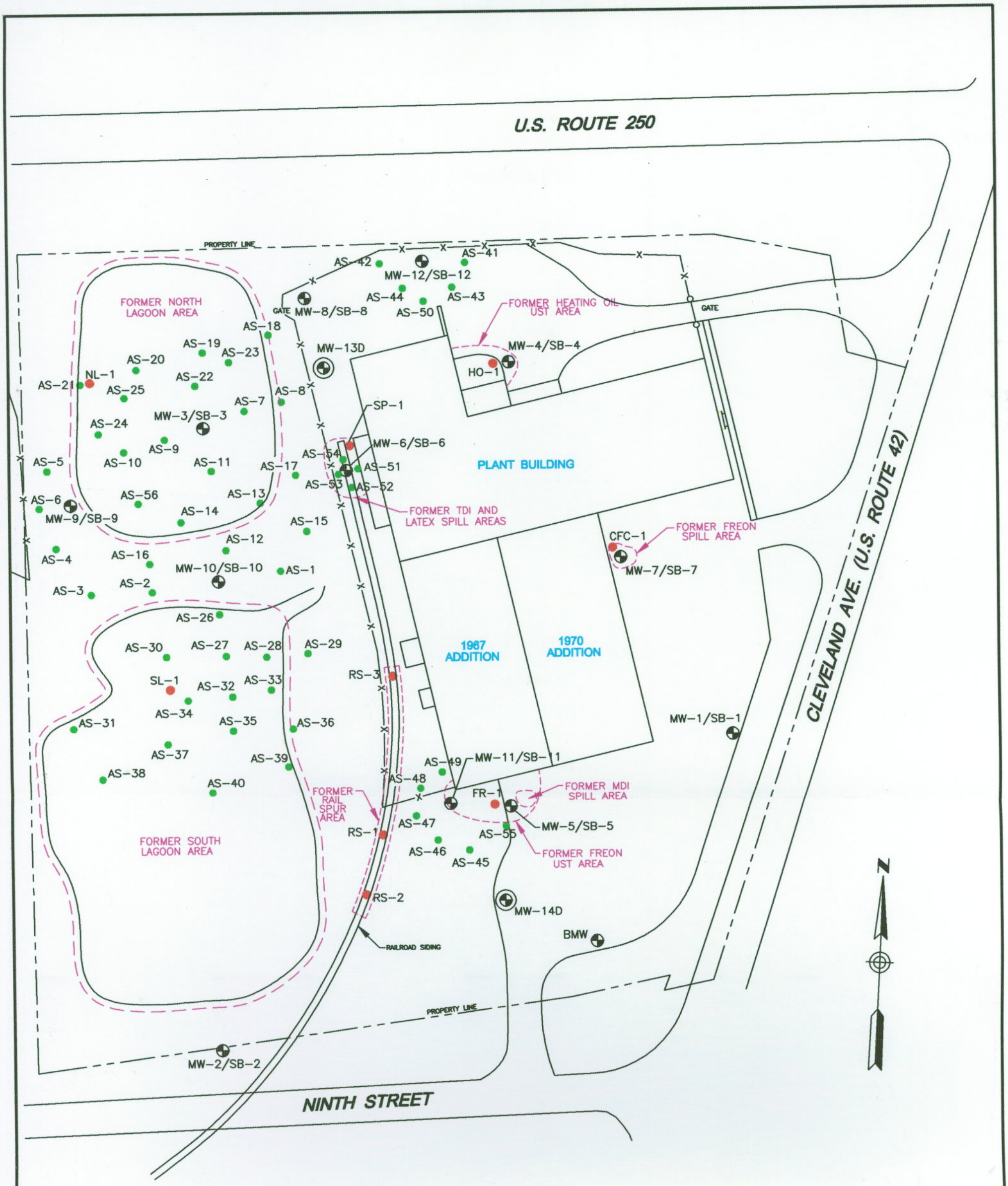
LEGEND

- APPROXIMATE EXTENT OF UNFILLED PORTION OF LAGOON
- APPROXIMATE EXTENT OF DRAINAGE DITCH
- MW-15 MONITORING WELL
- CONSTITUENT EXTENT LINES
- INFERRED CONSTITUENT EXTENT LINES

NOTES:
TCE: TRICHLOROETHYLENE
DCE: DICHLOROETHYLENE
FREON: FREON-11
* 03/07 RESULT BECAUSE NO SAMPLE COLLECTED 06-09/07
** 06/07 RESULT BECAUSE NO SAMPLE COLLECTED 09/07
RESULTS IN µg/L
BDL: BELOW DETECTION LIMIT

FIGURE 6
EXTENT OF VOC and FREON-11 IN SHALLOW GROUNDWATER (SEPTEMBER 2007)
FORMER GENERAL LATEX AND CHEMICAL CORPORATION
ASHLAND, OHIO

Attachment 1



LEGEND

MW-2 — MONITORING WELL SAMPLING LOCATIONS, AUGUST 22, 2002

MW-13D — MONITORING WELL SAMPLING LOCATIONS, JULY 9–10, 2002

SL-1 — SOIL SAMPLING LOCATIONS, SEPTEMBER 10–21, 2001

AS-40 — GEOPROBE BORING LOCATION JANUARY 6–10, 2003

IDENTIFIED AREAS

0 100 200

SCALE IN FEET

FIGURE 1

FORMER GENERAL LATEX AND CHEMICAL CORPORATION ASHLAND, OHIO

SOIL BORINGS & MONITORING WELLS WHICH WERE ADVANCED DURING THE VARIOUS PROPERTY INVESTIGATIONS

DATE: 10/22/03	SCALE AS SHOWN	FILE NAME: FIGURE1

PROPERTY LINE

N

FORMER NORTH LAGOON AREA

1

2

3

4

5

GATE

FORMER HEATING OIL UST AREA

PLANT BUILDING

FORMER TDI AND LATEX SPILL AREAS

FORMER MDI SPILL AREA

FORMER RAIL SPUR AREA

FORMER FREON UST AREA

RAILROAD SIDING

FORMER SOUTH LAGOON AREA

AS-1 AS-2 AS-3 AS-4 AS-5 AS-6 AS-7 AS-8 AS-9 AS-10 AS-11 AS-12 AS-13 AS-14 AS-15 AS-16 AS-17 AS-18 AS-19 AS-20 AS-21 AS-22 AS-23 AS-24 AS-25 AS-26 AS-27 AS-28 AS-29 AS-30 AS-31 AS-32 AS-33 AS-34 AS-35 AS-36 AS-37 AS-38 AS-39 AS-40 AS-41 AS-42 AS-43 AS-44 AS-45 AS-46 AS-47 AS-48 AS-49 AS-50 AS-51 AS-52 AS-53 AS-54 AS-55 AS-56

MW-3 MW-4/SB-4 MW-5/SB-5 MW-6/SB-6 MW-8 MW-9 MW-10 MW-11 MW-12 MW-13D MW-14D

NL-1 SL-1 RS-1 RS-2 RS-3

LEGEND

EXCAVATION AREA (TYPICAL)

5 LOCATION OF STOCKPILED SOILS FOR DISPOSAL

1 FORMER LAGOON AREA SOILS

2 FORMER RAIL SPUR AREA SOILS

3 FORMER TDI & LATEX SPILL AREA SOILS

4 FORMER HEATING OIL UST AREA SOILS

5 FORMER FREON UST & MDI SPILL AREA SOILS

LOCATION OF BACKFILL MATERIAL

0 40 80

SCALE IN FEET

FIGURE 2

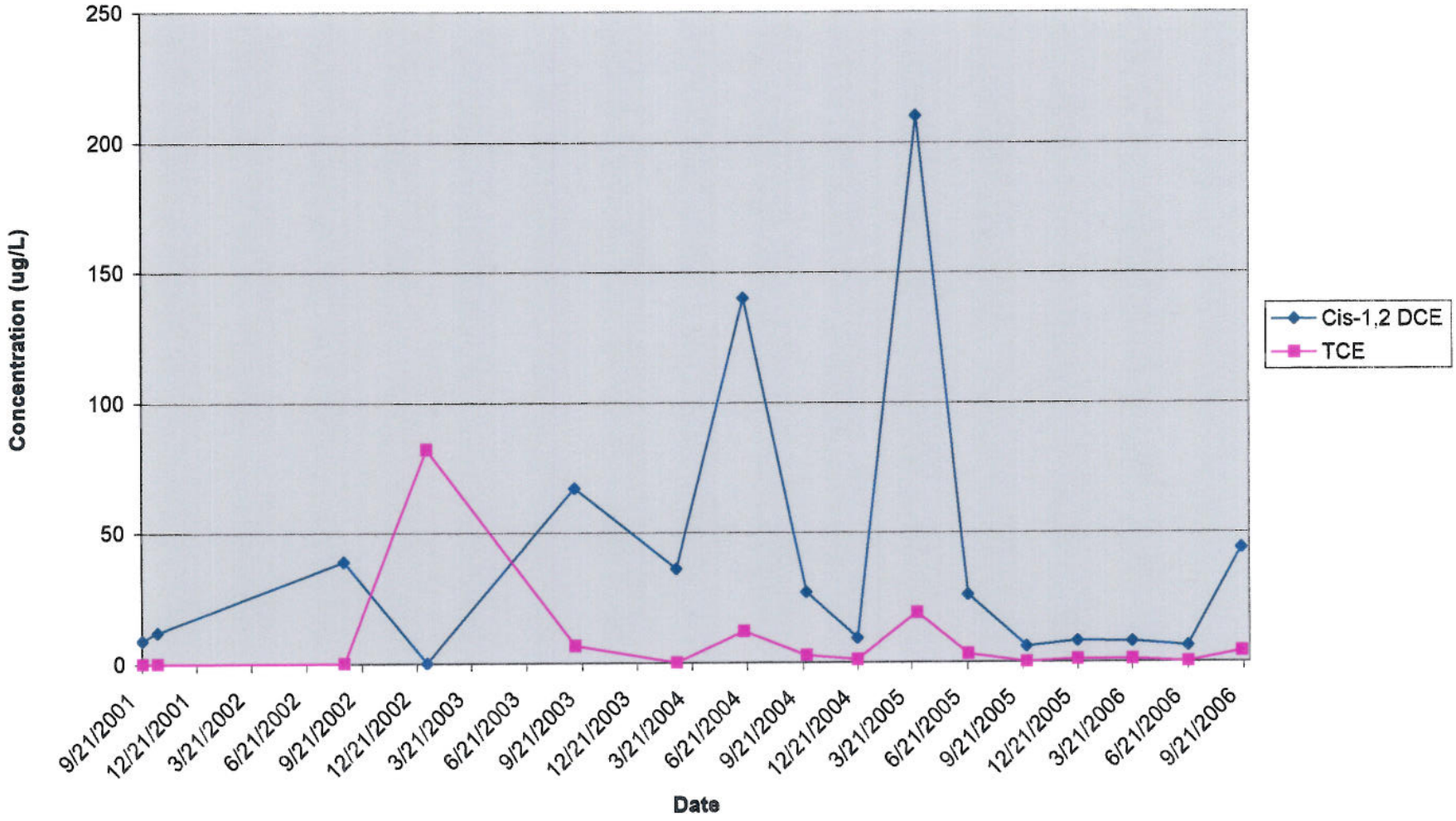
FORMER GENERAL LATEX AND CHEMICAL CORPORATION ASHLAND, OHIO

EXCAVATION AREA LOCATIONS AUGUST 2003 - OCTOBER 2003 FIELD INVESTIGATIONS

DATE: 10/22/03 | SCALE AS SHOWN | FILE NAME: FIGURE2

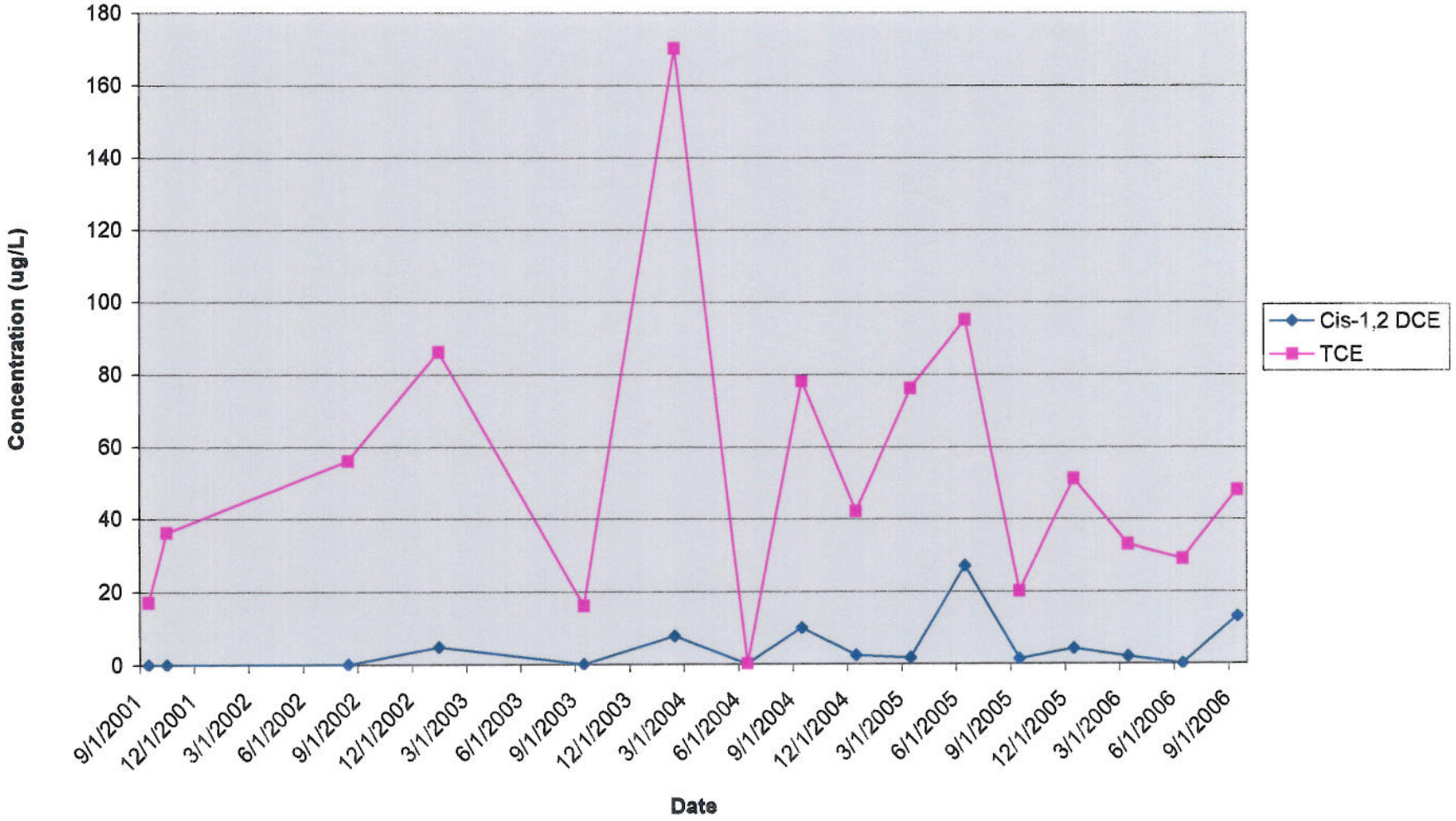
Attachment 2

MW-3
Former General Latex and Chemical Corporation Facility
Ashland, Ohio

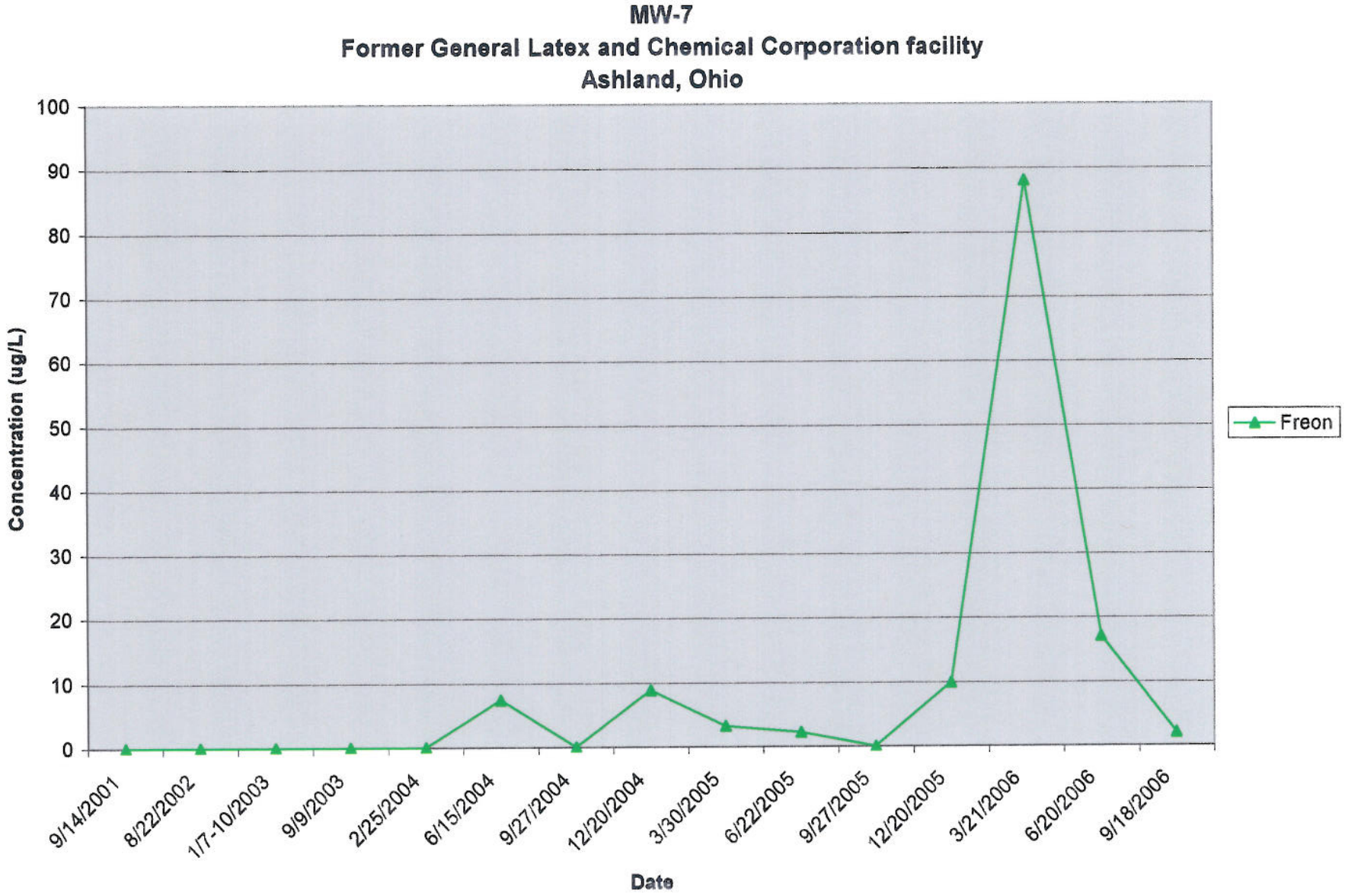


A zero concentration indicates that the result was less than the detection limit.

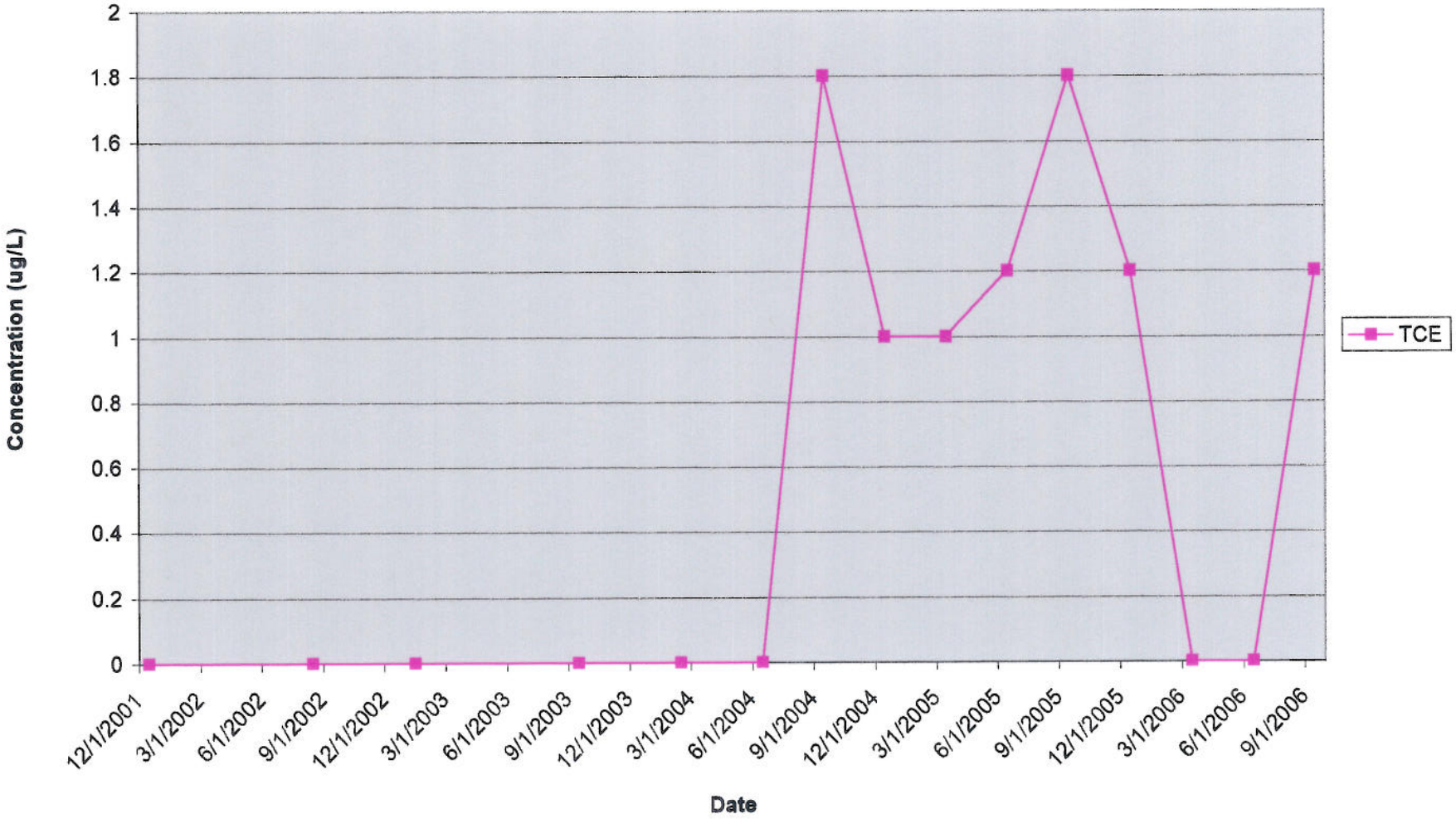
MW-6
Former General Latex and Chemical Corporation Facility
Ashland, Ohio



A zero concentration indicates that the result was less than the detection limit.

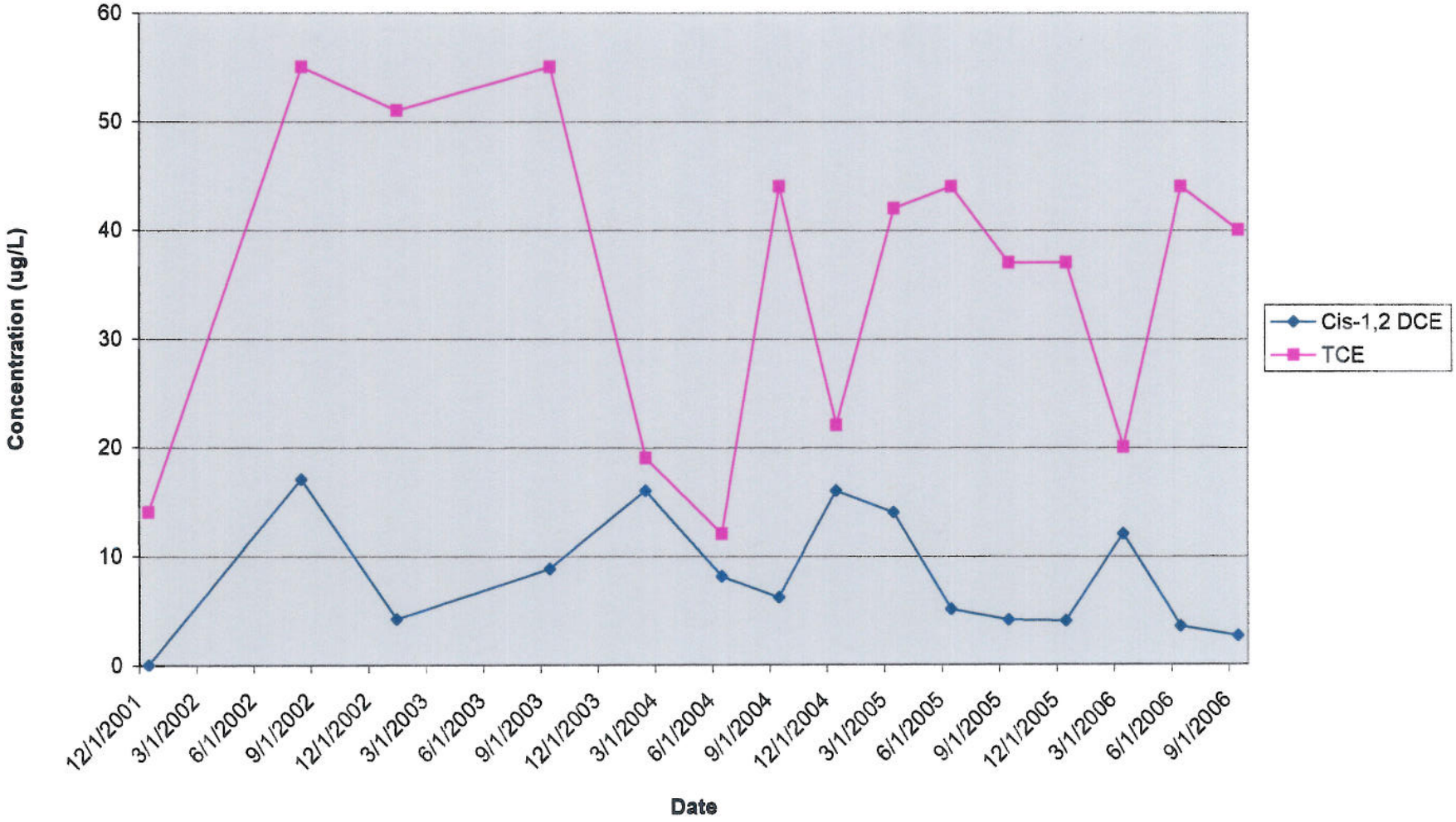

MW-7
Former General Latex and Chemical Corporation facility
Ashland, Ohio
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
9/14/2001
8/22/2002
1/7-10/2003
9/9/2003
2/25/2004
6/15/2004
9/27/2004
12/20/2004
3/30/2005
6/22/2005
9/27/2005
12/20/2005
3/21/2006
6/20/2006
9/18/2006
Date
Freon

MW-8
Former General Latex and Chemical Corporation Facility
Ashland, Ohio



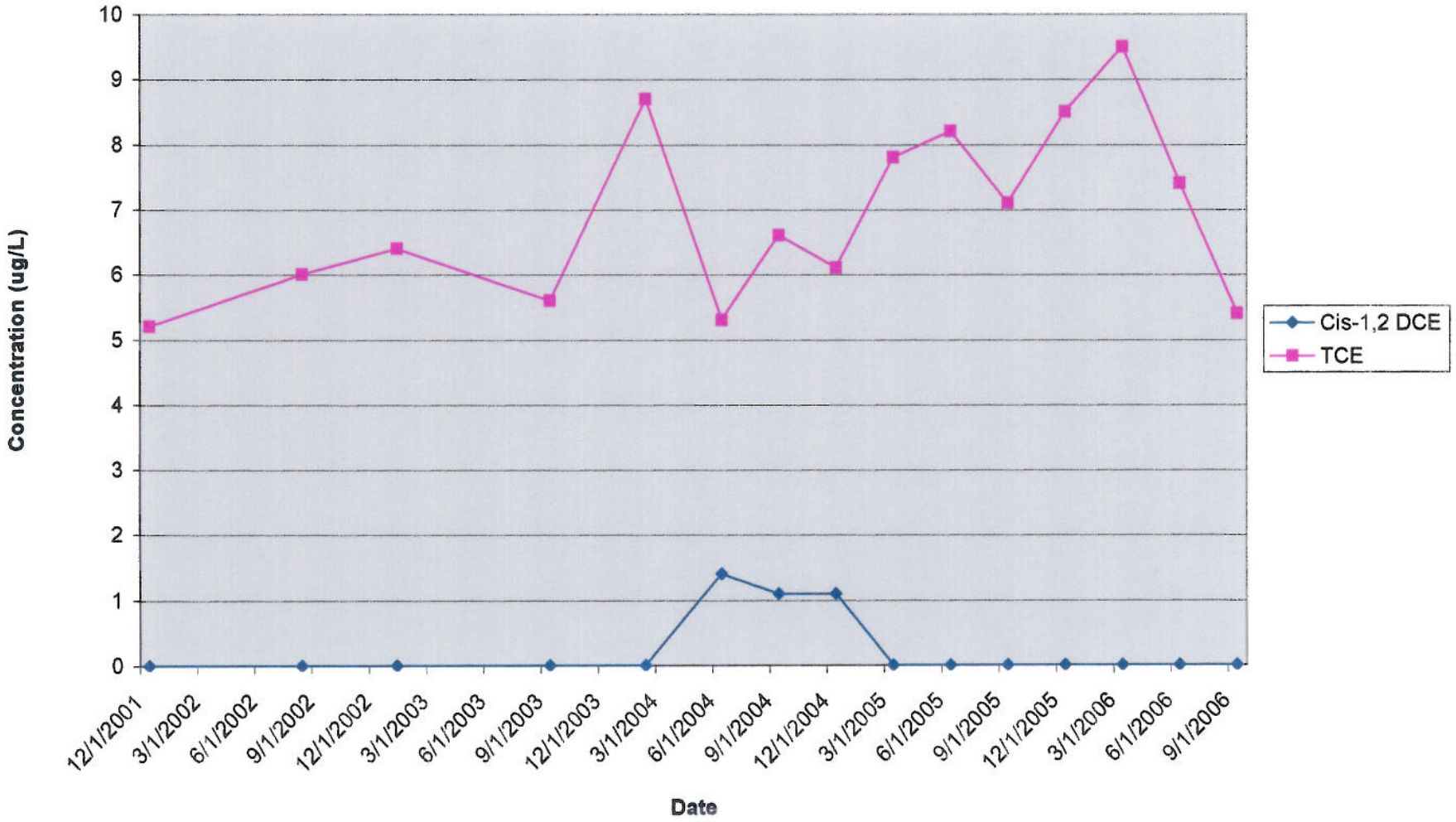
A zero concentration indicates that the result was less than the detection limit.

MW-9
Former General Latex and Chemical Corporation Facility
Ashland, Ohio



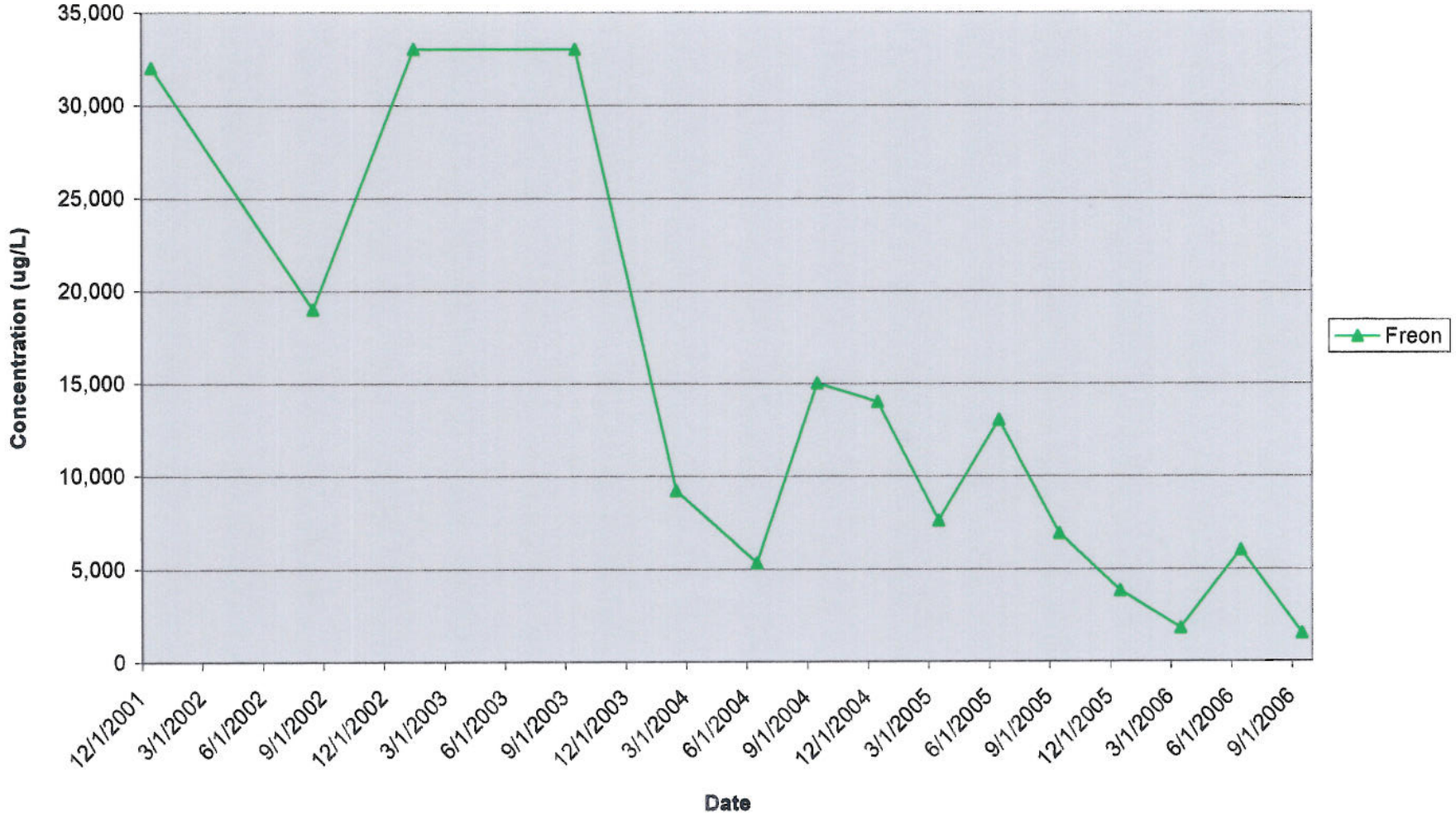
A zero concentration indicates that the result was less than the detection limit.

MW-10
Former General Latex and Chemical Corporation Facility
Ashland, Ohio



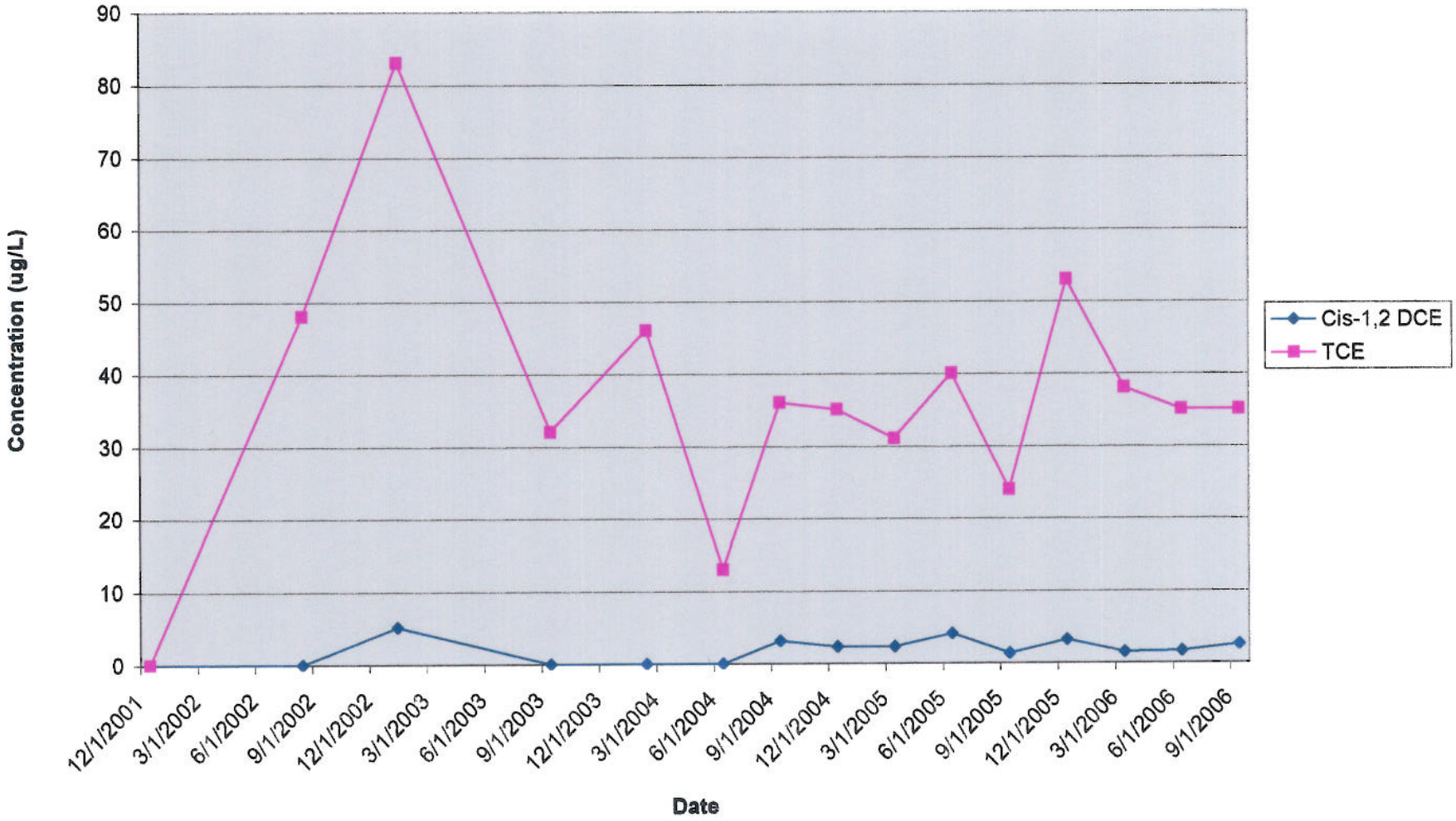
A zero concentration indicates that the result was less than the detection limit.

MW-11
Former General Latex and Chemical Corporation Facility
Ashland, Ohio



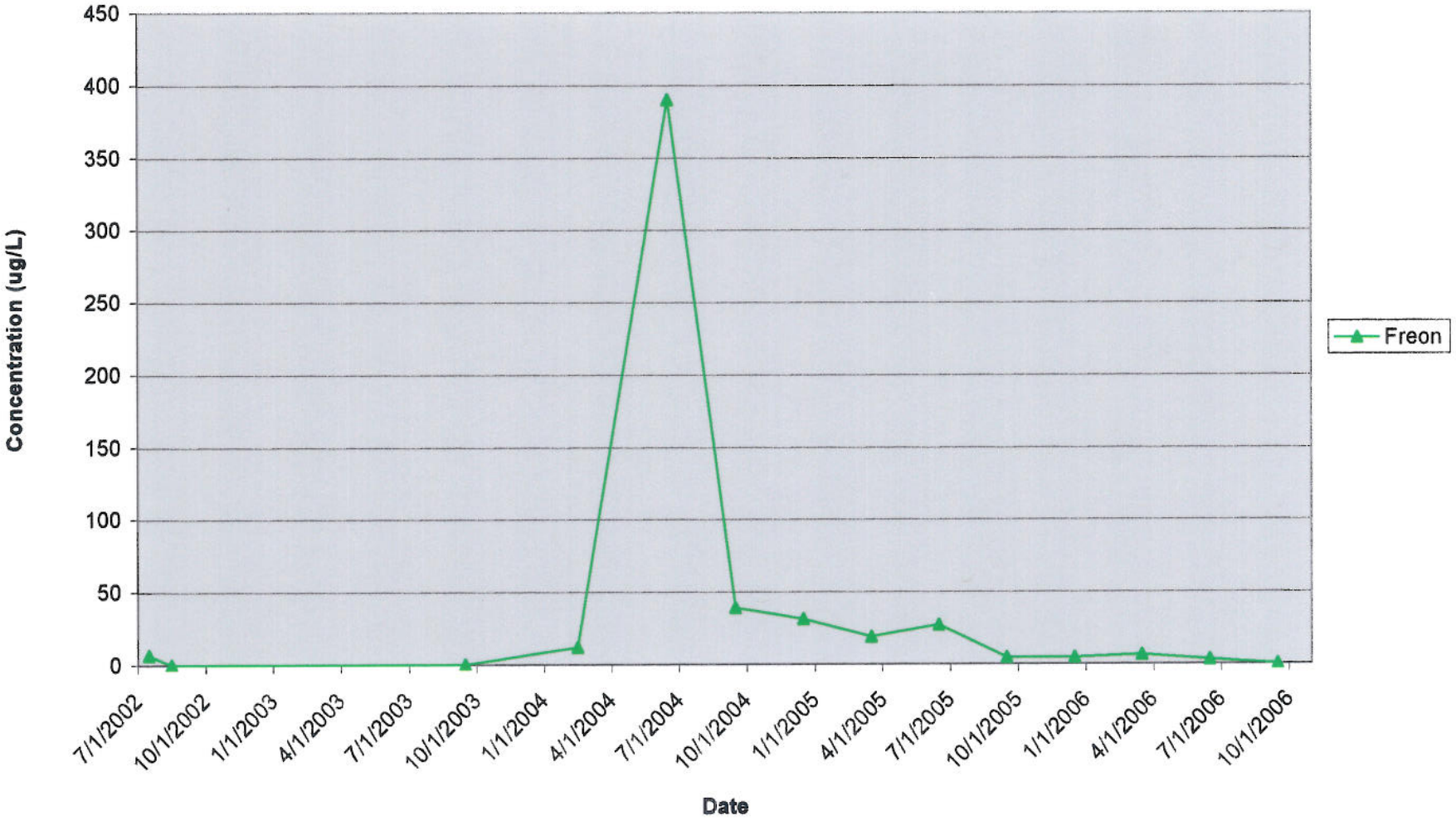
A zero concentration indicates that the result was less than the detection limit.

MW-12
Former General Latex and Chemical Corporation Facility
Ashland, Ohio



A zero concentration indicates that the result was less than the detection limit.

MW-14D
Former General Latex and Chemical Corporation Facility
Ashland, Ohio



A zero concentration indicates that the result was less than the detection limit.