



# **The Grand Traverse Overall Supply Superfund Site Leelanau County Greilickville, Michigan**

**Public Meeting  
March 18, 2008**



# Public Meeting Agenda

- Review History/Actions To Date
- Short Term Removal Plan
  - OSC Michelle Jaster
- Long Term Remedial Plan
  - RPM Linda Martin





# History/Actions to Date

- **Commercial launderer using chlorinated solvents between 1953 and 1987**
- **Releases from operations resulted in the Site being added to the National Priorities List (NPL) in 1983**
- **The main contaminants of concern are called volatile organic compounds and include dry cleaning chemicals such as tetrachloroethylene (PCE) and trichloroethylene (TCE).**
- **Investigations by Federal and State agencies documented soil and ground-water contamination primarily associated with wastewater lagoons**



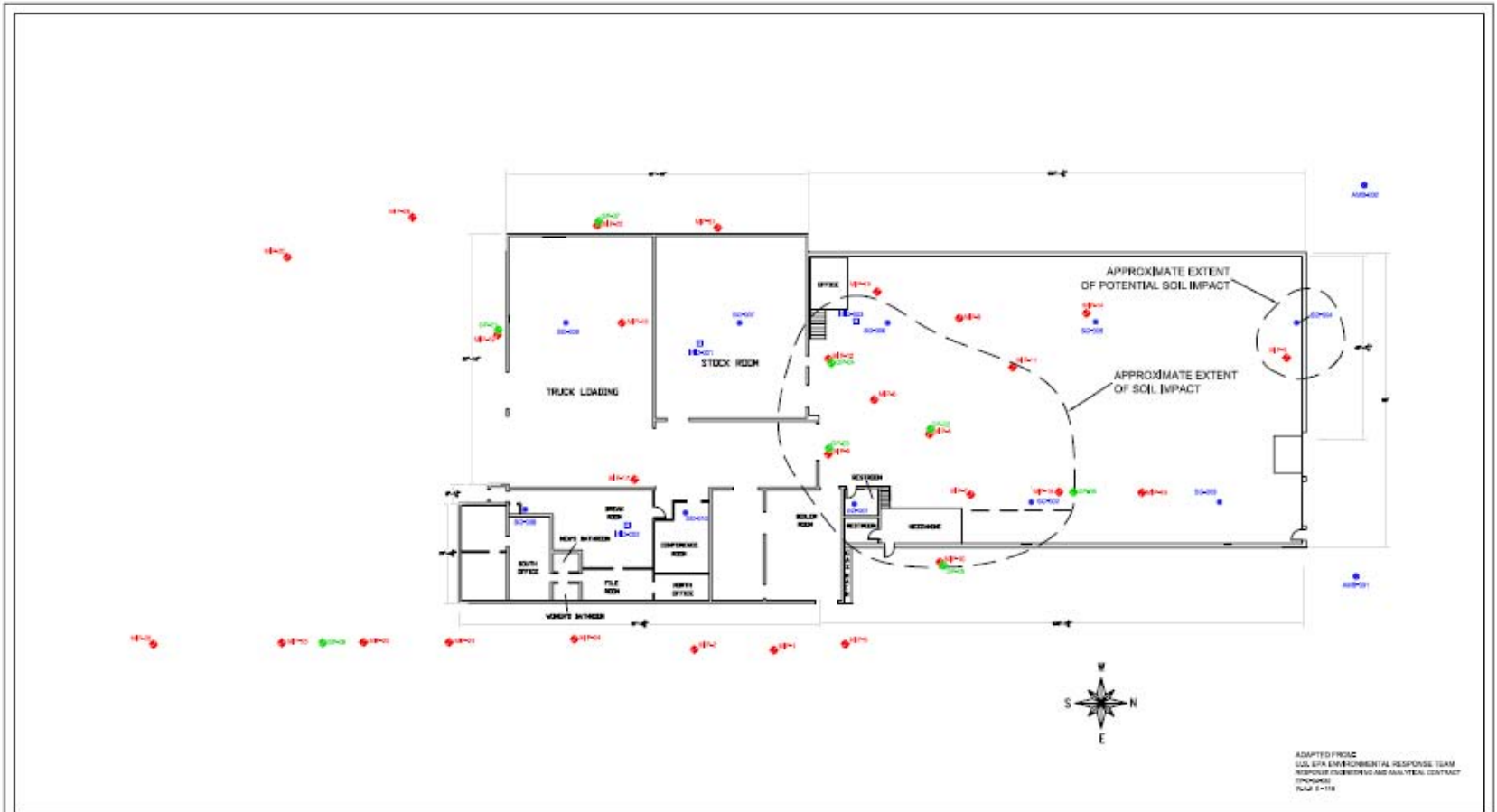
# History/Actions to Date

- Lagoons were capped in 1979.
- Investigation associated with BEA in 1996 identified new source area beneath GTOS building
- MDEQ and EPA investigations have further defined the extent of soil and ground water contamination from new source area
- Remaining contamination includes
  - Source area soil and ground water
  - Ground water plume
  - Soil vapor



# History/Actions to Date

## Soils Impacted Below GTOS Building



ADAPTED FROM  
 LUL EPA ENVIRONMENTAL RESPONSE TEAM  
 RESPONSE CHARACTERIZATION ANALYTICAL CONTRACT  
 TPO-0406  
 PAGE 2-18

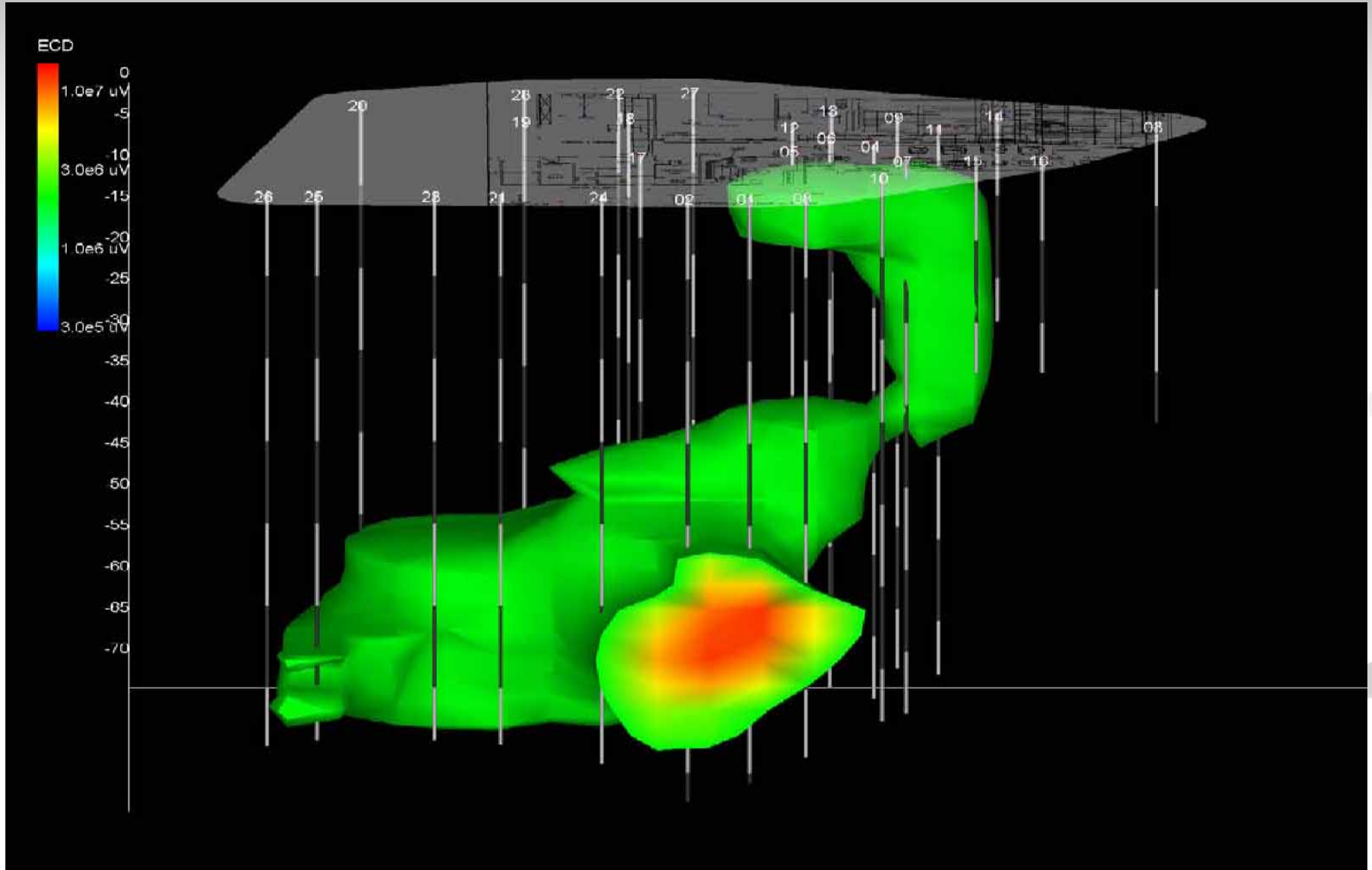
- LEGEND**
- MP CONFIRMATION BORING
  - MP LOCATION
  - USEPA ERT SUB-SLAB SAMPLE LOCATION
  - USEPA ERT INDOOR SAMPLE LOCATION
  - USEPA ERT AMBIENT LOCATION



	Suite 100 2501 Jolly Rd Okemos, Michigan 48864	<b>FIGURE 4-1</b> EXTENT OF SOIL CONTAMINATION GRAND TRAVERSE OVERALL SUPPLY SITE GREYLOCKVILLE, MI
	<small>File Path and Name: \\H:\Projects\GTOS\Reports\Figures\MP Conf Barriage Impacts Design by CH2M/HILL/USEPA Drawn by JAC/USEPA Checked by DMC Approved by DMC</small>	



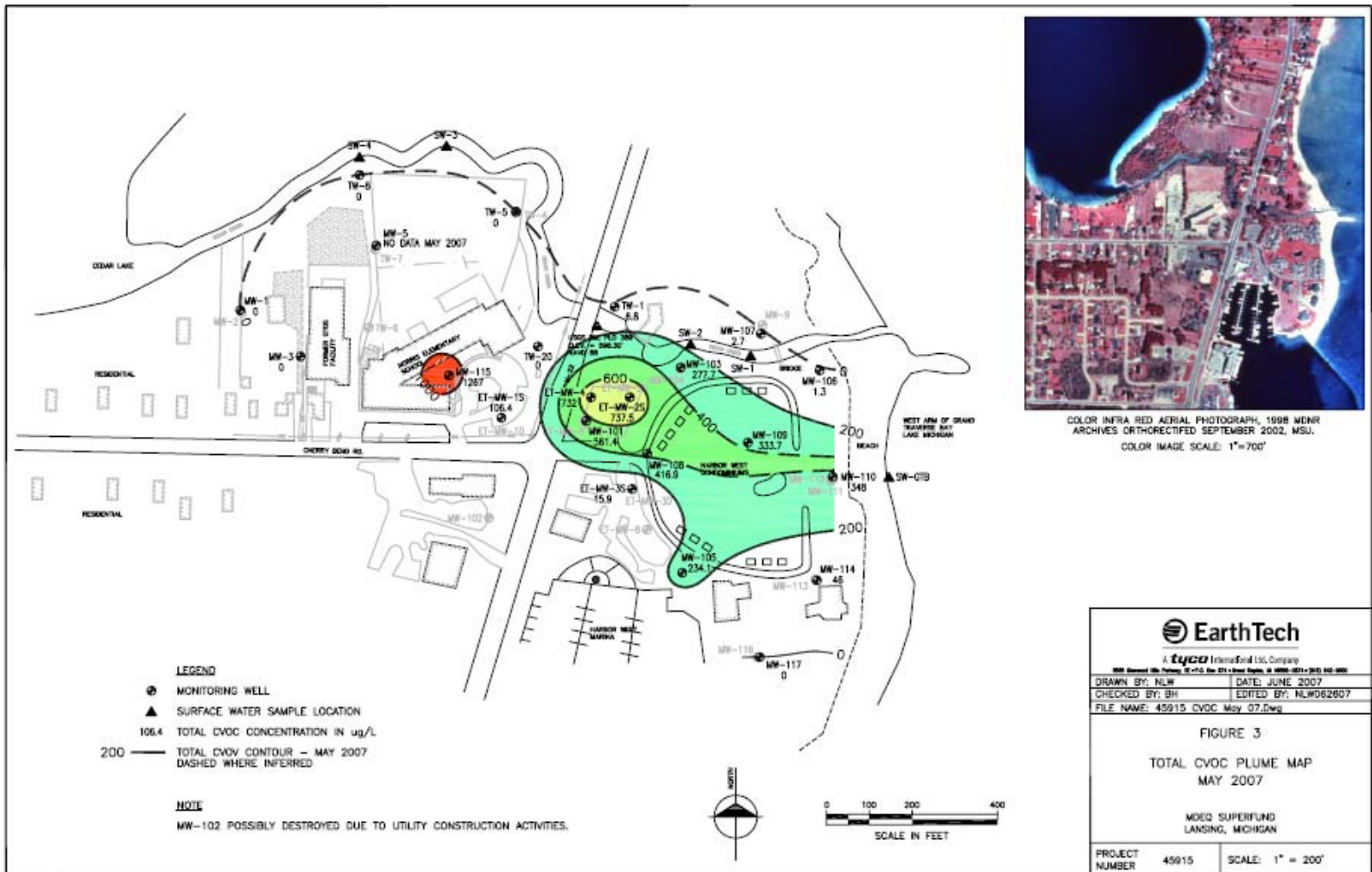
# Contamination Below GTOS Building





# History/Actions to Date

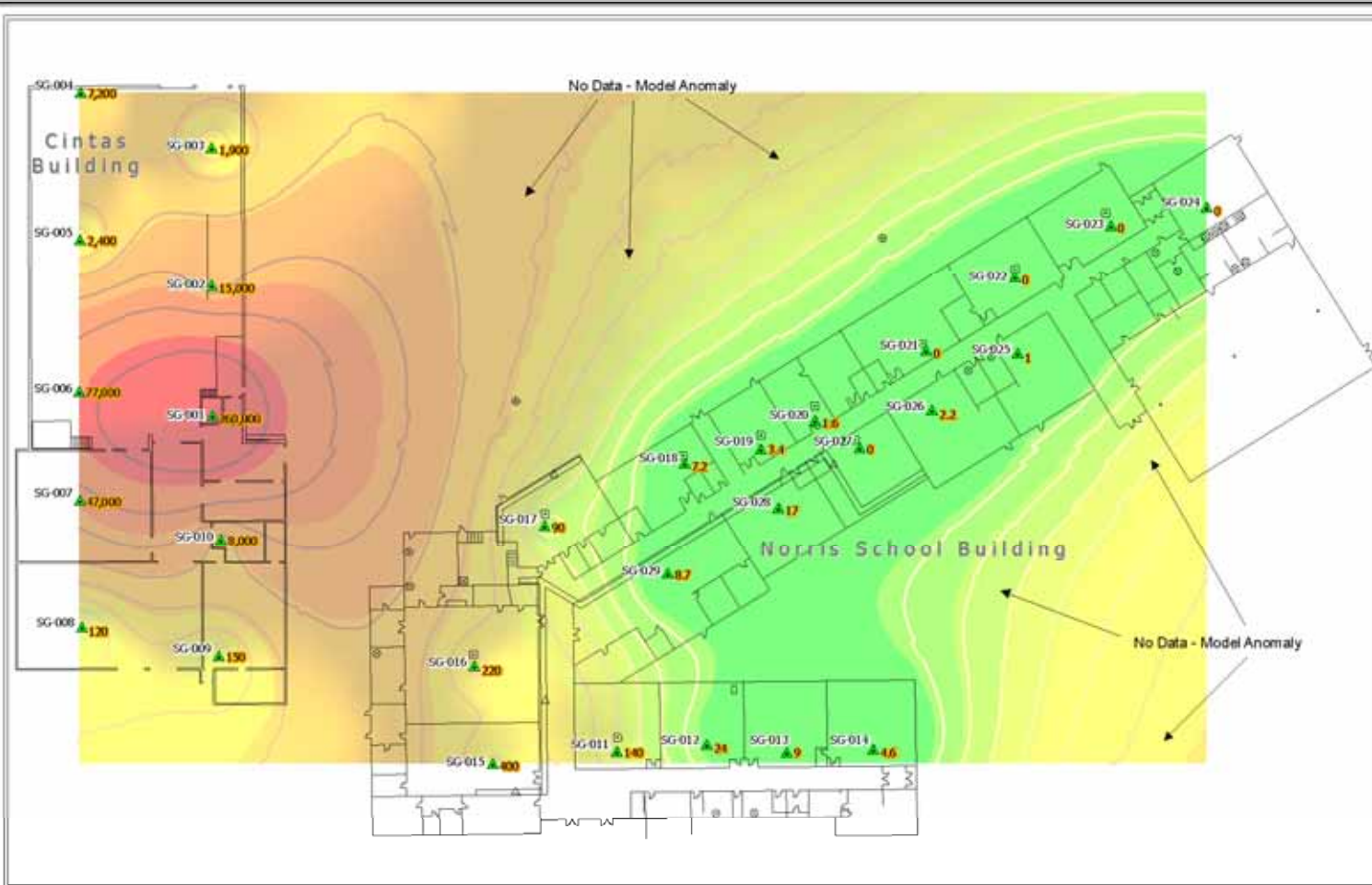
## Groundwater Impacts





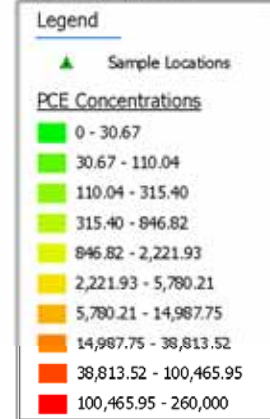
# History/Actions to Date

## Soil Vapor Impacts



**Geostatistical Summary:**  
 A Simple kriging Prediction Map was generated using field collected (USGS) Casselle data values for a soil gas intrusion study. Sample locations were not randomly generated.

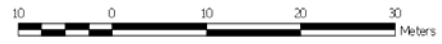
**Model Process:**  
 Data Set Method: Simple kriging  
 Output: Prediction Map  
 Number of Points: 29  
 Mean Value: 0  
 Declustering:  
 Method: None  
 Transformation: Normal Score (Gaussian Kernel Method)  
 Spline algorithm: Covariance  
 Model: 0.96720\*Spheical(75.744)+0\*Gugget  
 Error modeling:  
 Microstructure: 0 (00%)  
 Measurement error: 0 (0%)  
 Searching neighborhood:  
 Neighbors to include: 5 or at least 4 for each angular sector  
 Searching Ellipse:  
 Angle: 0  
 Major Semiaxis: 75.744  
 Minor Semiaxis: 75.744  
 Angular Sectors: 8  
 Bivariate Distribution was not examined.



Map created using un-referenced AutoCAD drawing and USGS DOQs. AutoCAD drawing georeferenced to USGS DOQs at +/- 1.5 meters spatial accuracy.  
 Map Creation Date: 24Jun2005  
 Coordinate system: UTM  
 Zone: 18N  
 Datum: NAD83  
 Units: Meters



**Model Analysis:**  
 The model assumes a steady, continuous state and does not reflect variability in physical conditions, interferences or obstructions. The model does not account for saturation, volatility or any other chemical or physical parameters.



**D R A F T**

U.S. EPA Environmental Response Team  
 Response Engineering and Analytical Contract  
 EP-C-04-032  
 W.A.# 0-116

**Figure 1**  
 PCE Concentrations  
 GTOS Soil Gas Intrusion Study  
 June 2005  
 Greilickville, MI

Data: g:\arcview\projects\yaox\100-116  
 Mxd file: g:\arcview\projects\yaox\100-116\_GTOS\_SoIGa\116\_geostatsumma.rft  
 Revision #: 003





# 2005 U.S. EPA REMOVAL ACTION

## Soil Vapor Extraction – Norris Elementary

- System installed – 12/05
- Continuously collects soil gas below school
- Protective measure





# General Types of EPA Cleanups

**U.S. EPA will conduct additional short- and long-term cleanup activities at the GTOS site beginning later this year.**

- **Short-term cleanup work is done by EPA's "removal" program**
- **Long-term cleanups are conducted under the EPA's "remedial" program**



# General Types of EPA Cleanups

- **The GTOS site contains both a removal and a remedial component.**
- **The removal program has already been working to contain the worst pollution threats and is planning additional cleanup late this year.**



# GTOS Building Demolition

(December 2007)

- Entire building demolished and transported for disposal in 30 working hours
- All major work completed when adjacent Norris Elementary was not in session





# GTOS Building Demolition

(December 2007)

- 20,000 sq ft building with multi-story warehouse
- All universal wastes removed from building prior to demolition
  - Mercury
  - Pit/trench liquids and sludges
  - Fluorescent lights





# GTOS Building Demolition

(December 2007)

- Over 940 tons of demolition debris disposed of at local landfill
- Over 140,000 gross tons of building steel and metal recycled





# GTOS Building Demolition

(December 2007)





# GTOS Sampling Event

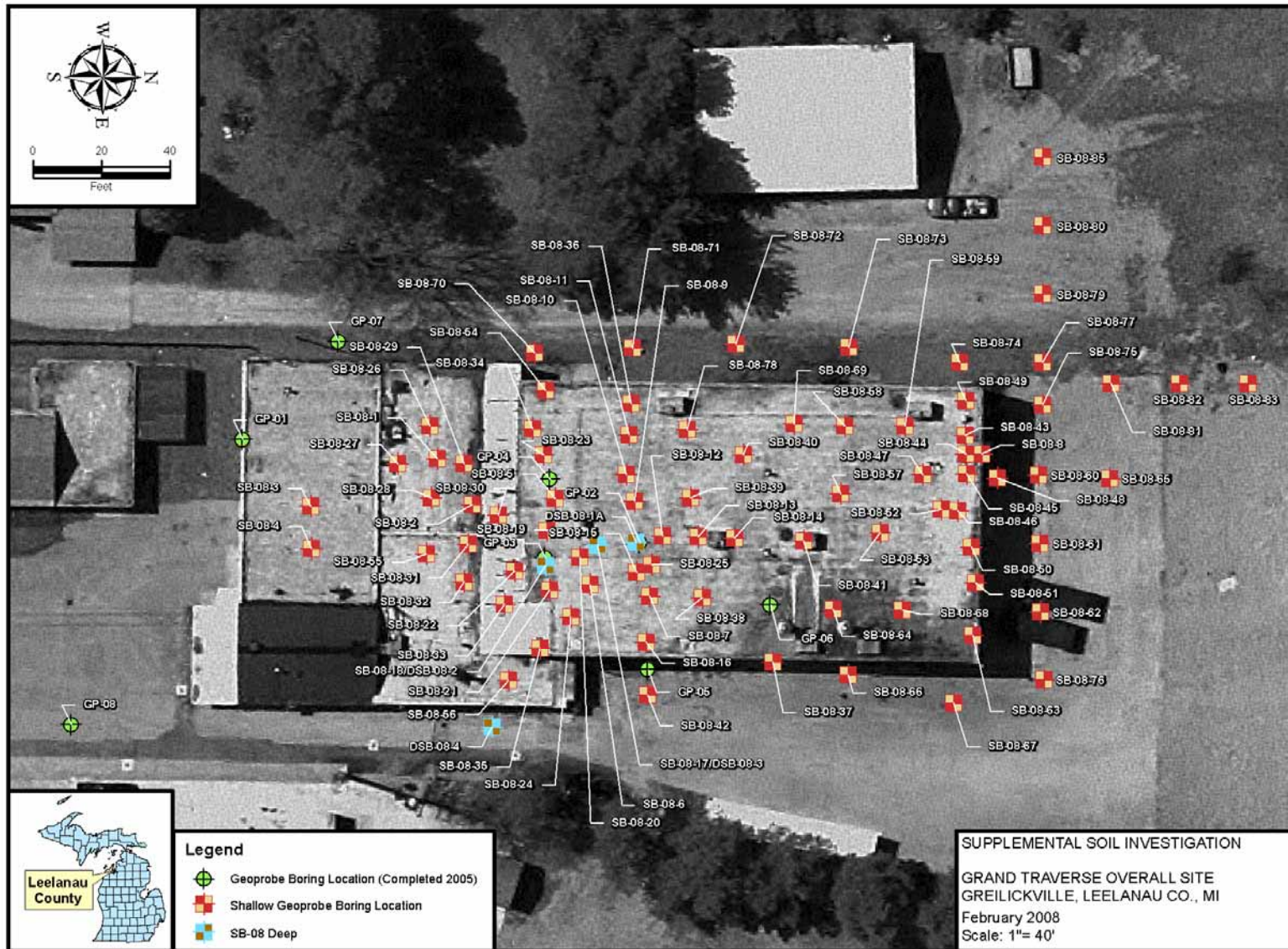
(Jan/Feb 2008)

- Almost 400 soil and ground water samples collected at various depths
- Contaminated soils identified between the ground surface and ground water





# GTOS Sampling Event





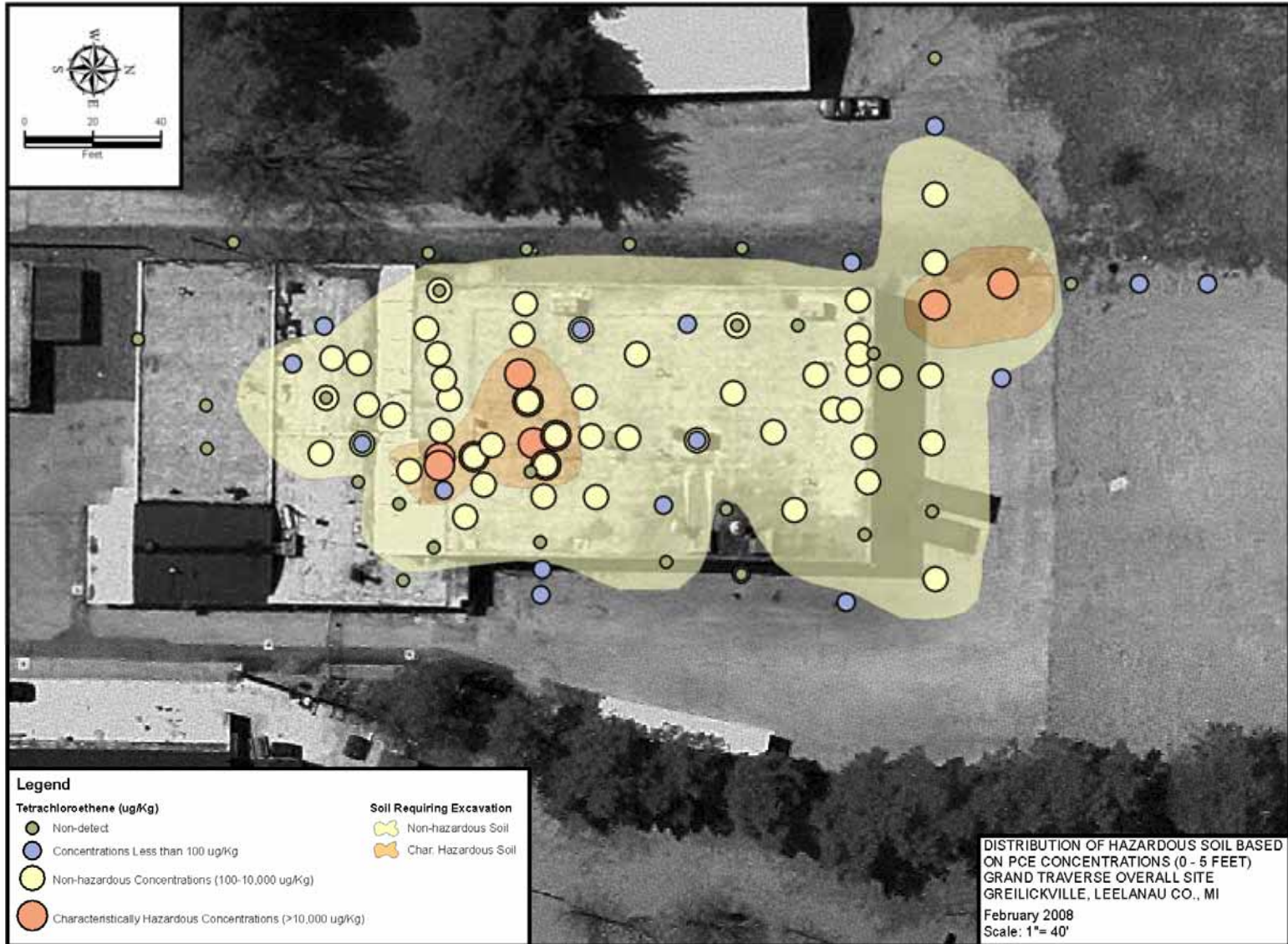
# GTOS Sampling Event

(Jan/Feb 2008)

- Soils divided into hazardous and nonhazardous
  - ~1000 tons haz
  - ~10000 tons nonhaz
- Deep soils will not be treated as part of removal actions



# GTOS PCE Sampling Results (0-5 ft bgs)



# GTOS PCE Sampling Results (5-10 ft bgs)



# GTOS PCE Sampling Results (10-15 ft bgs)





# Short Term Removal Plan





# Planned Removal Actions

- **Remaining removal actions:**
  - **Soil excavation**
  - **Backfill excavated areas with clean fill**
  - **Transition site to EPA's Remedial Program for additional work**
    - **Possible asphalt cover**





# Planned Removal Actions

- **Soil Excavation**
  - **Prep work starts 3/24**
  - **Remove concrete**
  - **Haz soil start 3/29**
    - **All haz soil will be removed during Norris Elementary spring break**
  - **Nonhaz soil as soon as haz soil completed**
  - **Work through most of April 2008**





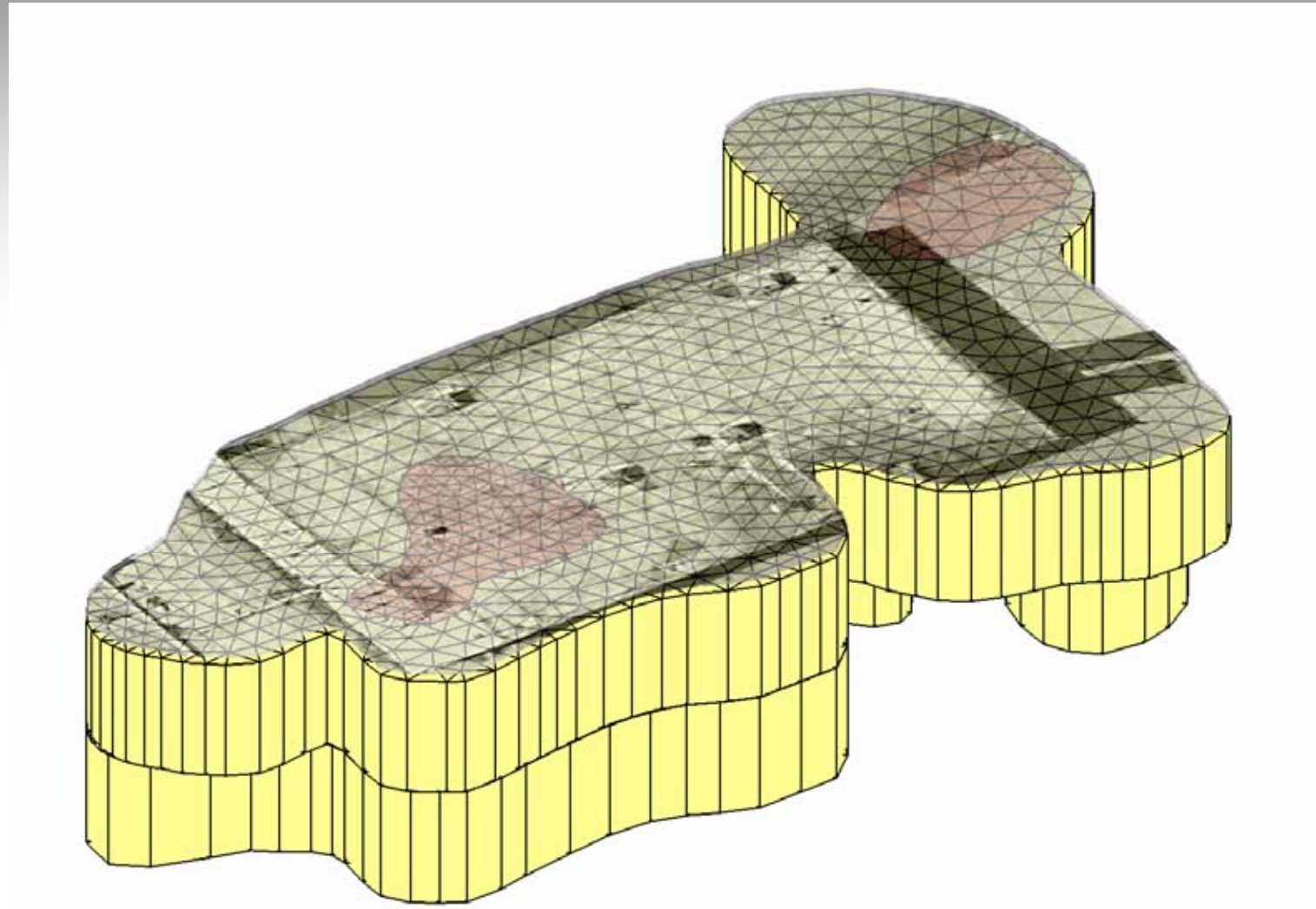


# Planned Removal Actions

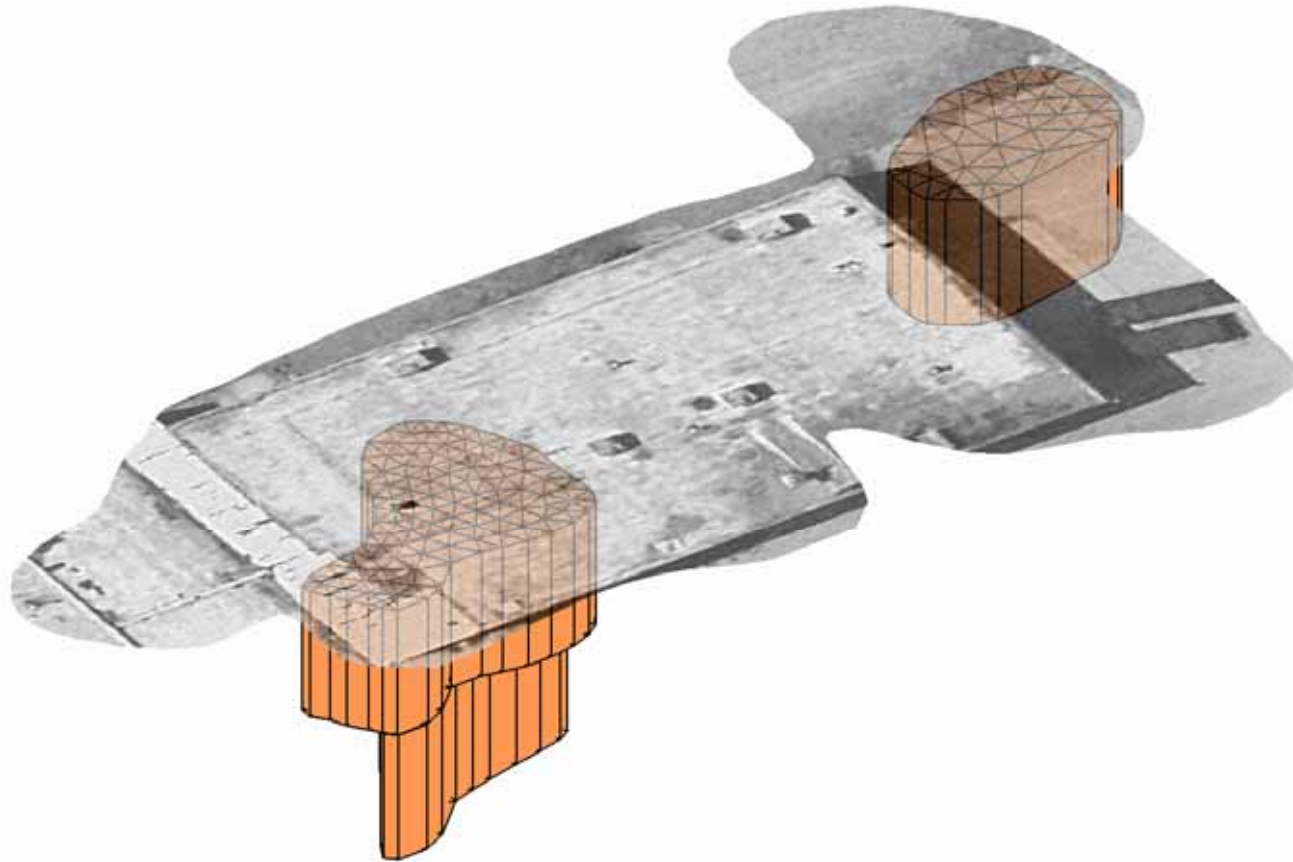
- **Engineering Controls**
  - **Air Monitoring Plan**
  - **Traffic Plan**
  - **Use of SVE System**
  - **Areas fully defined**
    - **All haz soil removed during spring break**
  - **Can stop if necessary**



# GTOS Haz and NonHaz Soil (PCE)



# GTOS Hazardous Soil (PCE)





# Scheduling Time Frame

- **Experience**
- **Known extent of contamination**
- **Air Monitoring Program in consult with State and Federal Health Professionals**
- **Weather**
- **Costs/Funding**
- **Commitment**



**QUESTIONS ??**



# Long Term Remedial Plan





# GTOS Record of Decision

- **On March 3, EPA completed the cleanup plan, called a “Record of Decision,” for the GTOS site.**
- **It’s similar to what was discussed at the public meeting in November.**



# Cleanup Plan Components

- **The major components of the cleanup plan include:**
  - **Limited action on removing any remaining soil contamination that exceeds the preliminary cleanup goals following the emergency cleanup authorized on Sept. 4.**





# Cleanup Plan Components (cont)

- **Institutional controls restricting ground water and land use. These controls may include:**
  - **negotiation of restrictive covenants for contaminated property and ground water**
  - **working with local municipalities to draft and implement zoning ordinances**
  - **working with the public health department or agencies to draft and implement appropriate health regulations or similar controls**



# Cleanup Plan Components (cont)

- **Ground water extraction, treatment and discharge with a contingency for on-site treatment if necessary.**



# Cleanup Plan Components (cont)

- **Continued operation of the soil-vapor extraction system that is operating at the Norris Elementary School.**
- **The Agency will also develop and implement a nonintrusive vapor-monitoring program to assure there are no other vapor issues associated with the soil and ground water contamination.**



# Next Steps

- **One area of concern that was raised in a majority of the comments involved the discharge of treated ground water from the ground-water extraction system.**
- **EPA experts are designing the ground water pump-and-treat system, and are still evaluating the two discharge options presented at the public meeting.**
- **We will return at a later date to discuss the discharge strategy in more detail.**



# Contact Information

## **Don de Blasio**

EPA Community Involvement Coordinator

312-886-4360 or 800-621-8431,  
10 a.m. – 5:30 p.m., weekdays

[deblasio.don@epa.gov](mailto:deblasio.don@epa.gov)

For questions on the long-term remedial  
cleanup phase contact:

## **Linda Martin**

Remedial Project Manager

EPA Region 5 (mail code SR-6J)

77 W. Jackson Blvd.

Chicago, IL 60604-3590

Voice: 312-886-3854

Fax: 312-886-4071

[martin.lindab@epa.gov](mailto:martin.lindab@epa.gov)

For questions on the short-term or  
removal cleanup phase contact:

## **Michelle Jaster**

On-Scene Coordinator

EPA Region 5

9311 Groh Road

Grosse Ile, MI 48138

Voice: 734-692-7683

[jaster.michelle@epa.gov](mailto:jaster.michelle@epa.gov)



**QUESTIONS ??**

# GTOS Hazardous Soil (PCE)





# Additional Cleanup Work

- **The Agency will continually evaluate soil and ground-water vapors that may contaminate indoor air, and other areas that could be affected by the ground-water plume, using nonintrusive sampling procedures.**
- **Estimated cost is about \$35,000 per event.**