

# Community LOOW Project

2<sup>nd</sup> Public Meeting

25 September 2006

Lewiston Senior Center

# Tonight's Meeting

- Review Community LOOW Project and purpose
- Project activity since last meeting
- Progress with GIS and demo
- Next steps

# What is the LOOW?

- Lake Ontario Ordnance Works
- Dates from World War II
- 7,500 acres acquired in 1942
- Subsequent Dept. of Energy and Defense activities
- Now, private and government ownership
- “Developed” and “Undeveloped” portions



# Why was the Community LOOW Project Developed?

- Public concerns regarding
  - legacy and current operations may be health risk
  - potential for conflicts of interest by some agencies supervising the LOOW site
- “legacy of mistrust”
- Fragmented jurisdiction of government agency programs at the LOOW
- 2004 findings by the NYS Dept. of Health Environmental Radiation Protection Bureau suggests gaps in adequacy of radiological remediation

## 3 Main Parts to Community LOOW Project

1. Identify and compile relevant past LOOW historic activity, investigations and clean-ups into one GIS database
2. “Gap Analysis” of LOOW work
3. Identify issues and recommend solutions to accountable agencies

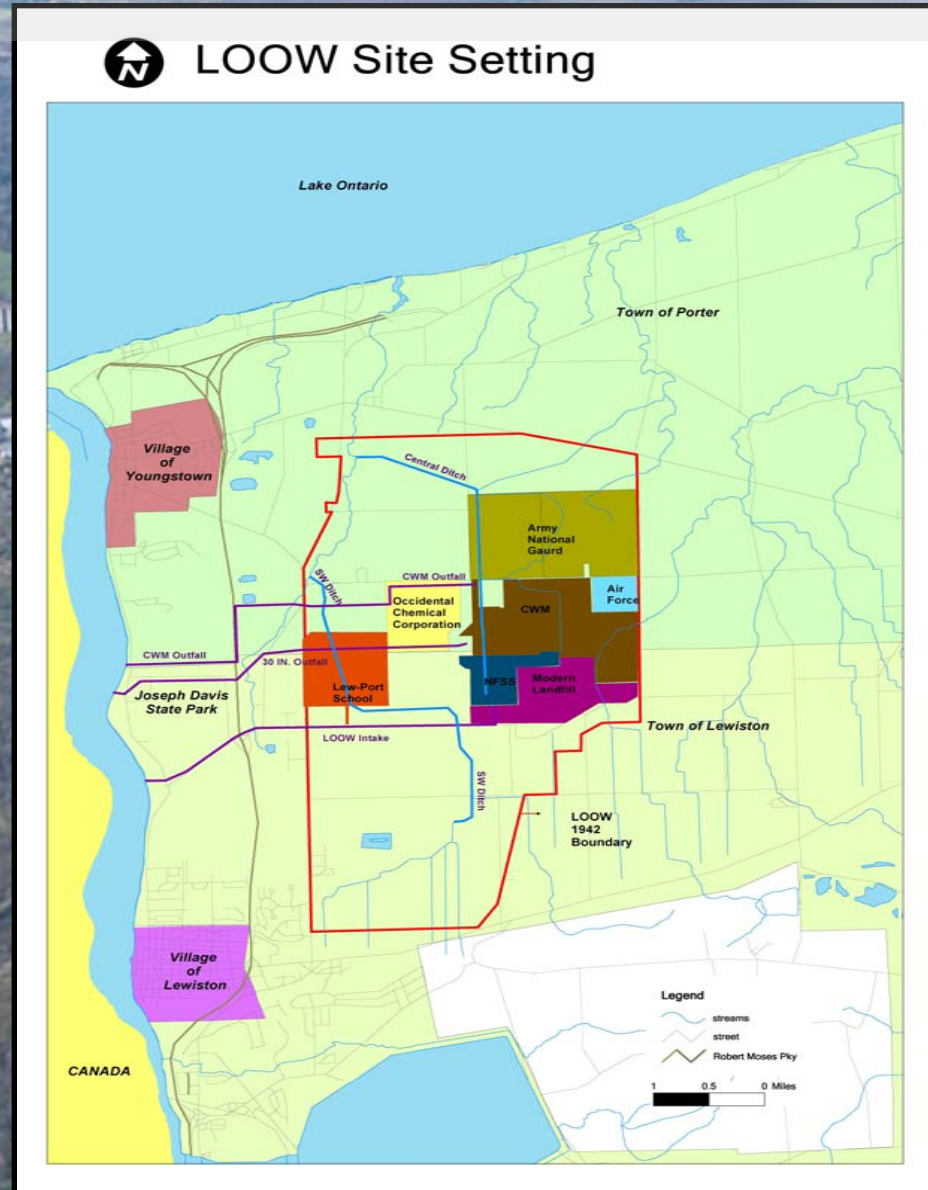
# Community LOOW Project

- Set-up as 2 year project
- Administered by Niagara County Department of Health
- Semi-annual public meetings
- Website for posting information
- Results due 2007

# Community LOOW Project Funding

<u>Funding Source</u>	<u>Amount</u>
Congresswoman Slaughter	\$ 100,000
Community Foundation for Greater Buffalo	30,000
WNY State Assembly & Senate Delegation	25,000
Univ. at Buffalo Env. & Society Institute (in kind)	15,000
Sen. George Maziarz	10,000
Town of Porter	8,000
Assemblywoman Francine DelMonte	5,000
Niagara County	4,000
Town of Lewiston	4,000

# Location of Lake Ontario Ordnance Works





# View looking North 2005





# Looking west



Lew-Port Schools

Niagara River

# Gate to NFSS

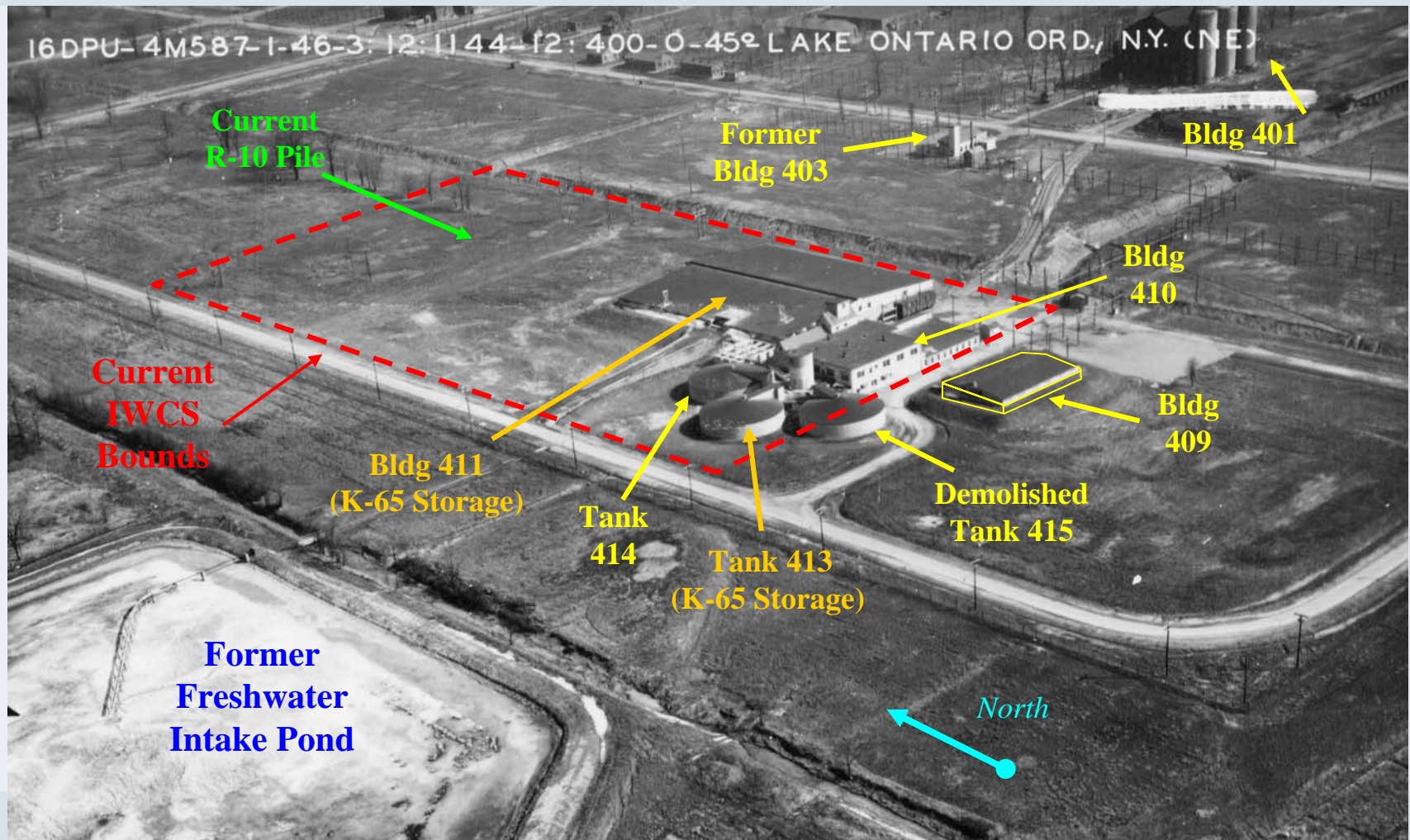




# Niagara Falls Storage Site (“NFSS”)



# Building 409 - 414 area in 1944 (current site of Interim Waste Containment Structure)



# Advisory Boards or Projects about the LOOW

<b>PROJECT</b> <b><u>/ Timeframe</u></b>	<b><u>OWNERSHIP</u></b>	<b><u>STAFFED BY</u></b>	<b><u>PURPOSE</u></b>
<b>Community LOOW Project</b> / one-time 24 mos.	Niagara County Health Dept.	Expert Scientists under contract to Niagara County Health Dept. and support from Univ. at Buffalo ESI	Review <b>all agency</b> studies to assess potential for chemical and radiological environmental risk on <b>entire LOOW site</b> .
<b>RAB</b> (Lake Ontario Ordnance Works Restoration Advisory Board) / Ongoing	U.S. Army Corps of Engineers	USACE staff, Community volunteers, other agencies, contractors, property owners, and academics.	Monitor/comment on USACE work to remediate <b>federal contamination</b> on portions of the LOOW site. Facilitate exchange of info about the LOOW.
<b>CAC</b> CWM Community Advisory Committee / Ongoing	Towns of Lewiston and Porter, and County of Niagara	Members appointed by Town Boards and County as required by CWM's permit.	Negotiate certain permit conditions and meet periodically thereafter to discuss <b>CWM</b> operations and activities.
<b>Low-Port School Soil Study</b> / one-time 12 mos.	Lew-Port Central School District	Univ. Buffalo ESI. Certified Labs and Environmental remediation contractors. (& Advisory Committee)	<b>Surface soil sampling of targeted areas on campus.</b> Surface/sub-surface sampling of area defined. Remediate contaminants exceeding establ'd level.
<b>NYS Dept. Of Health Cancer Surveillance</b> / one-time 24+ months	NYS Dept. Of Health	NYS Dept. Of Health Epidemiologist	One-time <b>NYS DOH Cancer Incidence</b> report of statistics for Lewiston and Porter for certain cancers over 10 years
<b>Lewiston Museum Archives Project</b> / 12 mos. with possible additional steps	Museum Board (501c3)	Museum admin and contract historian and/or archivists	<b>Identify locations of LOOW information sources.</b> (Subsequent steps may create archive list and or repository - TBD)

# What have we been doing?

- Looking for information
  - Site knowledge
  - Investigation records
  - Applicable for GIS
- Deciding what's relevant
- Simple website [www.niagaracounty.com/health](http://www.niagaracounty.com/health)
- Contracting for some reviews
- Getting GIS up and going



# Sources of information solicited to date

- U.S. Army Corps of Engineers (FUSRAP and DERP-FUDS)
- Current LOOW property owners; CWM, Modern, Occidental, Lew-Port Central Schools, 3F Club, Fatima Shrine, etc.
- U.S. Army National Guard
- U.S. Air Force
- U.S. Dept of Energy and predecessor documents
- Oak Ridge National Laboratory, TN
- Knolls Atomic Power Laboratory – Schenectady, NY
- University of Rochester
- Niagara University
- NYS Dept. of Environ. Conservation and U.S. EPA
- University at Buffalo (Ecumenical Task Force docs)
- Area libraries, museums, municipalities
- Niagara County Health Dept, Highway Dept
- Tuscarora Indian Nation
- Area environmental groups and advisory boards such as RAB



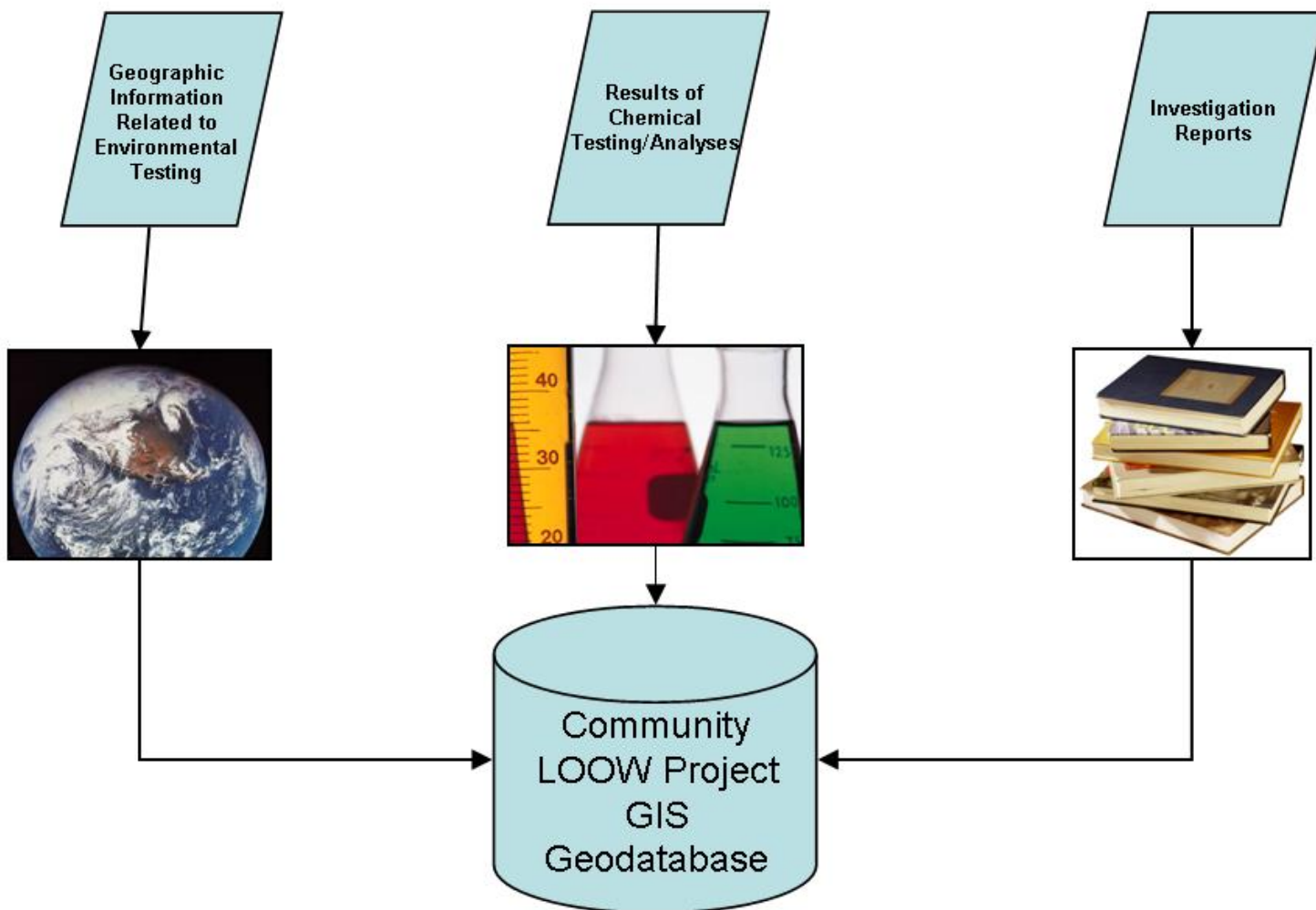
# Geographic Information System

- Tool to map and analyze spatial data
- Compile information in electronic layers
  - Maps
  - Air photos
  - Environmental sampling
  - Historical information
- Assists understanding

# GIS Approach

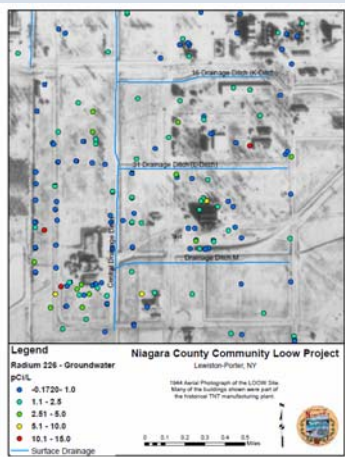
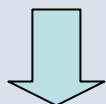
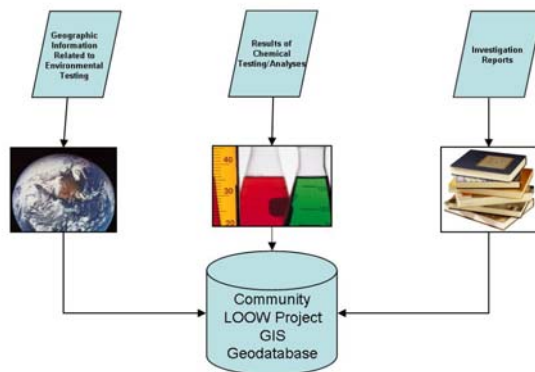
- Geographic Information Systems/Science (GIS)
  - Consolidate relevant data from all agencies to create maps
- analyze the data
  - spatial distributions
  - changes over time
  - relationships with geography
  - Historical use data and maps

# BUILDING THE LOOW GIS



DRAFT EXAMPLE

# BUILDING THE LOOW GIS



## Legend

Radium 226 - Groundwater

pCi/L

- 0.1720 - 1.0
- 1.1 - 2.5
- 2.51 - 5.0
- 5.1 - 10.0
- 10.1 - 15.0

— Surface Drainage

## Niagara County Community Loow Project

Lewiston-Porter, NY

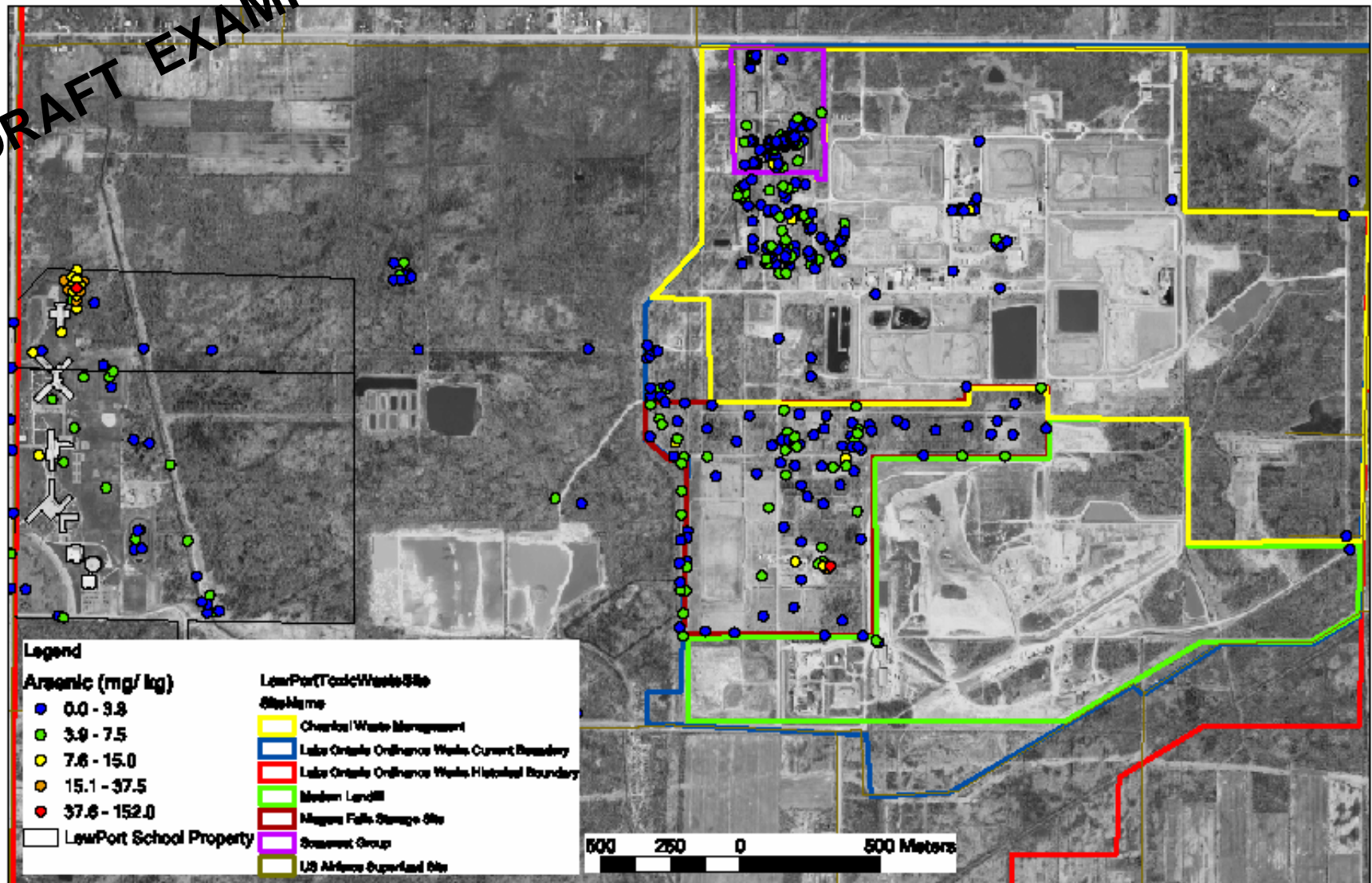
1944 Aerial Photograph of the LOOW Site.  
Many of the buildings shown were part of the historical TNT manufacturing plant.

0 0.1 0.2 0.3 0.4 0.5 Miles



# Arsenic in soil

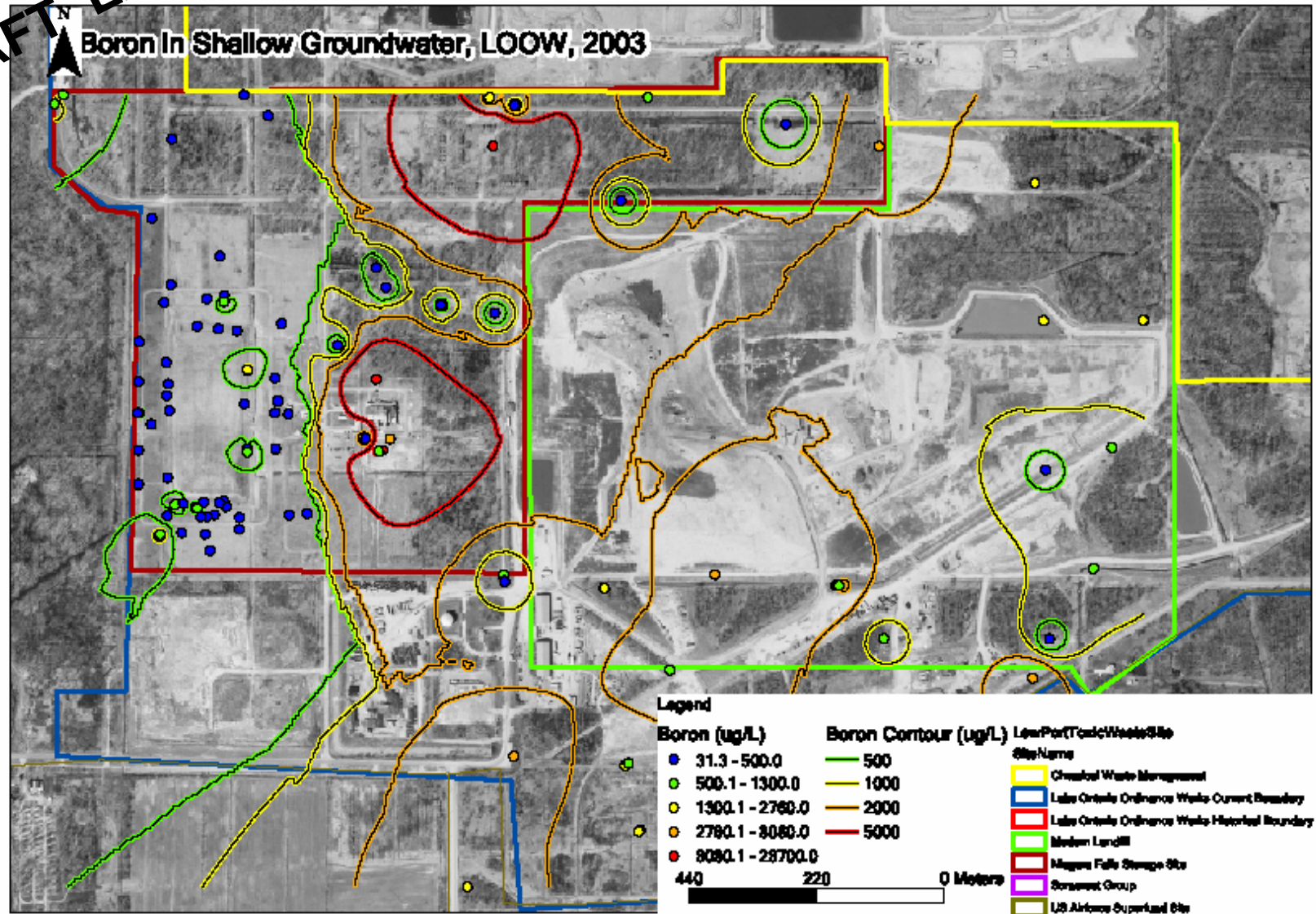
DRAFT EXAMPLE





DRAFT EXAMPLE

# Boron in Shallow Groundwater



# Gap Analysis

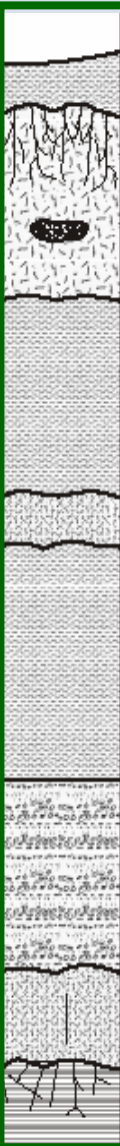
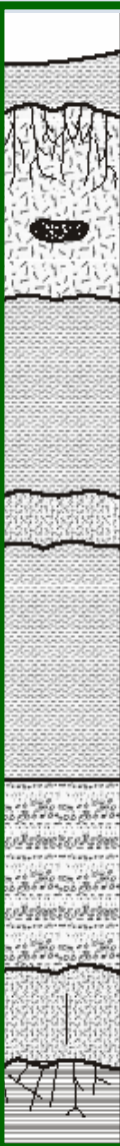
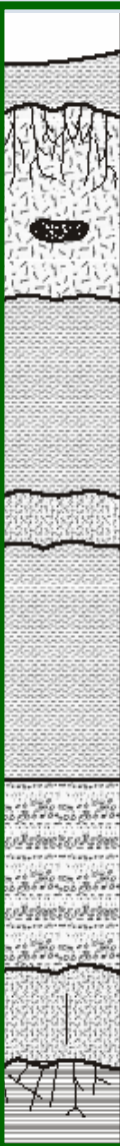
- Review historical and investigation information to identify missing or inadequate components
- Use GIS as a tool
- Engage independent subject matter experts
- Identify “data gaps”
- What is a “data gap”?
- Provide comments to process to improve investigations and remediation

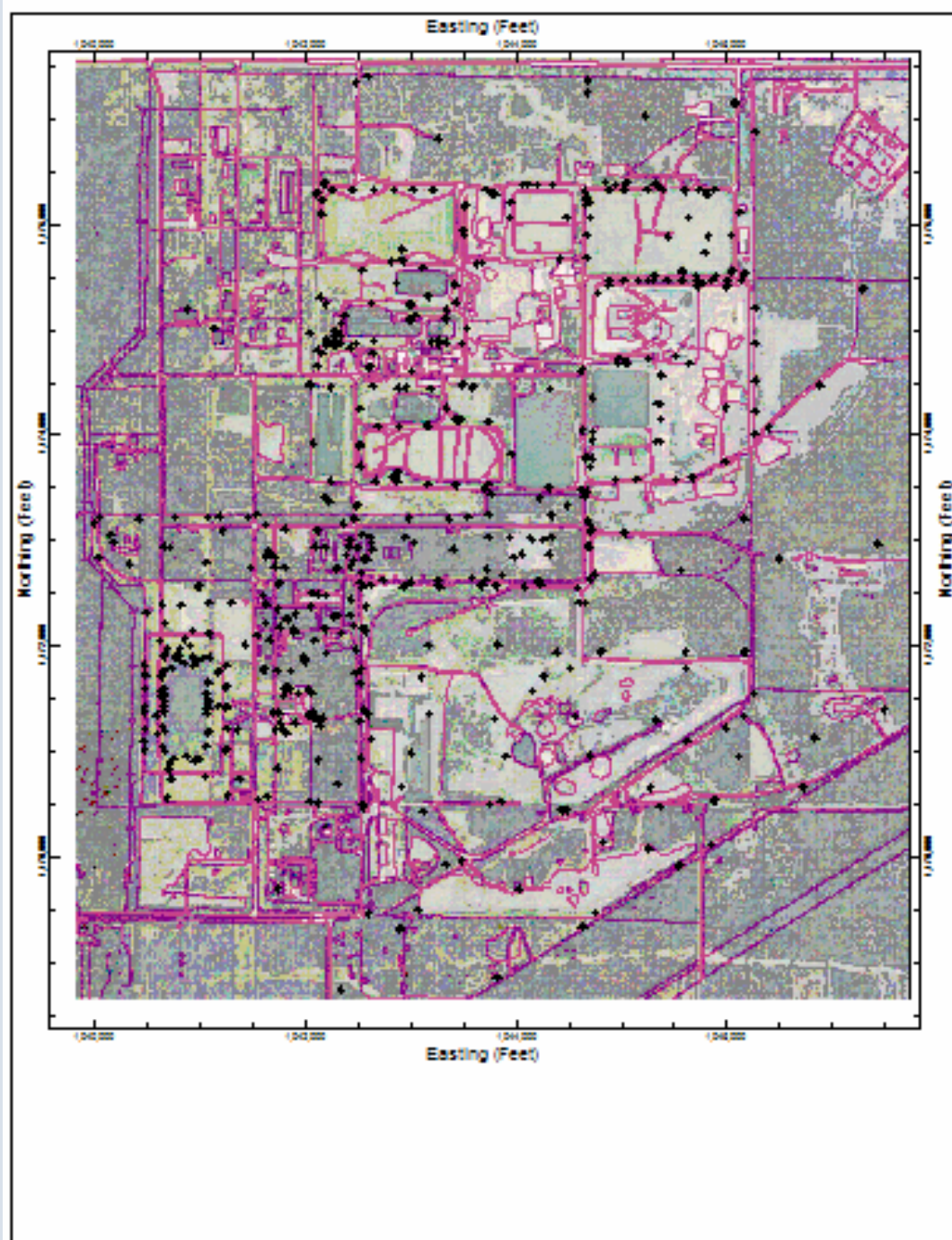
# Geology and Hydrogeology database

- Data compiled by USACE contractor
  - >800 boreholes
  - Soil properties
- Report not yet published
- Checking geology and monitor well placement



# Simplified Geology

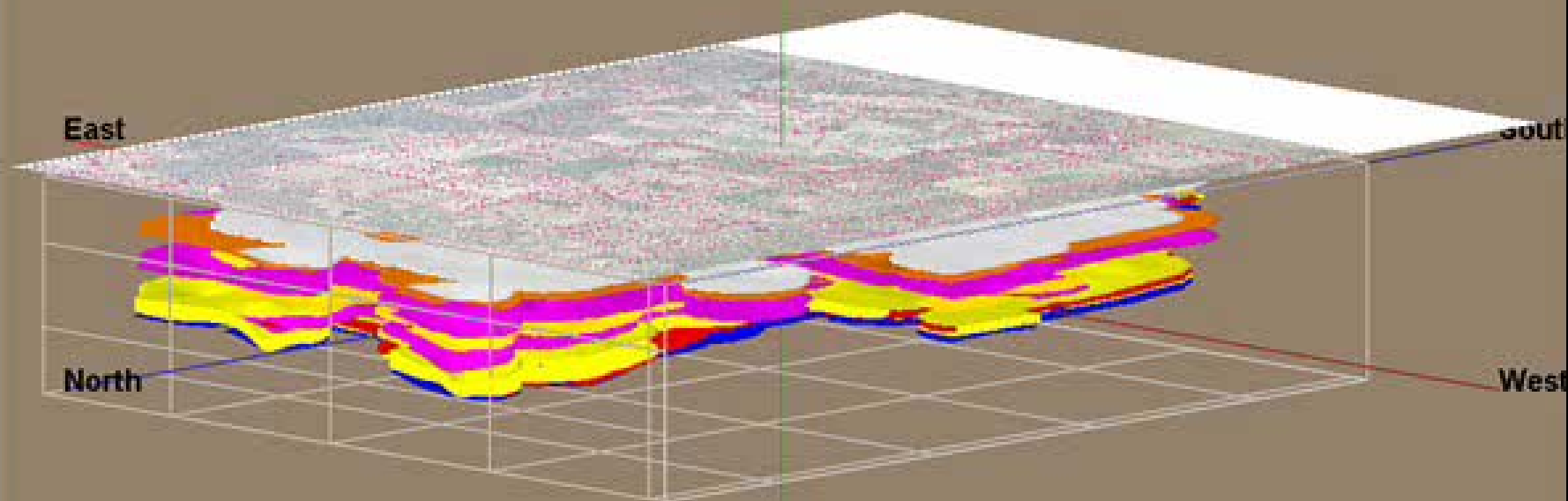
	<b>Fill</b>	<b>Upper Water Bearing Zone (UBWZ)</b>	<b>Elevation Range (ftAMSL) 329-278</b>
	<b>Upper Clay Till</b>		
	<b>Glacio-Lacustrine Clay</b>	<b>Aquitard</b>	<b>319-259</b>
	<b>Middle Silt</b>		
	<b>Till Glacio-Lacustrine Clay</b>		
	<b>Alluvial Sand &amp; Gravel</b>	<b>Lower Water Bearing Zone (LBWZ)</b>	<b>314-246</b>
	<b>Basal Red Till</b>		
	<b>Queenston Fm</b>		



North



South



# What are the key topics we are working on?

- Thoroughness of investigations and past cleanups
- Understanding nature and extent of contamination
- Pathways for contaminants
- Adequacy of monitoring programs

## Next Steps

- More compilation of data
- Additional GIS assistance
- Continued review of reports
  
- RAB Conference
  - Saturday October 21
- CLP public meeting next winter

## For more Information

- [www.niagaracounty.com/health](http://www.niagaracounty.com/health)
  - Choose “Hot Topics”,
  - then “Community LOOW Project”
- [james.devald@niagaracounty.com](mailto:james.devald@niagaracounty.com)
- [scott@kinggroundwater.com](mailto:scott@kinggroundwater.com)
- Call Scott King 716-913-8950

Questions ??

# GIS Demonstration