Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS)

Former Lake Ontario Ordnance Works

Restoration Advisory Board Presentation
March 7, 2001

Restoration Advisory Board *MEETING AGENDA*

- Administrative rules
- Action items
- Corps update
  - Lake Ontario Ordnance Works
    - Q&A's
  - Niagara Falls Storage Site
    - Q&A's
- Administrative

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Restoration Advisory Board
ADMINISTRATIVE & GROUND RULES

- Administrative
  - Question cards are available as needed
  - Answers to questions will be mailed
- Ground Rules
  - 15 minutes of questions after each presentation
  - Please identify yourself before asking a question

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Restoration Advisory Board
ACTION ITEMS (LOOW)

- Corps to provide status of buildings at the LOOW Site (Town of Lewiston property)
  - Waste Water Treatment Plant will be addressed in briefing
  - Will remain an action item
- Corps to address issue of ground scar
  - Will be addressed in briefing
- Additional information on Agency for Toxic Substances and Disease Registry (ATSDR)

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Restoration Advisory Board
ACTION ITEMS (NFSS)

- Corps to interview people who worked at the site between 1940 and 1986
  - Additional ads placed in February 2001
  - Interviews ongoing
- Mr. Syms to bring in map showing areas where wastes were buried

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Restoration Advisory Board
GENERAL ACTION ITEMS

- Niagara County Health Department (Mr. Dicky) to identify availability of someone from New York State Department of Health (NYSDOH) to present information on future health studies
  - Will be addressed in briefing
  - Will remain an action item

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Restoration Advisory Board
GENERAL ACTION ITEMS

- Corps to send letter to NYSDOH regarding restraining order
  - Corps provided available documentation to NYSDOH
  - Action required between property owner and NYSDOH

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Former Lake Ontario Ordnance Works
Presentation Overview

- Site Location
- Accomplishments
- Status of on-going projects
- Site Strategy
- Funding
- Future Projects
  - Risk Assessment
- Follow-Up From November RAB meeting

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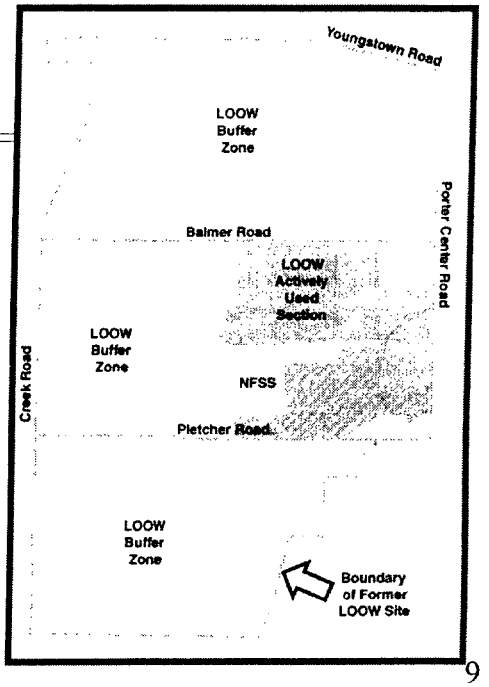
Former Lake Ontario Ordnance Works
Site Location



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Former Lake Ontario Ordnance Works
Accomplishments

- Asbestos removal
- Removal and/or remediation of CWS and TNT pipelines 95% complete
- Phase I Remedial Investigation
- Phase II Remedial Investigation field work
- Evaluation and design at several areas of known contamination (Areas A, B and C)

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Former Lake Ontario Ordnance Works
Status of On-going Projects

- Remedial Investigation
  - Preliminary analytical results reviewed
  - Expect draft report of Phase II results in Spring 2001
- TNT/CWS Pipeline removal
  - Field work is 95% complete
  - Expect to complete last 5% next summer (pending action by CWM)

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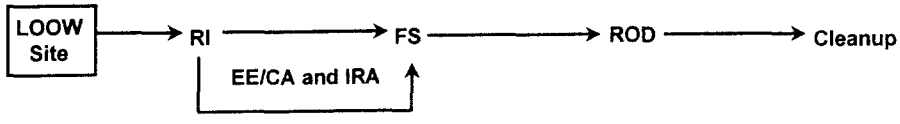
Former Lake Ontario Ordnance Works
Site Strategy

OLD STRATEGY



Treat site as one large unit

Carry whole site through CERCLA process

- All areas are different
- May be impossible to write one ROD for whole site
- Standards may change between EE/CA and ROD (risk of not being able to get total closure)
- Less efficient, more time consuming

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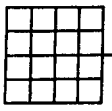
Former Lake Ontario Ordnance Works
Site Strategy

NEW STRATEGY



RI → FS → OUs → ROD → Individual OUs → Cleanup of six areas; Other 11 Areas Closed Out

LOOW SITE broken into approx.
17 Operable Units (OUs)

Break site up into separate Operable Units (Based on location)

Take each individual OU through CERCLA process

- More cost and time efficient
- Can closeout some sites much sooner
- Highest risk areas addressed first
- Once areas are closed out we can focus only on problem areas

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Former Lake Ontario Ordnance Works
Funding

- $4 million worth of projects identified for FY02
  - Identified projects will address highest priorities
  - If another amount is received, the Buffalo District will focus on highest risk areas

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Former Lake Ontario Ordnance Works
Future Projects

- Risk Assessment
- WWTP Demolition (RAB Action Item)
- Investigation of Pipelines

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Former Lake Ontario Ordnance Works
Future Projects - Risk Assessment

- What is a risk assessment?
  - Risk is the chance of harm or loss
  - Risk Assessment answers the following questions :
    - What contaminants exist at the site?
    - How are people and animals exposed to them?
    - How dangerous could contaminants be to human health and the environment if not cleaned up?

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Former Lake Ontario Ordnance Works
Future Projects - Risk Assessment

- What will a risk assessment tell me about the site?
  - What areas present no risk to human health and the environment?
  - What types of exposures would cause risk to human health?
  - What contaminant concentrations would be safe at the site?

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Former Lake Ontario Ordnance Works
Follow-up from November RAB Meeting

Status of buildings at the LOOW site

(Town of Lewiston property)

- WWTP
- Status of other buildings currently being reviewed

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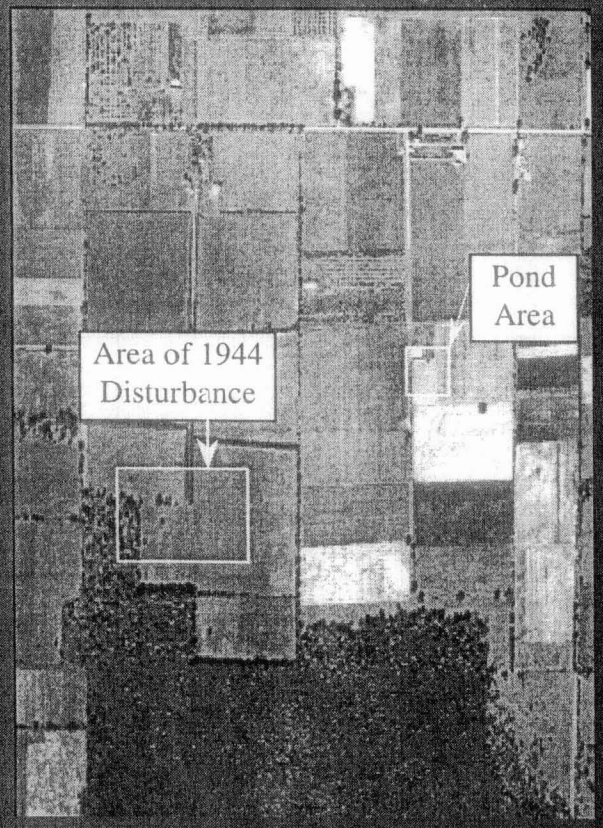
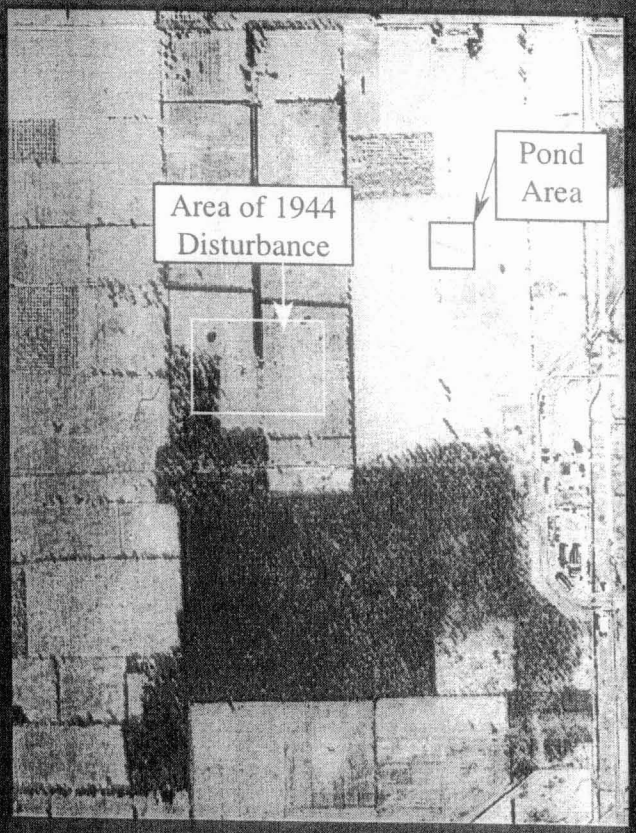
US Army Corps of Engineers

Former Lake Ontario Ordnance Works
Follow-up from November RAB Meeting

Ground Scar



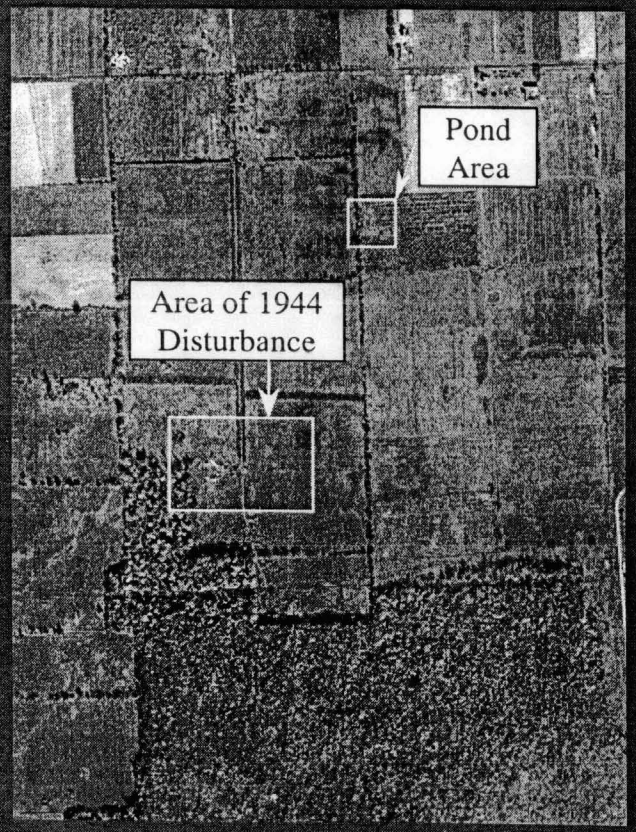
Aerial Photograph from 1938



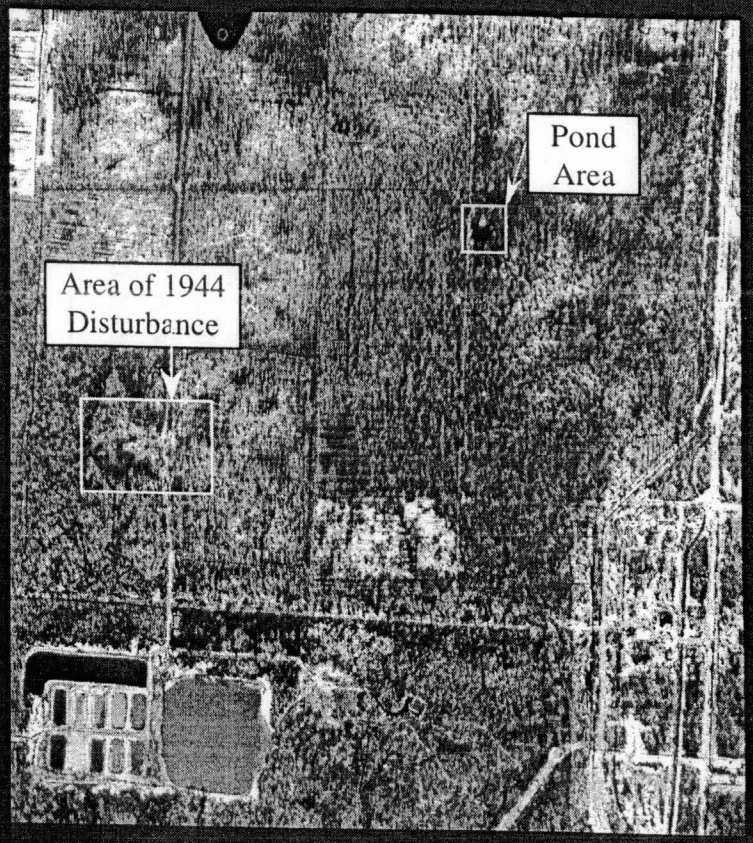
Aerial Photograph from 1944

US Army Corps of Engineers

Former Lake Ontario Ordnance Works
Follow-up from November RAB Meeting



Aerial Photograph from 1951



Aerial Photograph from 1997

Former Lake Ontario Ordnance Works
Follow-up from November RAB Meeting

Petition for Health Assessment

ATSDR (Agency for Toxic Substances and Disease Registry)

- Citizens should write a letter explaining who is making the request and why
  - Contact Info
    Don Joe
    Chief, Petitions Response Section
    ATSDR Mail Stop E32
    1600 Clifton Road
    Atlanta, GA 30333
  - General Info on ATSDR
    - Web Site: www.atsdr.cdc.gov
    - E-mail: ATSDRIC@cdc.gov
    - Toll Free Number: 1-888-422-8737

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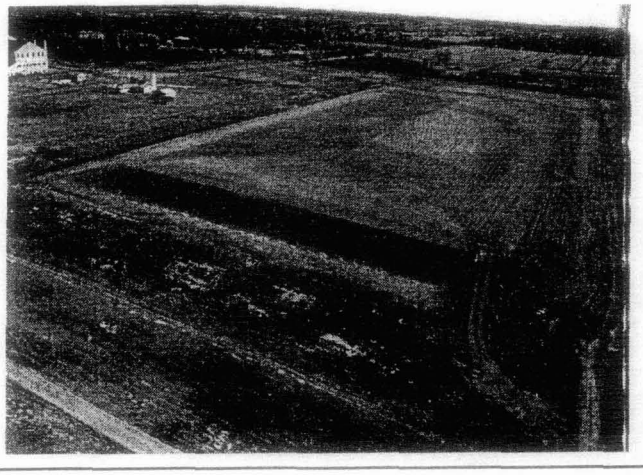
Formerly Utilized Sites Remedial Action Program (FUSRAP)

NIAGARA FALLS STORAGE SITE



Status Update

- Sitework delayed due to weather
- Interviews of former site workers continue
- Gamma walkover to begin when snow and standing water are at a minimum
- Geophysical study to begin when snow and standing water are at a minimum

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Geophysical Study

- Purposes
  - To determine the safe life of the storage cell
  - To find buried tanks, drums, and other waste
  - To see if there are major faults (potential of earthquakes)

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Geophysical Study

- Where applied:
  - Storage cell first
  - Then remainder of property
  - Finally, vicinity property G (Castle Garden Dump and former animal burial area)

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Geophysical Study

- Technologies to be used:
  - Magnetometer
  - Electromagnetic conductivity
  - Magnetotellurics
  - Seismic reflection/refraction
  - Electrical imaging

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Rating of Technologies

- Upcoming slides to show what will be detected
- Not all technologies good for all things, so need to use several technologies:
- Rating system:
  - A: excellent for finding
  - B: good for finding
  - C: fair for finding
  - F: useless for finding

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Magnetometer

- Use: detect iron-containing (ferrous) metals
- Depth: 0-50 feet
- Will find:
  - A: buried equipment, drums, metal waste, rebar, pipes, wells utilities
  - B: debris, building foundations
  - C: sand and gravel channels, debris, building foundations
- Useless for finding:
  - F: rock fractures, sand lenses, soil and bedrock layers, contaminant plumes

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Electromagnetic Conductivity

- Use: detects both iron-containing (ferrous) and non-ferrous metals
- Depth: 0-45 feet
- Will find:
  - A: buried equipment, drums, metal waste, rebar, debris, pipes, wells utilities
  - B: plastic drums, building foundations, bedrock faults & fractures, sand and gravel channels
  - C: water saturation, stratigraphy, fractures on cell

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Magnetotellurics

- Use: find deep bedrock features
- Depth: 50-5000 feet
- Will find:
  - A: no "A" features
  - B: water saturation, bedrock faults, bedrock stratigraphy, map top bedrock
  - C: building foundations
- Useless for finding:
  - F: buried equipment, drums, debris, bedrock microfractures, voids, sand lenses, contaminant plumes, fractures

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Seismic Techniques (Reflective and Refractive)

FUSRAP

- Use: identify depth and thickness of strata and buried channels
- Depth: 0-1000 feet
- Will find:
  - A: map top bedrock, bedrock stratigraphy
  - B: water saturation, voids, lenses, waste piles, bedrock faults and fractures
  - C: building foundations, contaminant plumes
- Useless for finding:
  - F: buried metal such as pipes, drums

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Electrical Imaging

FUSRAP

- Use: detect depth and thickness of strata and buried channels
- Depth: 0-100 feet
- Will find:
  - A: soil stratigraphy, sand and gravel channels
  - B: buried equipment, water saturation, faults and fractures, lenses, contaminant plumes, fractures on WCS
  - C: locate pipes, building foundations, microfractures
- Useless for finding:
  - F: locate buried metal

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Summary: Will Find (If They Exist)

FUSRAP

- Buried drums, pipes, debris, animal carcasses, waste piles
- Areas of water saturation and contaminant plumes
- Building foundations: presence of rebar and any major cracks
- Sand and gravel channels

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FUSRAP