

# FORMER GUTERL SPECIALTY STEEL CORPORATION

## FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

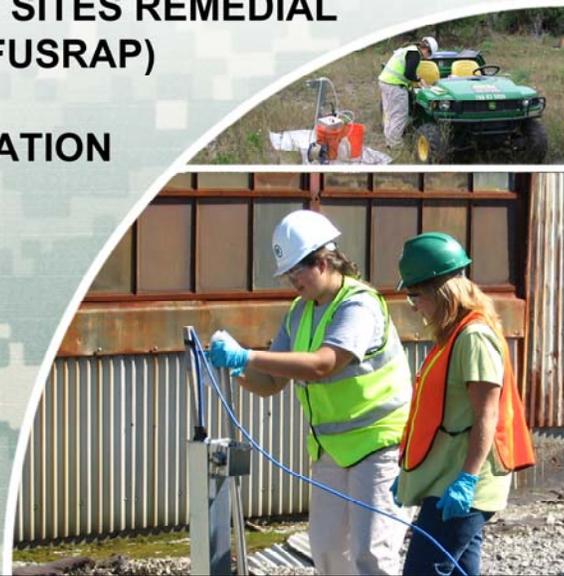
### REMEDIAL INVESTIGATION UPDATE

LOCKPORT, NEW YORK

October 6, 2010



US Army Corps of Engineers  
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- Slides and Notes: Final
- Author: AECOM
- Date Prepared: September 30, 2010

# Agenda

- Remedial Investigation Presentation
- Questions & Answers
- Poster Session



Aerial view of site looking southwest

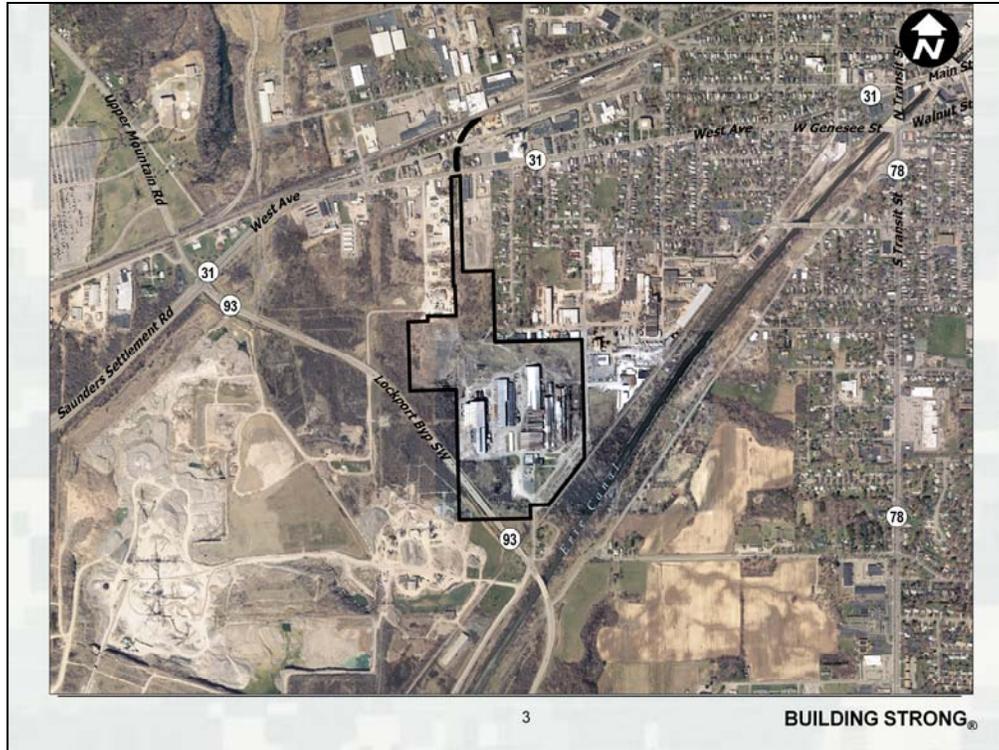


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Speaker: Linda Houston, Corps Buffalo District Project Manager

- Welcome audience to the Guterl Public Information Session
- Intent of meeting is to present the results of the Remedial Investigation for the Former Guterl Specialty Steel Corporation FUSRAP Site.
- Meeting schedule/agenda:
  - Remedial Investigation Summary
  - Audience Questions & Answers
  - Corps Team available at poster stations for follow-on discussions
- Introduction of Corps Guterl Team
  - Jeff Hall, Project Engineer
  - Dr. Karen Keil, Risk Assessor
  - Arleen Kreuzsch, Outreach Specialist
  - Natalie Watson, Outreach Specialist
  - Department of Labor, Energy Employee Occupational Illness Compensation Program in attendance (John Vance, Department of Labor, to introduce Department of Labor attendees)
  - AECOM (Jim Kaczor, PM)
    - Turn presentation over to AECOM
    - Introduce AECOM Team: Jim Kaczor, PM; Susan Walter, Risk Assessor; Kevin Taylor, CHP; Tami Raby, Geologist

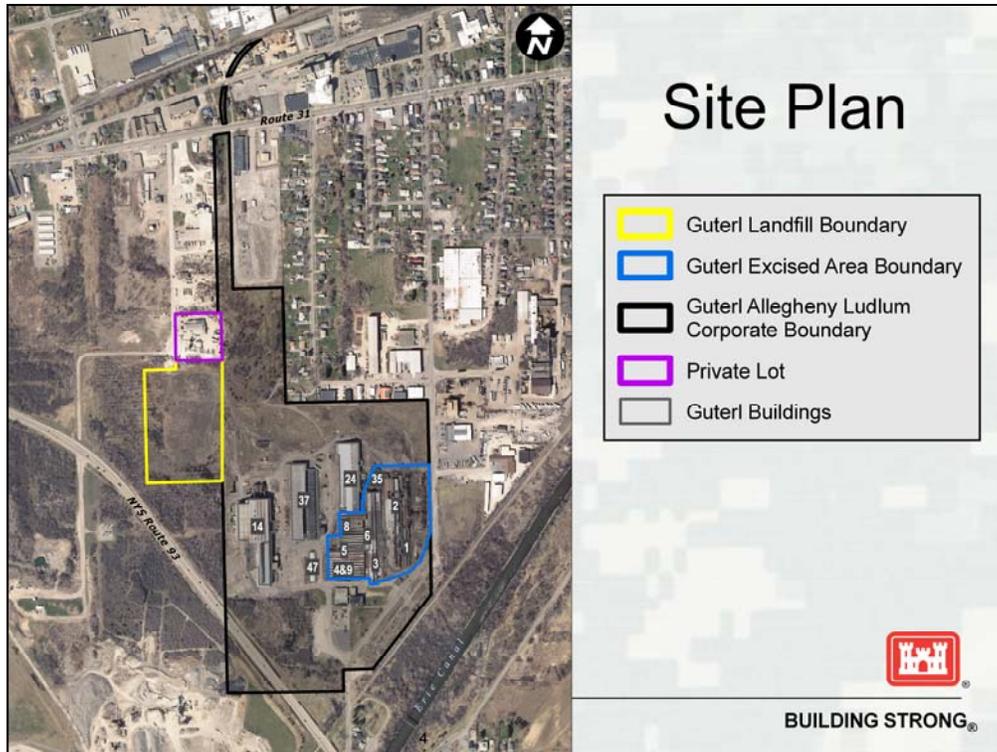


The Former Guterl Specialty Steel Corporation Site (the Guterl Site) is a 70-acre site located in Lockport, Niagara County, New York. The site is located approximately 20 miles northeast of Buffalo, New York.

The site is located near the junction of New York State Routes 31 and 93, just west of Route 78 (Transit Road). The Erie Canal is located 300 feet southeast of the site.

The area surrounding the site consists of private residences, small farms, and light industries.

Between 1948 and 1956, a previous site owner, Simonds Saw and Steel (Simonds), used the site to roll uranium steel billets (sometimes referred to as ingots) into rods. This work was done under federal contract for the New York Operations Office of the Atomic Energy Commission.



The Guterl Site is comprised of a combination of parcels that make up four general areas:

- the 52-acre Allegheny Ludlum Corporation property;
- the 9-acre Excised Area;
- the 9-acre Landfill Area; and
- a privately-owned parcel immediately north of the landfill area (due to its proximity to previously identified areas of concern).

The Allegheny Ludlum Corporation operates an active specialty steel manufacturing facility in the west-central portion of the overall property.

The 9-acre landfill area was used by prior owners (Wallace-Murray Corporation) to dispose of manufacturing waste materials and construction debris. Based on a review of aerial photos, the landfill was not used prior to 1963 or after 1981.

The 9-acre Excised Area contains the 12 buildings once used by Simonds to roll uranium metal for the Atomic Energy Commission. This area is abandoned, and has a chain link security fence surrounding the dormant buildings.

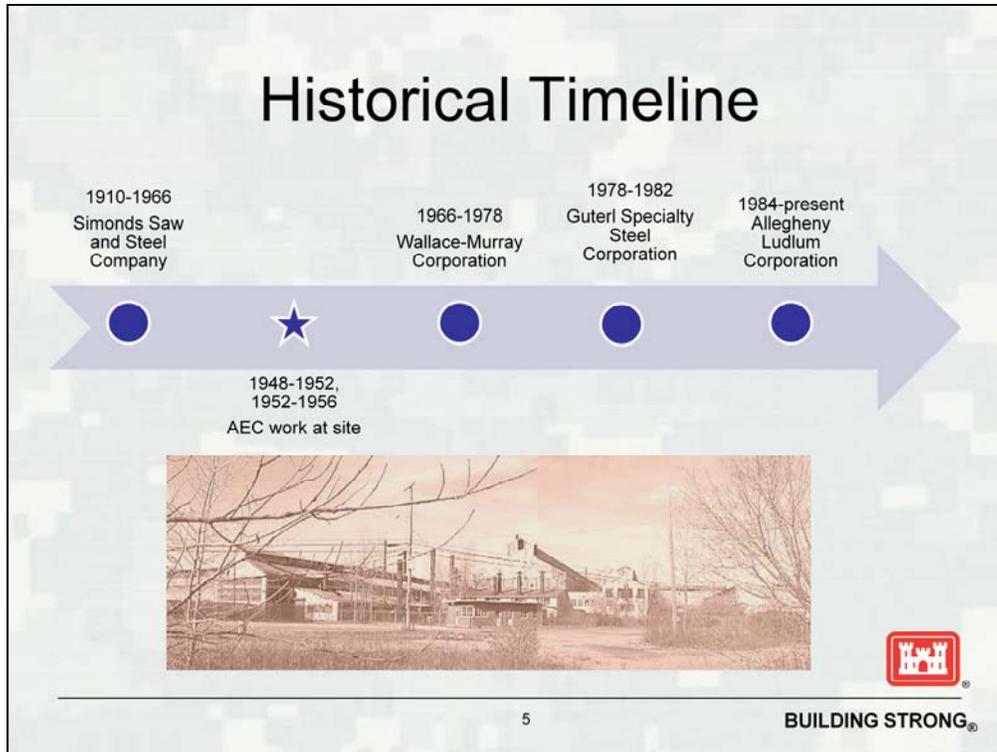
The undeveloped northern portion of the site contains large areas of open fields; some construction debris (e.g., concrete, wood, etc.) is present in limited areas.

The undeveloped southwestern portion of the site contains wood and shrub areas.

Other small open areas occur randomly in the eastern portion of the site, around some abandoned buildings and a rail spur.

The site does not contain any ponds or streams and has no visible natural connection to other surface water bodies, including the Erie Canal.

Although the Erie Canal is physically separated from the property, it was included in the Remedial Investigation because cooling water and/or storm water originating at the site may have been discharged to the Canal.



Use of the site began in 1910, when it was owned and operated by Simonds Saw and Steel Company to manufacture steel and specialty steel alloys. Simonds owned the site through 1966.

During its period of ownership, and specifically during World War I and World War II, normal plant operations were suspended, and the plant conducted operations for the US Government under various contracts:

- Between 1948 and 1952, the New York Operations Office of the Atomic Energy Commission managed a contract with Simonds to roll uranium steel billets into rods.
- Between 1952 and 1956, Simonds continued the rolling work under a subcontract to National Lead Company of Ohio; the National Lead Company of Ohio was under contract to the New York Operations Office of the Atomic Energy Commission.
- Under each contract, the uranium metal billets were received on the site by rail car, were rolled to contract specifications, and then were transported back offsite by rail car.
- Records indicate that Simonds processed between 25 million and 35 million pounds of natural uranium metal and approximately 30,000 to 40,000 pounds of thorium metal between 1948 and 1956.

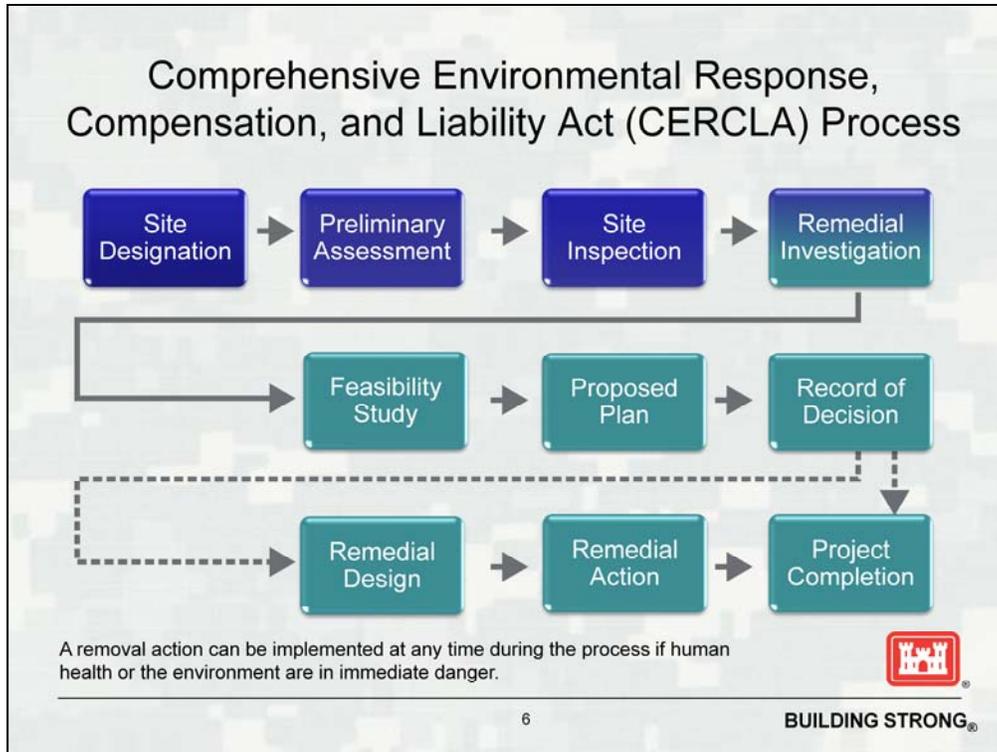
In 1966, the site was sold to Wallace-Murray Corporation, who operated the site until 1978.

In 1978, the site was sold to Guterl Specialty Steel Corporation, who operated the site until 1982.

In 1982, Guterl filed for Chapter 11 bankruptcy protection.

In 1984, Allegheny Ludlum Corporation purchased Guterl Specialty Steel Corporation's assets:

- An approximate nine-acre portion of land, the "Excised Area," was removed from sale.
- A portion of Guterl's assets were also excluded from the sale, including equipment used during the time Simonds conducted work for the Atomic Energy Commission.



Environmental studies are being completed at the site under the Formerly Utilized Sites Remedial Action Program (FUSRAP) by the US Army Corps of Engineers (Corps).

FUSRAP was initiated in 1974 to identify, investigate and clean up or control sites throughout the US that became contaminated as a result of the Nation's early atomic energy program.

Responsibility for FUSRAP was transferred from the US Department of Energy to the Corps in 1997.

Remedial actions at FUSRAP sites are implemented according to the Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA) process.

The CERCLA process consists of site assessment, site investigation, remedial alternative development and evaluation, proposed plan, record of decision, remedial design and implementation, and monitoring (as needed).

Removal actions may be conducted at any time during the process if an imminent threat to human health or the environment is identified.

Initially, the Department of Energy completed several environmental studies of the Guterl Site. These studies prompted the Department of Energy to assign the site to FUSRAP. And, thus, in 2000, the site was assigned to the Corps for evaluation under FUSRAP.

The Corps completed a Preliminary Assessment and Site Inspection in 2001. The purpose of these studies was to identify if radioactive material releases may have occurred or if the site could be eliminated from further action. The studies concluded that there was no immediate threat to human health or the environment. However, the studies confirmed the presence of constituents associated with the former uranium-rolling operations (i.e., making the site eligible for FUSRAP, and thus referred to as "FUSRAP-related materials"), and concluded that further investigation was warranted.

We have now completed the Remedial Investigation phase of the CERCLA process.

# Investigation Timeline



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The goal of the Remedial Investigation is to assess the nature (type) and extent (how wide and how deep) of contamination at the site, evaluate how the contamination may look in the future and how it may be transported from the site, and assess potential risks to human health and the environment posed by the site.

The Remedial Investigation was completed in several phases:

- In 2005, a Data Gap Assessment was completed, which first helped identify the constituents that would be studied further under FUSRAP (in other words, the chemicals that were related to the activities that occurred at the site, or “FUSRAP-related constituents of concern”).
  - The Data Gap Assessment focused the scope of the Remedial Investigation to the following FUSRAP-related constituents of concern
    - Uranium (238, 235, 234)
    - Thorium (232, 230, 228)
    - Radium (228, 226)
  - The Data Gap Assessment also helped us focus on the areas of the site warranting further study during the Remedial Investigation.
- In 2006, several work plans were prepared, detailing how the field activities for the Remedial Investigation would occur.
- The field activities for the Remedial Investigation occurred during mid- to late-2007.
- During 2008 and 2009, the Remedial Investigation field data were compiled and evaluated, and the draft and interim final Remedial Investigation reports were prepared.
- The final report on the Remedial Investigation was issued in August 2010.

# Remedial Investigation

- Site-wide Gamma Walkover Survey
- Building Characterization
- Environmental Sampling
  - ▶ Soil
  - ▶ Groundwater
  - ▶ Surface Water and Sediment
- Utilities Sampling
  - ▶ Water and Sludge



This portion of the presentation will provide a summary of the Remedial Investigation completed at the Guterl Site.

Due to the limited time available this evening, and the large amount of information generated during the Remedial Investigation, the following summary will focus on the primary types of data collection activities, which are shown on this slide, and the associated results.

A copy of the Remedial Investigation Report released in August 2010 is available at the Lockport Public Library and at the Corps Buffalo Office by appointment.

An electronic copy of the Remedial Investigation Report is also available on the Corps' FUSRAP website (address included at the end of the presentation).

## Investigation Results Summary

- No imminent threat to human health or the environment
- Constituents of concern are uranium and thorium
- Most heavily impacted buildings are Building 6 and Building 8
- Uranium present in shallow groundwater
- Confirmed no migration of FUSRAP-related materials in soil offsite
- Confirmed no FUSRAP-related impacts present in the Erie Canal



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Briefly, let us review the overall results of the Remedial Investigation.

Most importantly, no imminent threat to human health or the environment was identified.

The Remedial Investigation confirmed the results of the previous studies completed by the Department of Energy. Specifically, the Remedial Investigation showed us that the constituents of concern at the Site are uranium and thorium.

The Remedial Investigation showed that the most heavily impacted buildings are Building 6 and Building 8:

This is reasonable, because these were primary buildings used for receiving, heating, rolling, packaging, and shipping uranium metal.

The Remedial Investigation showed that there is some degree of FUSRAP-related materials detected in onsite soil and in utility corridors (e.g., water and sludge within drains).

Previously, groundwater at the site had not been sampled for FUSRAP-related materials. The Remedial Investigation found uranium present in on-site groundwater samples. [The affected groundwater is not located in a zone used for drinking water. New York State Health Department was contacted to confirm that there were no known drinking water wells in this zone.]

The Remedial Investigation confirmed that there has not been migration of FUSRAP-related materials to offsite soils.

Finally, the Remedial Investigation confirmed there are no FUSRAP-related impacts to Erie Canal surface water or sediment.

# Remedial Investigation Activities

## Gamma Walkover Survey



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The initial field activity for the Remedial Investigation was the Gamma Walkover Survey.

The Gamma Walkover Survey consisted of moving sensitive detecting equipment mounted on a motorized cart (refer to photograph on the left) or stroller (refer to photograph on the right) slowly across the soil surface and along a surveyed grid. The sensing equipment included a radiation detector (specifically gamma) and a global positioning system (GPS) detector. The GPS unit recorded a specific location along the grid while the gamma-detector recorded a gamma reading at the same moment, thus developing a data point for each recorded location.

The survey detects gamma radiation emanating from the top 6 inches of soil.

The survey confirmed the results of previous investigations, indicating that the focus of the RI field activities should be nearest to the buildings used during the uranium rolling work completed for the Atomic Energy Commission.

The Gamma Walkover Survey also provided data that was used to help focus the collection of soil samples. Where measurements using the survey equipment indicated elevated readings, more soil samples were collected than in other areas where measurements did not reveal elevated readings.

# Remedial Investigation Activities



**Building Characterization:  
Scanning Surveys, Swipe Testing,  
and Building Materials Sampling**



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Another key activity of the Remedial Investigation was characterization of the buildings.

The primary objectives for this work were to confirm the nature of FUSRAP-related materials on building surfaces, and to provide data to sufficiently plan future actions (for example, if the buildings are remediated or demolished). The surveys, tests and measurements taken were focused on detecting radiation levels in the various building media.

Remedial Investigation activities included:

## •Scanning Surveys & Measurements

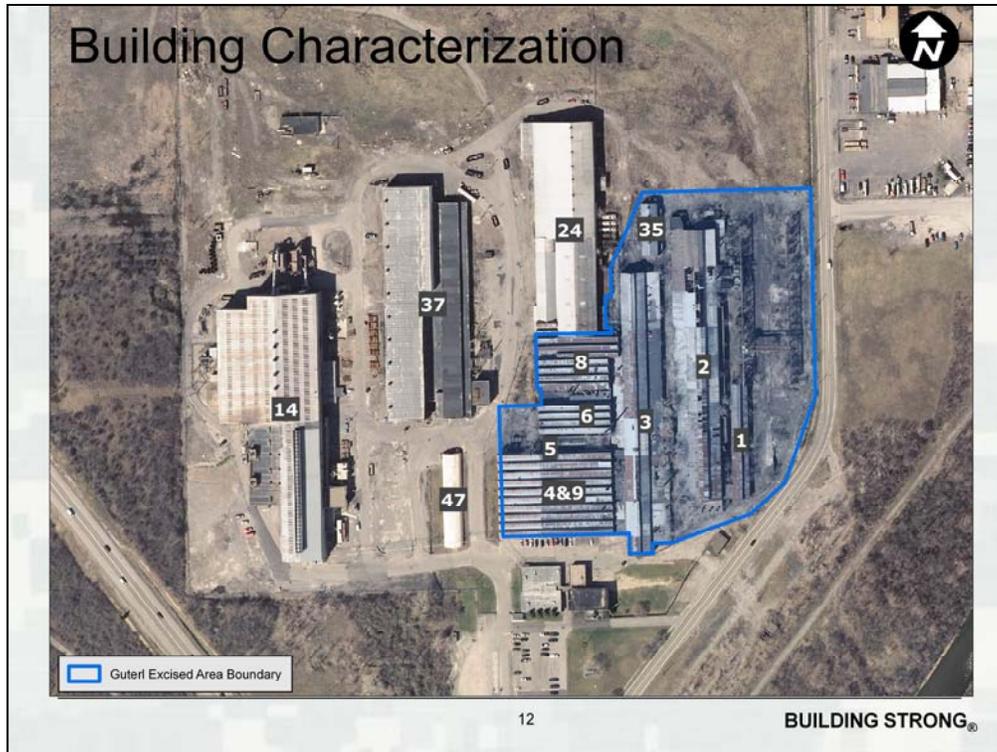
- This is called a “Static Survey” because a reading is taken at a “static” or set location on a part of the buildings (see two photos on right)
- Surfaces scanned included interior and exterior surfaces (including floors, walls, equipment, beams, columns, trusses, ceiling, and roof materials)
- The survey used a hand-held radiation sensitive detector, which was operated by a trained radiation control technician (see photo top center)
- Scanning measurements (“readings”) were collected on a pre-determined grid pattern (see photo on the left); the spacing of the grid pattern was dependent upon knowledge of historical site use and previous studies –
  - In other words, data points were collected more frequently in areas of high concern, and less frequently in areas of lesser concern
- The scan data were evaluated each day for patterns of elevated activity
  - Where elevated activity was noted, the area was re-visited to better define the boundary of the elevated activity

## •Swipe tests

- Swipe tests consist of taking a specially designed cloth and wiping the surface being evaluated
- These tests were completed on the same surfaces as the scan survey, with the exception of the floor
- The cloth was then submitted to a radiological laboratory for analysis
  - The presence or absence of radiological activity was then evaluated to define areas of concern
  - In similar fashion as the scan survey, the swipe samples were collected on a greater or lesser frequency depending on the area of concern.

## •Building Materials Testing (sampling)

- The purpose of collecting building materials for analysis was to determine if FUSRAP-related materials were present on, or had penetrated into, building materials.
- Samples were collected from areas where we anticipated the presence of FUSRAP-related materials and from areas where we did not expect FUSRAP-related materials.
- Samples were collected of multiple material types, including wood, drywall, brick, and concrete.
- Samples were submitted to the radiological laboratory for analysis.



During the RI, some evidence of FUSRAP-related materials was found in each Excised Area building:

- Buildings 6 and 8 were the most heavily impacted buildings
  - This is consistent with the material handling history. Uranium metal was received via rail car at a loading dock located at the northwest corner of Building 8. The metal was then uncrated and placed at the east side of Building 8 (where it meets with Building 3). The metal was then processed through machinery located in Buildings 6 and 8 (and occasionally Buildings 3, 4 and 9). The metal was then re-crated and loaded back out to rail cars via the loading dock in Building 8.
- Buildings 3, 4 and 9 were less impacted than Buildings 6 and 8
  - This is also consistent with the material handling history. That is, metal was handled less frequently in these buildings. Note also that the configuration of the buildings is such that there are no interior walls between Buildings 6 or 8 and Building 3, or between Building 3 and Buildings 4 and 9.
- Buildings 1 and 2 were less impacted than Buildings 3, 4 and 9
- Buildings 5 and 35 were not impacted

As described for the last slide, static scan measurements are measurements taken with the instrument in the “static” or “fixed” (motionless) position.

Static scan measurements confirmed earlier conclusions that contamination of interior building surfaces is essentially fixed; that is, not susceptible to migration in the present setting.

Radioactive contamination on building exterior surfaces and roofs was found to be negligible (meaning below regulatory guidance surface contamination limits, as well).

# Remedial Investigation Activities

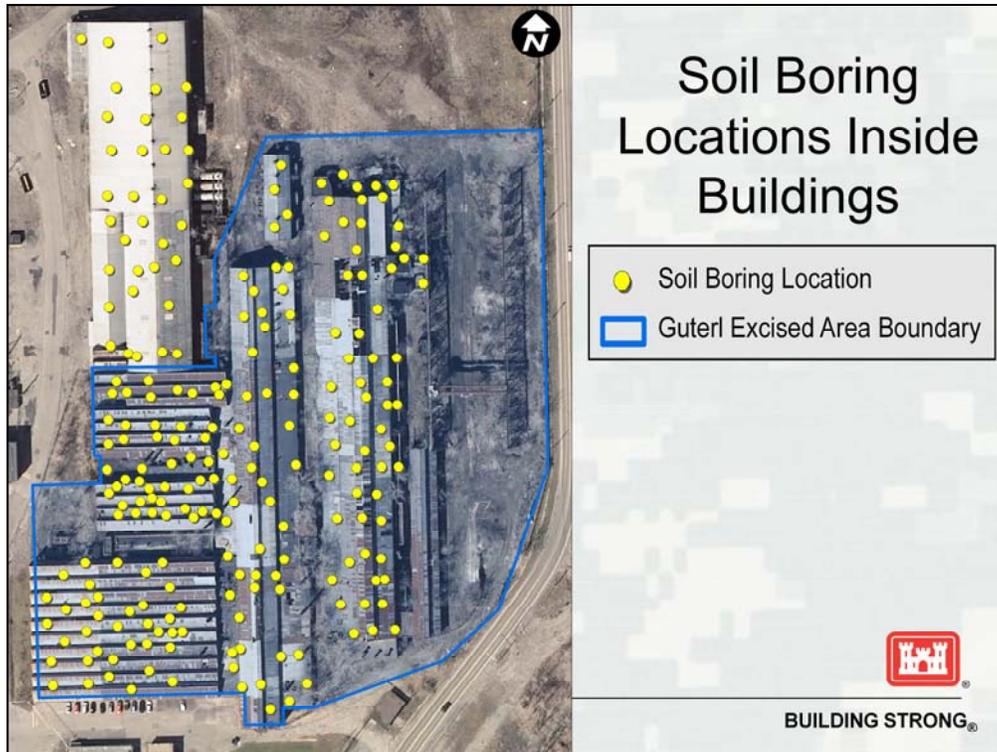
## Soil Sampling



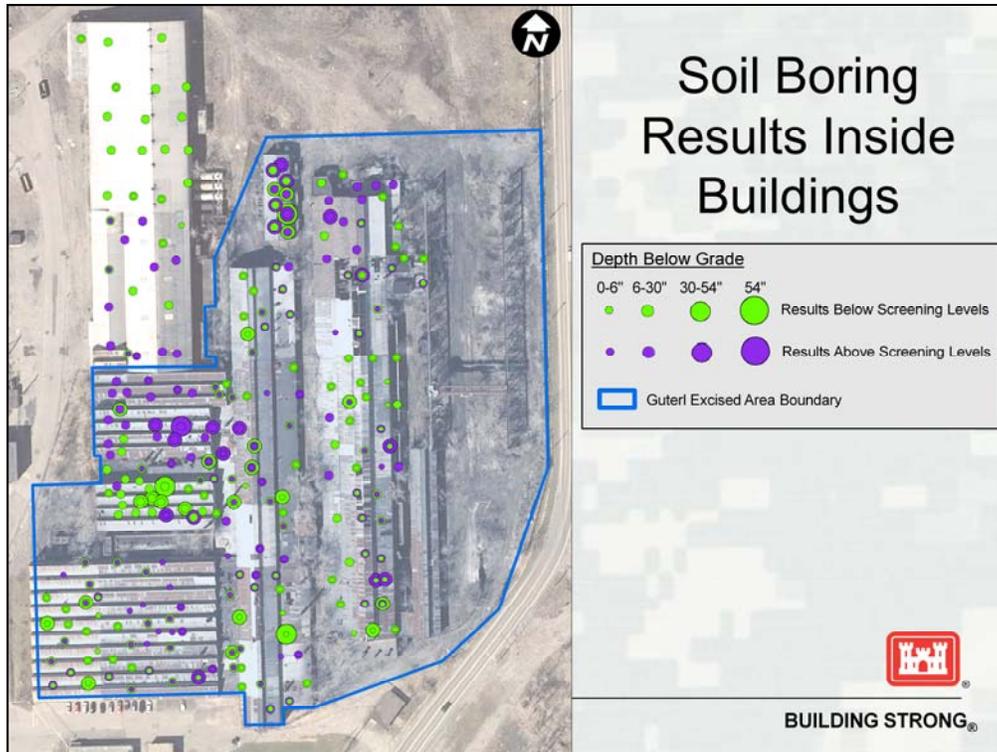
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- Soil samples were collected during the Remedial Investigation from the surface and subsurface at the site.
  - 497 surface soil samples [surface soil samples are defined as ground surface to six inches below ground surface]
  - 1,160 subsurface soil samples [subsurface soil samples are defined as any sample greater than six inches below ground surface]
- Samples were collected using a drill rig known as a “direct push sampler” (photograph at left). Using this rig, a soil coring device is “pushed” into the ground using hydraulic tools and equipment. Examples of the soil cores collected are shown in the picture (top right). A field technician is reviewing the soil core in the photograph at the bottom right.
- The soil samples were collected over the full soil column at the site – meaning from the ground surface to the top of bedrock (depth ranging from approximately 3 feet to about 12 feet below the ground surface).
- Sometimes, we could not push the sampler any deeper in the ground (this is called “refusal”), mainly because the soil material was so dense that the sampler could not be advanced any further.
  - During the investigation, records were maintained for those locations where refusal occurred, and a second soil boring was advanced at that location using a larger, more powerful drill rig (called a “hollow stem auger” drill rig). The larger rig was able to advance the soil borings to their full depth.
- The soil samples were carefully packaged for analysis. Multiple samples from each boring location were analyzed.
- Soil data were evaluated and figures were generated depicting the nature (type) and extent (breadth and depth) of detections.

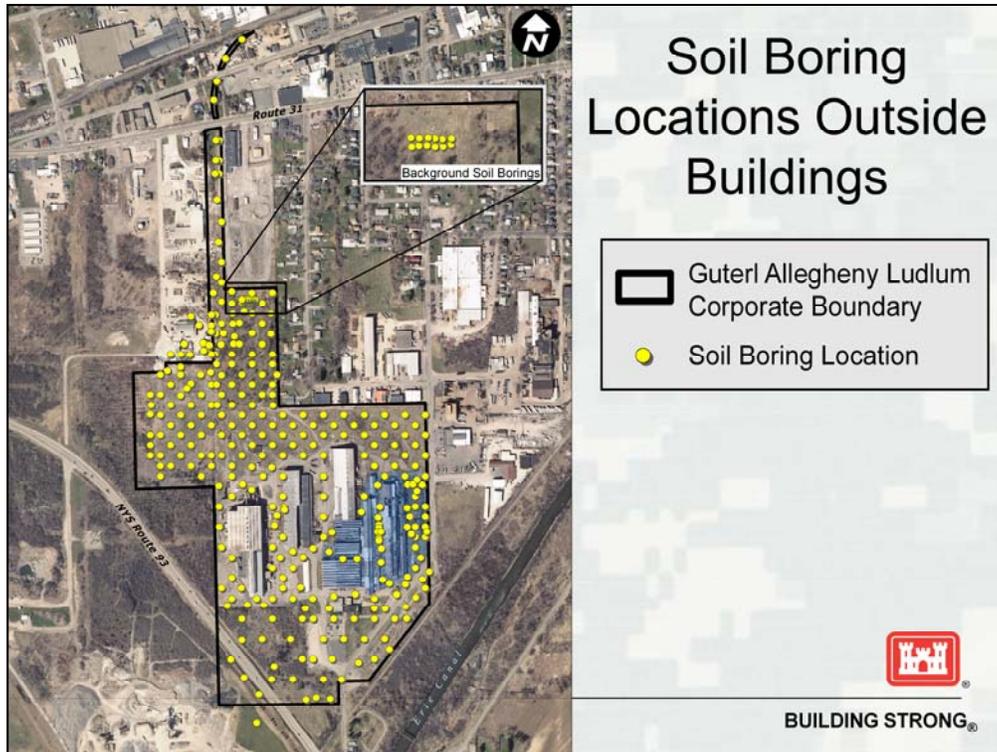


- This slide shows the location of soil borings performed inside the former production areas.
- The building floors consisted of dirt, brick, or concrete. Where brick or concrete occurred, these materials were removed (or cored) so that the soil boring could be performed below.
- In general, there was approximately three to less than five feet of soil on top of native bedrock below the building floors.

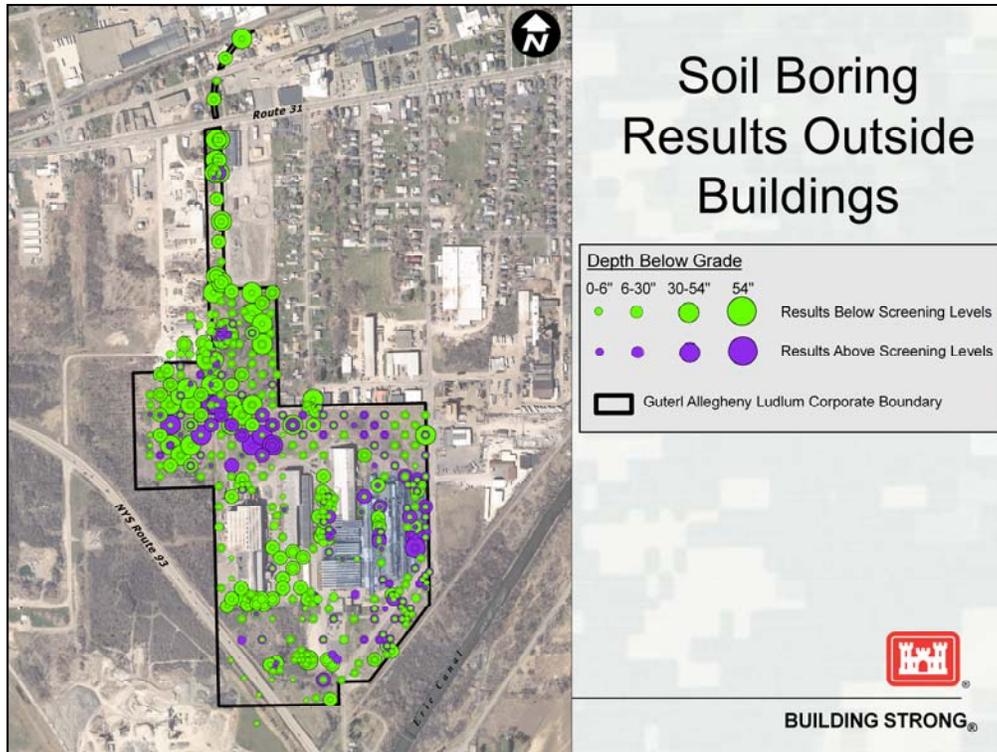


Soil boring data were compared to federal guidelines (referred to as screening levels) as a preliminary step to identify areas where FUSRAP-related constituents may be present.

- Constituent concentrations were greatest in and around the then-active material handling areas.
  - Primarily Buildings 6 and 8; less so Buildings 3, 4, and 9
- Note that Building 24 was not present during FUSRAP-related activity at the site.



- This slide shows the location of soil borings performed outside the former production areas.
- In general, the soils at the Guterl Site consist of man-made fill overlying native soils. As mentioned earlier, the thicknesses of soil (from the surface to the top of bedrock) ranged from less than 3 feet (toward the south) to approximately 12 feet (toward the north).
- A group of borings was performed in an undeveloped portion of the site to establish background soil characteristics. Establishing background characteristics helps us determine what concentrations are within normal limits for the area, and what concentrations are elevated and of potential concern.



- Soil boring data were compared to federal guidelines (referred to as screening levels) as a preliminary step to identify areas where FUSRAP-related constituents may be present.
- Concentrations of FUSRAP-related constituents were at or near background levels in the active Allegheny Ludlum Corporation production areas and in historically undisturbed areas of the Guterl Site.
- Constituent concentrations were greatest in and around the then-active FUSRAP-related material handling areas
  - Exterior areas: immediate vicinity of Buildings 6 and 8; less so around Buildings 3 and 2; and in areas north of current Building 24 extending across to landfill area.
  - Exterior Allegheny Ludlum active production areas: No impacts.
- Horizontal and vertical extent of FUSRAP-related materials in surface and subsurface soil was successfully defined, including determination that offsite migration has not occurred.

# Remedial Investigation Activities

## Monitoring Well Installation



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### Groundwater Monitoring Wells and Sampling

- Groundwater monitoring wells were used to collect groundwater samples to evaluate groundwater quality at the site during the Remedial Investigation.
  - 20 monitoring wells existed at the site prior to this RI; these wells were installed by the New York State Department of Environmental Conservation between 1997 and 2006
  - 10 new monitoring wells were installed during the Remedial Investigation
  - All wells were used for the Remedial Investigation
- The monitoring wells are installed either in the soil above bedrock (called overburden wells) or in the bedrock (called bedrock wells)
  - The wells were installed using a drill rig capable of drilling through overburden materials, and then to core into the bedrock. The photo on the left shows the drill rig used at the site. The photo on the right shows the bedrock core obtained.
  - Sometimes, the overburden wells did not have any groundwater present (for example, during dry times of the year).
  - Bedrock wells were installed to a depth of 15 feet below the top of rock. These wells were constructed to isolate bedrock groundwater from potential influence from water that might occur in the overburden.
- A pair of monitoring wells (one in the overburden and one in the bedrock) were installed upgradient of the site to determine the nature of groundwater that may be entering the site (also referred to as a background location).

# Remedial Investigation Activities

## Groundwater Sampling



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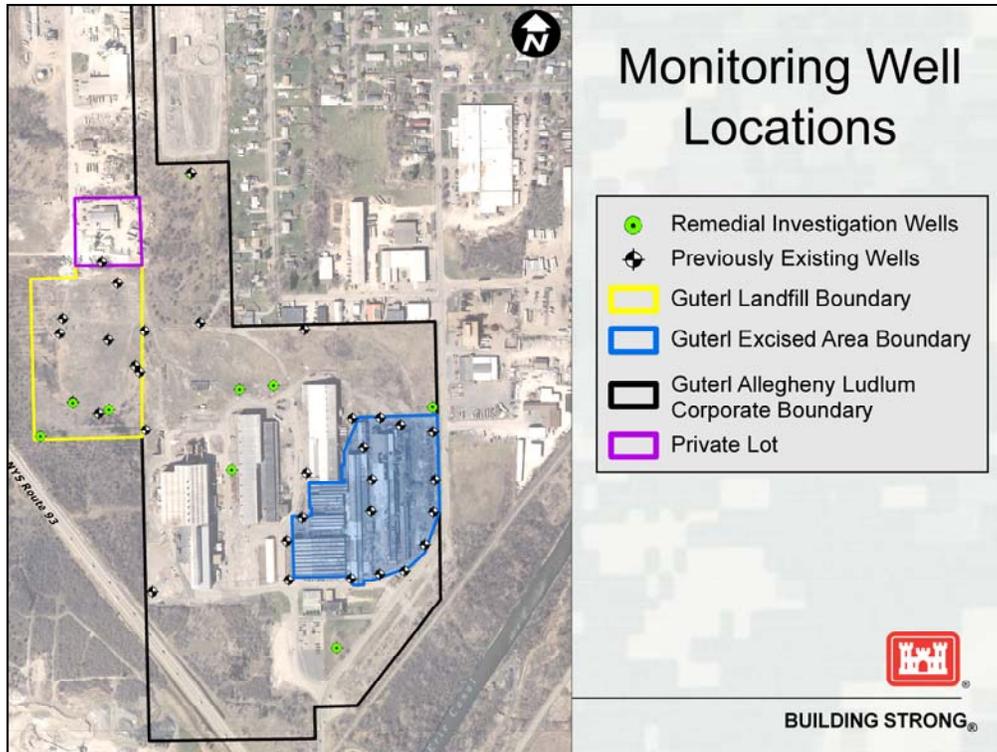
- Two rounds of groundwater samples were collected – one in the summer and one in the late fall/early winter.
  - The purpose for collecting the samples during two separate seasons was to determine if seasonal variations had any effect on groundwater quality and occurrence.
  - The pictures show the process of collecting a groundwater sample. The photograph at the left shows the field technicians determining the depth to water prior to sampling. The photo at the top right shows the typical equipment used for groundwater sampling.
  - Overburden groundwater was not observed at the site during the RI (i.e., these wells were dry); as a result, RI groundwater samples are comprised only of upper bedrock groundwater samples.
  - Groundwater samples were analyzed for FUSRAP-related constituents.
  - Additional groundwater samples were collected by Corps personnel in 2008, 2009, and 2010 (September). Data from the 2008 and 2009 sampling events have verified the findings noted in the Remedial Investigation; the Corps is awaiting results for the 2010 (September) samples.

### Aquifer Testing

- Aquifer testing means conducting tests designed to assess the physical characteristics of the overburden and bedrock water-bearing zones.
- Tests were conducted to assess the characteristics that would affect the rate of groundwater movement in the overburden and bedrock.
  - These data were used in the modeling and risk assessment phases of the Remedial Investigation.
  - The photo at the bottom right shows the set up for aquifer testing.

### Hydraulic Monitoring

- Hydraulic monitoring means collecting a water level elevation at each monitoring well for the purpose of developing an evaluation of the depth to groundwater and direction of flow.
  - These data were used in the modeling and risk assessment phases of the Remedial Investigation.

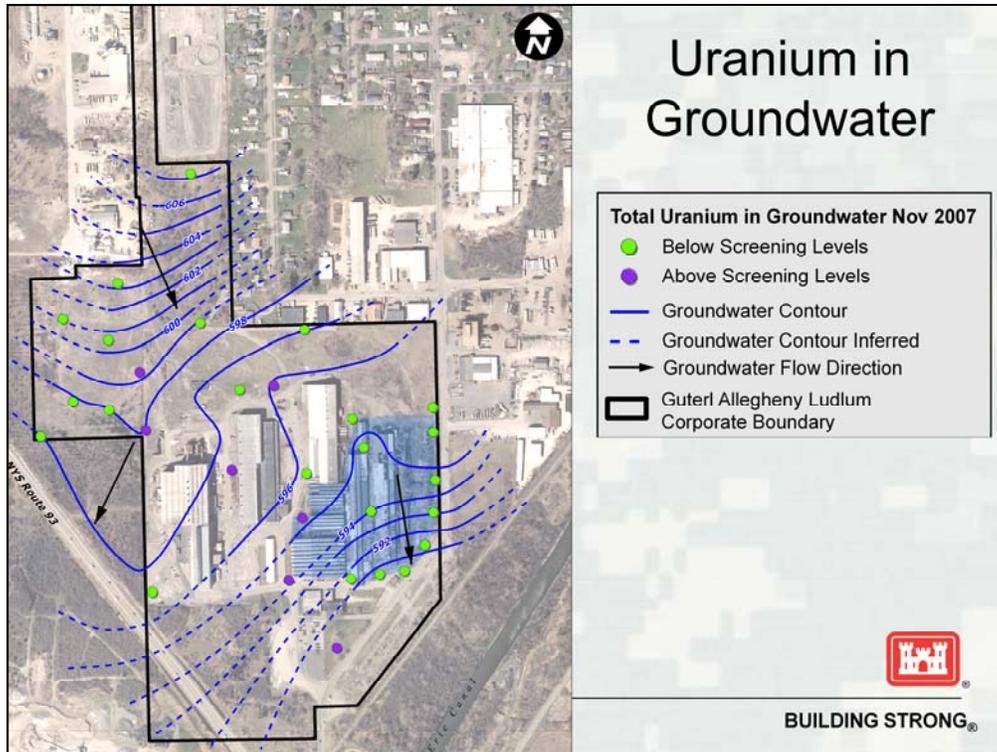


This slide shows the groundwater monitoring locations used during the Remedial Investigation.

As mentioned, there were 20 previously existing groundwater monitoring wells installed prior to this Remedial Investigation. An additional 10 wells were installed during the Remedial Investigation to improve the overall distribution of monitoring well points over the site.

All new and old monitoring wells were used to assess water quality, depth to groundwater, and groundwater flow direction.

As noted for the prior slide, the Corps continues to sample these wells annually for FUSRAP-related constituents.



The groundwater sampling and testing completed for the Remedial Investigation provided the following information:

- Groundwater flow in the bedrock is northwest to southeast
  - Groundwater flows in the bedrock through features such as weathered fractures and bedding planes.
  - The upper 10 feet of bedrock contains a significant amount of secondary porosity features, almost mimicking a gravel media.
  - These secondary porosity features decrease with depth – this is why wells were generally placed 15 feet into the top of bedrock.
- Uranium is the only FUSRAP-related constituent in groundwater that exceeds USEPA maximum contamination limits for drinking water (although the site groundwater is not used as a drinking water source)
  - Uranium was detected in 7 of 30 monitoring wells (shown in purple).
  - The presence of uranium in groundwater is likely the result of leaching of uranium from soil to groundwater.
- Two data gaps were identified:
  - The horizontal extent of uranium in bedrock groundwater was not defined at the southwestern/southeastern border of site.
    - Note, however, that water sampled from the Erie Canal did not show evidence of impact.
  - The vertical extent of uranium in bedrock groundwater was not defined – in other words, we need to verify if uranium continues to exceed screening levels in groundwater deeper than 15 feet into bedrock.
  - These data gaps will be addressed in the Feasibility Study process.

## Groundwater Modeling

- Computer models were used to evaluate potential transport of uranium from soil to, and in, groundwater
- Transport by groundwater is a potential migration pathway



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Modeling was used to determine if uranium leaches from wet or dry soil into groundwater at concentrations that would exceed the screening level. If soil is wet this means that groundwater stays in contact (during some period of the year) with the soil.

The modeling indicated that where the groundwater contacts the soil (mostly during the wet season, where the groundwater levels in the area are generally higher than in other seasons of the year), this results in the transfer of uranium from soil into groundwater (i.e., leaching).

Not all of the uranium is transferred to groundwater, some remains bound to the soil.

# Remedial Investigation Activities

## Surface Water and Sediment Sampling



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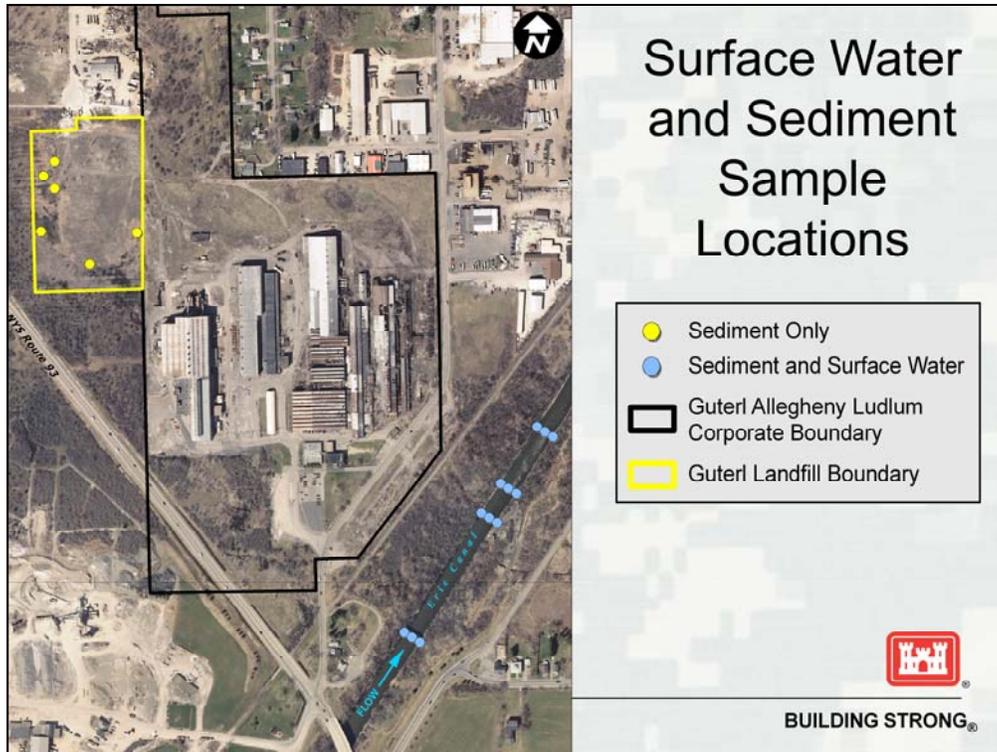
Surface water and sediment samples were also collected during the Remedial Investigation.

Surface water and sediment samples were designed to be collected from areas of naturally occurring surface water (Erie Canal) or seasonally wet areas (landfill perimeter).

The photo on the left shows the field technicians heading out to collect samples from the Erie Canal.

The photo on the right shows the typical nature of the sediment from the Erie Canal, and the sample containers used to send the sample to the laboratory.

The next slide shows the sample locations.



#### Erie Canal

- Surface water and sediment samples were collected along four cross-sections of the Erie Canal near the site.
  - One cross-section was located several hundred feet upstream of the former industrial water intake and oil/water separator outfall for the Site.
  - One cross-section was located approximately 50 feet upstream of these features, while another cross-section was located approximately 50 feet downstream of these features.
  - One cross-section was located approximately 200 feet downstream of these features.
- Three surface water samples (each collected from the middle-depth of the water column) and three sediment samples were collected along each cross-section – resulting in a total of 12 samples.

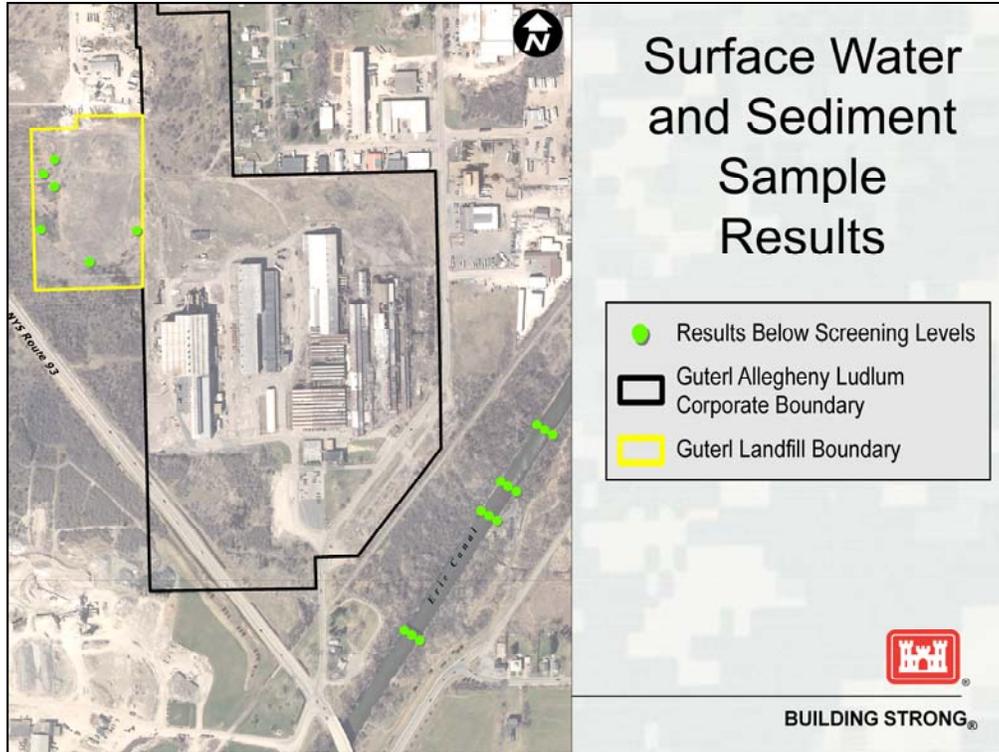
#### Land-based Areas:

Year-round water not observed in depression areas in undeveloped portions of site.

Although some areas contained some standing water, these areas were not sampled because they were considered more poorly drained areas rather than an area that was persistently ponded (i.e., they are areas of puddling).

#### Landfill Area:

- Based on prior reports, seasonal surface water was anticipated west and south of the landfill area.
- However, no surface water was present, so no surface water samples were collected.
- Six soil samples were collected and evaluated as sediment samples due to evidence of seasonally saturated soils.



- FUSRAP-related constituents were not detected in any sediment samples collected in the landfill area.
- FUSRAP-related constituents were not detected in any surface water or sediment samples collected from the Erie Canal.

# Investigation Techniques

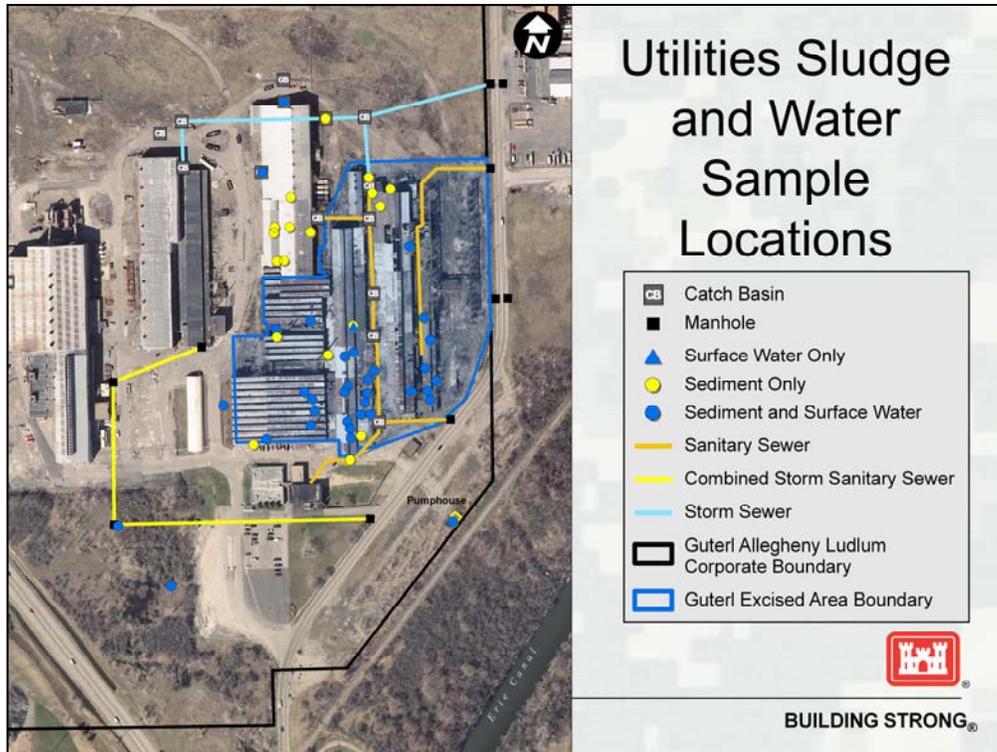
## Utilities Sludge and Water Sampling



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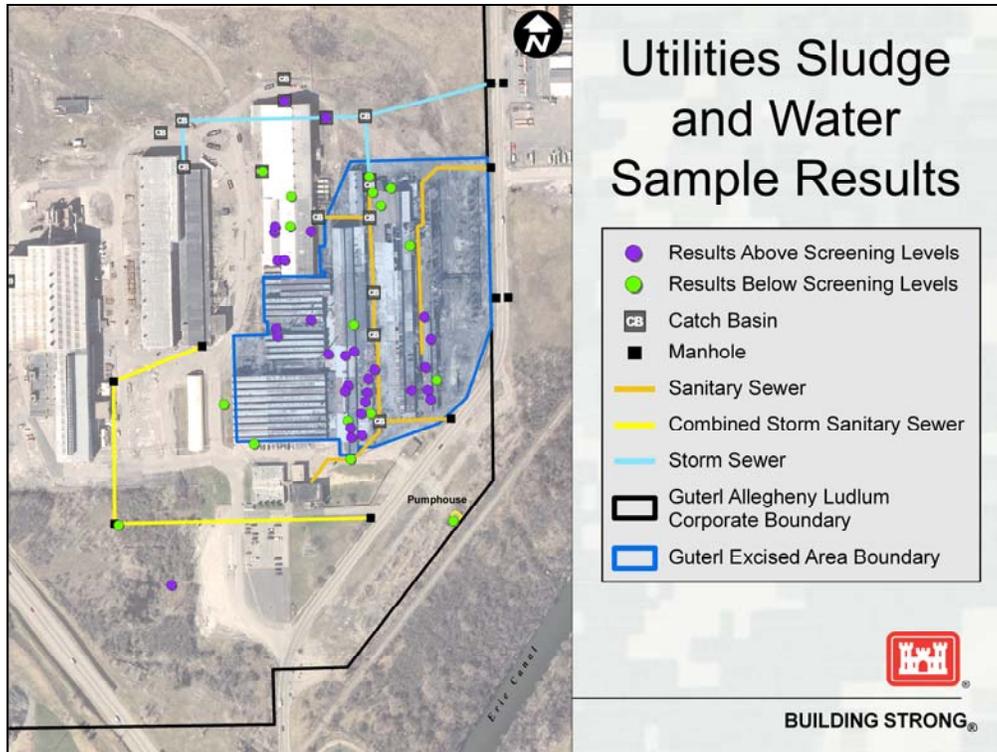
Water and sludge samples (referred to as non-native surface water and non-native sediment samples in the RI report) were collected from interior site utilities such as floor drains or pits (pictures on top left and bottom left, respectively), and exterior areas such as drainage ditches and catch basins (pictures at top right and bottom right, respectively).



The purpose for collecting these samples was to determine if FUSRAP-related constituents had migrated to the features, and if the features might contribute to offsite transport of constituents.

Sample locations were identified by reviewing site operational history, reviewing available engineering and construction drawings, and interviewing current site personnel.

A total of 47 water and 71 sludge samples were collected from various utility features at the site.

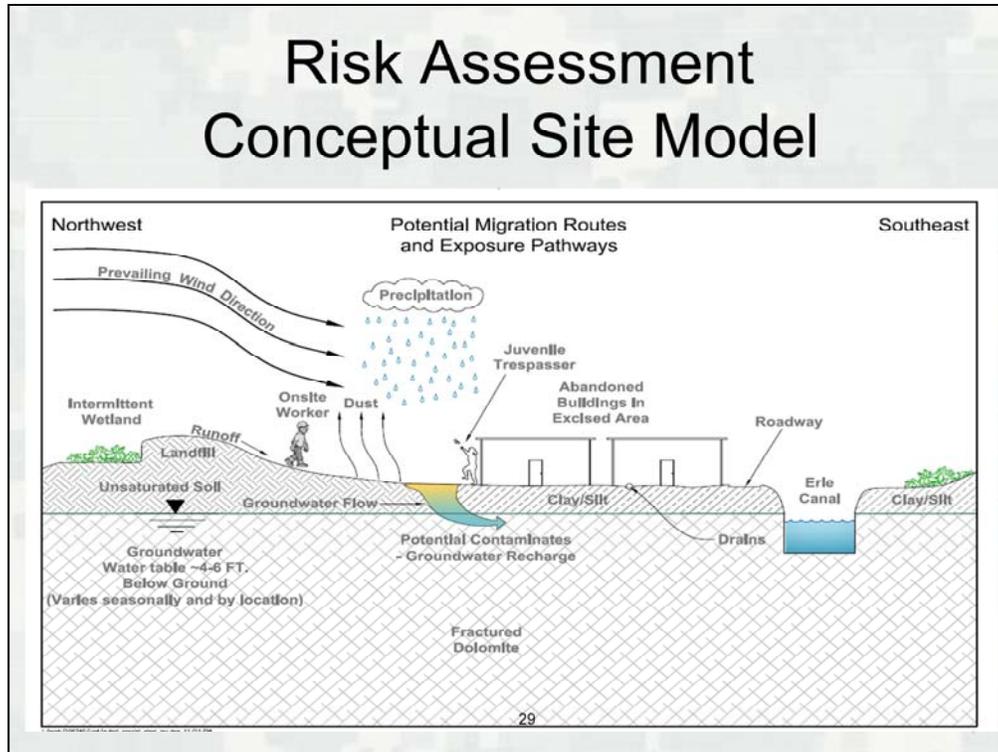


•Results

- FUSRAP-related constituents were detected within the Excised Area utility trenches, drains, pits, catch basins, and in the basement of Building 1.
- The location of the detections is consistent with proximity to FUSRAP-related material handling and surface soil contamination areas.
- No offsite migration routes identified; i.e., detections contained within the site, which is important considering site proximity to the Erie Canal.

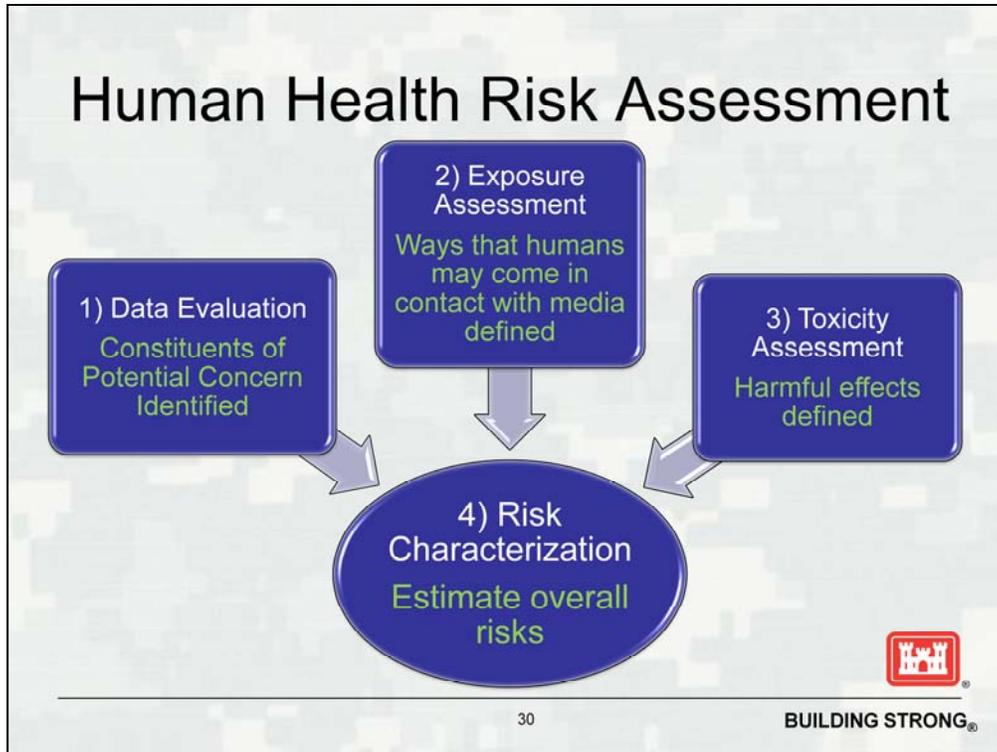
This concludes the discussion on field investigation and data gathering activities. The next section of this presentation will discuss the RI risk assessment process.

# Risk Assessment Conceptual Site Model



The Remedial Investigation also looked at potential risks to human health and the environment through several exposure routes. Previous studies focused the scope of the risk assessment to the following routes:

- Constituents in soil, to which humans (workers, trespassers) or animals may be exposed (direct contact, dust)
- Constituents in soil, which may leach into groundwater
- Constituents in water leaving the site in drains, potentially being discharged to the storm or sanitary sewer systems
- Constituents present on and in buildings (walls, roofs, drains, standing water or sludge in drains)
- Constituents in surface water or sediment (i.e., Erie Canal), to which humans or animals may be exposed (direct contact, ingestion)
- Site groundwater is impacted but not used as a drinking water resource



Data from the Remedial Investigation were evaluated using procedures for risk assessment established by the USEPA for the CERCLA process.

Box 1 –

At the planning stages of the investigation, FUSRAP-related constituents and data quality objectives were identified to ensure that the data to be collected during the field investigation would be of sufficient quantity and quality to meet the project objectives. One of these objectives was risk assessment – one aspect of which is human health, the other ecological.

Box 2 –

The Conceptual Site Model discussed earlier in this presentation was developed to identify the potential routes of exposure to FUSRAP-related constituents by various future receptors (trespasser, resident, site worker, site remediation worker).

Box 3 –

In this step, toxicity data for FUSRAP-related constituents are obtained from USEPA and other Federal and State agencies.

Box 4-

In this last step, the results of previous steps are combined to estimate the overall potential risk at the site. Mathematical and computer models were used to estimate cancerous and non-cancerous health risks from site exposure. The resulting risk characterization helps us determine what areas may need to be remediated to be protective of human health and the environment.

# Ecological Risk Assessment

Identify Receptors and Constituents of Potential Concern (COPCs) – define objectives and scope of assessment

Risk Analysis – evaluate potential for plants and animals to be exposed to COPCs

Risk Characterization – estimate likelihood of potential adverse effects



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An ecological risk assessment, like a human health risk assessment, is a requirement of CERCLA.

Although there is a low probability for suitable habitat and important ecological populations to exist on-site, an ecological risk assessment was conducted.

The slide outlines the basic steps for an ecological risk assessment, which is similar to a human health risk assessment, although it begins with a planning step to help define the problem for ecological receptors.

## Risk Assessment Summary

- No imminent threat to human health or the environment
- Long-term exposure to contamination in some areas of the site could pose potential human health risks
- No further evaluation of potential impacts to plants and animals from FUSRAP-related materials is warranted



The risk assessments resulted in the following findings:

No imminent threat to human health or the environment has been identified.

Long-term exposure to contamination in some areas of the site could pose potential human health risks.

No further evaluation of potential impacts to plants and animals from FUSRAP-related contamination is warranted.

The data from the risk assessment will be used to calculate preliminary remediation goals (or cleanup goals) in the feasibility study.

## Investigation Results Summary

- No imminent threat to human health or the environment
- Constituents of concern are uranium and thorium
- Most heavily impacted buildings are Building 6 and Building 8
- Uranium present in groundwater
- Confirmed no migration of FUSRAP-related materials in soil offsite
- Confirmed no FUSRAP-related impacts present in the Erie Canal



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Again, here is a summary of our investigation.

No imminent threat to human health or the environment was identified.

The Remedial Investigation confirmed that the constituents of concern at the Site are uranium and thorium.

The Remedial Investigation confirmed that the most heavily impacted buildings are Building 6 and Building 8, and to a lesser extent Buildings 3, 4, and 9.

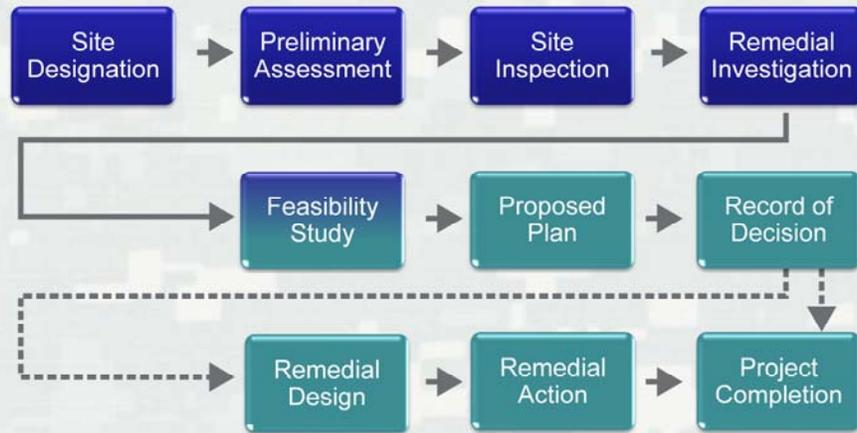
The Remedial Investigation confirmed that there has not been migration of FUSRAP-related materials to offsite soils.

The Remedial Investigation confirmed that there are no FUSRAP-related impacts present in the Erie Canal.

The Remedial Investigation showed that additional data collection efforts are necessary to fully understand the nature and extent of uranium in groundwater.

The Remedial Investigation also provided the data necessary to evaluate potential risks to human health and the environment.

## What's next – Feasibility Study



A removal action can be implemented at any time during the process if human health or the environment are in immediate danger.



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The next step in the CERCLA process is to conduct a Feasibility Study to address FUSRAP-related contamination identified in the Remedial Investigation.

The Feasibility Study will include:

- Identification of any additional data needs that may require further investigation during the development and assessment of remedial alternatives
- Development of remedial alternatives
- Evaluation of these alternatives based on criteria such as protection of human health and the environment, effectiveness, implementability, and cost

Work on the Feasibility Study will begin in October 2010; this study usually takes two years to finalize.

[Turn meeting over to Arleen Kreuzsch, Corps Community Outreach Specialist]

## Contact Us

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Please contact us if you have any questions regarding the Guterl Site.

Public participation is a key component of the CERCLA remedial action process – please join us to be a part of the project as we move forward.

Our mailing address, phone number, and email address are provided on this slide.

Also, the Corps has a postal mailing list for the site. If you would like to receive mailings about the site, please let us know.

Finally, please note that there is a link to the Guterl Site information on the web at the address listed on the slide, and tonight's presentation and panels will be available on the web later this week.

Thank you for your attention.

We will now move to the question and answer portion of the meeting. Are there any questions?