FORMER LAKE ONTARIO ORDNANCE WORKS SITE
DEFENSE ENVIRONMENTAL RESTORATION PROGRAM FOR
FORMERLY USED DEFENSE SITES

PUBLIC PARTICIPATION THROUGH
RESTORATION ADVISORY BOARDS

LEWISTON/PORTER, NEW YORK
JUNE 23, 2010

Minutes of Public Meeting held at the Lewiston Senior Center, Youngstown, New York on Wednesday, June 23rd, 2010 commencing at 6:00 p.m.

APPEARANCES:

VINCENT AGNELLO, Porter, NY
MICHELLE BARKER, Regional Technical Specialist
AARON BESECKER, Buffalo News
KENNETH R. BLUSCH, Youngstown, NY
W. BOECK, Lewiston, NY
CHUCK BOOS, Lewiston, NY

APPEARANCES CONTINUED:

STEVE BOUSQUET, Environmental Health Section Team Leader

JOHN BUSSE, Program Manager for LOOW/NFSS

RON CHURCH, USACE LRD

DANIEL CISZEK, on behalf of Congresswoman Louise Slaughter

DAVID CORATS, S. Falls, Wisconsin

DON DEMARCO, geologist

JAMES DEVALD, Lockport, NY

TERRY DUFFY, Lewport Sentinel

BILL FREDERICK, Environmental Projects Team Leader

DAVE FROTHINGHAM, Environmental Engineering Section Team Leader,

BOB GIANNETTI, Lewiston, NY

PAUL GIARDINA, EPA

KENT JOHNSON, Albany, NY

BILL KOWALEWSKI, Special Projects Branch Chief

ARLEEN KREUSCH, Outreach Team

KAREN KEIL, Risk Assessor

D.J. LANGLOIS, Lewiston, NY

NICK MATTERA, Niagara Gazette

NONA MCQUAY, Lockport, NY

KEVIN MYERS, Lewiston, NY

APPEARANCES CONTINUED:

LAURA MONTE, Buffalo, NY

JOSEPH NASCA, Lewiston, NY

BILL NOWAK, on behalf of State Senator Antoine Thompson

MEGAN PELKA, Court Reporter

JANE RICHARDSON, Youngstown, NY

ANN ROBERTS, community member

GERANT ROBERTS, community member

MARY ANN ROLLAND, Youngstown, NY

CHRIS ROSER, Lewiston, NY

BRUCE SANDERS, Chief of Public Affairs

BILL SCOVILLE, Shaw Group

PATRICIA SCREMIN, Niagara Falls, NY

HANK SPECTOR, Health Physicist

MICK SENUS, Lake Ontario Ordnance Works Program Manager

JIM STACHOWSKI, LOOW Project Engineer

JANE STATEN, NFSS Project Engineer

SIDNEY WALTON, JR, Lewiston, NY

NATALIE WATSON, Outreach Team

BOB WELLER, Lew-Port School Board

AMY WITRYOL, Lewiston, NY

TERRY YONKER, Youngstown, NY

MS. KREUSCH: Good evening, everyone. If you could please take your seat. Make sure you have a handout package before you sit down. Good evening, again. My name is Arleen Kreusch. I'm the Outreach Program Specialist for the Special Projects Branch Environmental Project Team for FUSRAP and FUDS.

For tonight's meeting, I have a few operating principals to go over with you before we get started, but I want to tell you about the bathrooms are on my right, your left. The emergency exits are in the back of the room, there's two and then, there's one by the door that you came in and if you could please turn off your cell phones, please listen respectfully, please hold questions or comments until the poster session or the workshop discussion.

I will now introduce John Busse, the Program Manager for the Niagara Falls Storage Site and the Lake Ontario Ordnance Works.

MR. BUSSE: She already introduced me, so I don't think I have to introduce myself

again, but I'd like to introduce the team if I could. We've got Jane Staten, she's the Project Engineer for Niagara Falls Storage Site; Michelle Barker, she's the Regional Technical Specialist at the Corps; Natalie Watson, she's part of Outreach Team with Arleen; Jim Stachowski, he'll be the new Project Engineer for the Lake Ontario Ordnance Works; Mick Senus, he's the Project Manager for the LOOW Project; we've got Bill Kowaleski, he's the Chief of the Special Projects Branch; also have Paul Giardina from the USEPA; Mr. Frederick, Bill Frederick over there, he' the Environmental Project Management Team Leader; we've got Steve Bousquet, Environmental Health Team Leader, Karen Keil, our Risk Assessor, Hank Spector, our Health Physicist back there.

MR. SPECTOR: No one ever introduced me before.

MR. BUSSE: Yes. Somebody had to. I think that's everybody, right? Did I miss anybody? I think we got everybody outnumbered

again, so I'll get started. If you could hit the next slide.

Kind of going to walk you through the Building 401 dismantlement and we're calling is dismantlement because that's basically what we're doing more so than an actual demolition, then we'll get into the remedial investigation feasibility study updates and also what's next in Niagara Falls Storage Site and then, we'll break into that where Mick Senus will pick up and he'll do the Lewiston-Porter School Property sampling update as well as a further update on the LOOW project which was requested by the community and Paul Giardina will close it out with a presentation.

Also like to mention we did receive a request from the community to add a discussion of transparency to the agenda. If the community wants to discuss this topic, we can approach that subject during the discussion portion of tonight's activities.

Next slide. Okay. So, I'm going to walk you through a brief history of Building 401

State's Historic Officer requirements and brief overview of the demolition or dismantling of Building 401.

Next slide. I know many of you are probably familiar with the site but for those who are not, I'm just going to go through a real brief history of Building 401. This is 1944 photograph. You can see Building 401 is annotated there. NFSS as everyone probably knows is located at 1397 Pletcher Road in Lewiston, New York. The site is owned by the Federal Government.

The site consists of an engineered, ten-acre Interim Waste Containment Structure, various buildings and open areas. It was originally part of the LOOW site and the primary use of the site from the early 40's to mid-50's was for storage of radioactive waste from various sources. Building 401 was initially the powerhouse for the production of TNT at the former LOOW and it was also used to store radioactive materials in support of Manhattan Engineering District activities

during World War II.

Additionally, it was used for the product of Boron-10 from 1953 to 1959 and from 1965 to 1971 and then subsequently thereafter became a storage facility used by the Atomic Energy Commission and Department of Energy. In 1971, Building 401 was gutted and it's instrumentation, equipment and hardware were disposed of as surplus materials.

The building has been largely inactive since, primarily occupied by animals, raccoons, turkey vultures, et cetera. In '95 through '97, Building 401 went through a decontamination effort as well as a comprehensive survey and sampling and in the Summer of 2002, an asbestos abatement was performed on the interior of the structure.

Next slide. State Historic Preservation Office. Building 401 was determined eligible by the New York State Preservation Office for listing in a national register of historic places. You've got a couple pictures there showing the dilapidated structure of the

building. It was agreed upon between the Corps and the SHPO that Building 401 currently poses a safety hazard to site workers and to Corps' and other agency personnel.

Additionally, although Building 401 is currently structurally stable, the interior and state of the building, localized areas of contamination and its location on an active FUSRAP site warrant demolition of building and not re-use or rehabilitation, so in accordance with Section 106 of the National Preservation Act, the Corps and the State Historical Preservation Officer entered into a memorandum of agreement on March 1st, 2010.

And in consultation with the SHPO, the Corps will document Building 401 through Historic American Building Survey/Historic American Engineering Record Level II which is shown on the slide and that's a mouthful to say, photographic documentation and accompanying narrative in accordance with the Secretary of the Interior's guidelines for architectural and engineering documentation

will be developed for this building.

Basically, three sets of black and white photographs, one set of negatives will record the interior and exterior of the building as well as document the history of this building, especially as it related to the war effort in World War II. We'll also prepare a time-lapsed video which will show how the building was demo'ed. We'll present that and post it on our website for everyone to see and finally, we'll include a historic interpretation of Building 401 through plaques and markers and we'll post that on the website for everyone.

Next. I'm going to walk you through the demolition of Building 401 quickly, hopefully briefly and I won't put you to sleep. The photographs here show the interior of Building 401 on the left and the northeast corner of the exterior of the building there. Presently, this contract to demolish or dismantle Building 401 was awarded to Terranear and Energy Solutions which is a

joint venture and we basically refer to them as TES.

They have subcontracted to a local subcontractor called DEMCO who has been responsible for dismantling or demolishing the Memorial Auditorium, Yankee Stadium as well as several DOE facilities. They're a local company. We're using stimulus funds to get this work completed and as a result, using a local firm was definitely advantageous to us, so we're happy that TES selected them to be -- as their subcontractor.

The services required under the scope of work involved characterization, demolition, packaging and disposal of Building 401 in accordance with applicable local, state and Federal regulatory requirements. There will be removal, abatement precautions to control waste streams such as bird and animal waste which is prevalent throughout the building. There's potential asbestos in the transite paneling on the exterior of the building. There's lead-based paint obviously on the

interior surfaces within the interior of the building, there's miscellaneous debris, there's contaminated structural elements and concrete including the sumps and drains which will be pumped, characterized and then, filled prior to any demolition occurring.

TES is currently preparing the work plans. We hope to be able to release those to the community some time towards the end of July for your input prior to them getting on the site. The work plans that they're going to prepare include the site operations plan, there will be a demolition plan, a site safety health plan, waste management transportation and disposal plan and engineering and structural survey and I think I touched on them all.

Mobilization will be completed some time toward the end of August at which time TES and their subcontractor will begin the pre-demolition activities. Pre-demolition work will be comprised of the following activities: They'll do an asbestos survey of the exterior

and selected interior areas, establishment of debris stockpile areas, radiological survey of work areas and building contents, of course, plugging of drains and sumps after removal of liquids which I already mentioned, inventory of hazardous materials within the building, development of drawings showing all the utilities and waste profile sheets for all waste streams.

Additional pre-demolition activities will include quantification and identification of hazardous materials including lead, light ballast, mercury, sodium vapor lights, capacitors and thermostats which will all be removed prior to demolition as well as the windows. They'll treat the bird and animal waste, they'll remove the potential ACM material whether it's in the interior or exterior, wrapping it in 6 mm poly and disposing of it accordingly. There will be a comprehensive survey, radiological survey of the interior of the building and the exterior of the building and also, I'd like to mention

the soils around Building 401 will be covered with geotextile fabric and stone to prevent migration or impact to any soils surrounding the work area.

Next. Then, we'll get to the demolition. The photograph shown on here is the project that we did at Linde FUSRAP site. We basically dismantled the building. We're going to follow the same procedure at 401. It worked there. It should work very well here. TES will complete the demolition of Building 401 and the attached silos by the end of the calendar year is when it's currently scheduled to be

Concrete floor slab will main. TES does intend on recycling the majority of steel within this building, but in order for them to recycle any materials in this State as well as dispose of any materials in a landfill within the State, they have to radiologically survey each of the debris or the steel and verify that it's at background conditions in order to comply with six NYCRR Part 380 and part 360

requirements. Have I got that right, Steve?

Thus, control measures will also be implemented to prevent the spread of contamination and maintain particular level of permissible exposure level specified in OSHA regulations. The dust control program will consist of both dust suppression measures and ambient air monitoring to verify the success of the dust suppression.

Air monitors will be at all four quadrants, north, south, east and west and will be on continuously. We'll also wet the demolition equipment and active demolition areas, cover waste debris, hauling waste debris in covered or closed containers, keep vehicle speeds low and apply a water spray during debris handling and to unpaved vehicle access routes as necessary.

All waste water will be diverted and contained. There will be berms set up around the demolition. Basically, we don't want anything getting out of the box here. Basically and kind of as the pictures show,

DEMCO is basically -- what they're going to do is they're going to start at the top. Once they have the complete building characterized so they know where all the waste streams are going to go, they're going to segregate it after they pull it down.

They're going to start at the top and they're going to work their way to the bottom to set up piles, radiological here, PCB's here, VOC's there and then, they'll transport it to an according facility. At the completion of the construction, they'll perform surveys, radiological surveys both at the slab area as well as at least 15 meters outside of any work areas to verify that nothing gets out of the box. They'll demobilize all equipment from the site, clean up the site as necessary and they're going to provide a final report documenting demolition activities including sample and survey results which we'll make available to the public.

And next slide, we'll kind of walk through the schedule. Basically, this is the current

schedule. The way it stands, work plans we anticipate getting to the community by late July 2010. They're going to mobilize probably more towards late August 2010, conduct a pre-demolition activity as shown there. They'll go through the removal and abatement of the miscellaneous waste. This includes the ACM, anything they find, light ballast, et cetera.

Demolition will start late October and proceed through December and then, they'll complete the post-demolition activities and the surveys early December through mid-January 2011 with a final project report provided by March 2011.

At this time, I'd like to introduce Michelle Barker and she'll provide you with an update on the Niagara Falls Storage Site Remedial Investigation.

MS. BARKER: All right. Thanks, John. As John said, my name is Michelle Barker and I'll be providing an update tonight on the Remedial Investigation and Feasibility Study for the Niagara Falls Storage Site.

Next slide. The goal of the Remedial Investigation that was conducted on Niagara Falls Storage Site between 1999 and 2003 was to define the nature and extent of the radiological and chemical contamination resulting from the historic Manhattan Engineer District and Atomic Energy Commission operations and to evaluate potential risks to human health and the environment.

As discussed at the public meeting last June, findings from the Niagara Falls Storage Site are highlighted on this slide. After the Remedial Investigation Report for the Niagara Falls Storage Site was published in December 2007, the Corps received 335 comments. In 2009, the Corps conducted additional field work to prepare an addendum to the RI address data gaps and these comments.

The Corps is concurrently preparing documentation in support of the Feasibility Study for the Interim Waste Containment Structure to examine a variety of options to address the potential long-term risks

associated with the cell.

To ensure the protectiveness of human health and the environment in the interim, the Corps is committed to maintaining the site operation an Environmental Surveillance Program on the site.

Next slide. The majority of the 334 comments received from the public on the Remedial Investigation Report can be categorized into five areas of interest that you can see on the slide. This presentation will generally discuss each of these topics and how they will be addressed in the Remedial Investigation addendum which is currently under development and is scheduled for public release by the end of this calendar year.

The first topic of interest in the Remedial Investigation Addendum is the potential sources of groundwater contamination near the Interim Waste Containment Structure. The concern with groundwater contamination near the IWCS boundary is the ability to distinguish whether the IWCS is performing as

designed.

The left figure is cctually figure 2-3 in a Chemical Characterization Report prepared by Bechtel National in December of 1991. In this report, Bechtel highlights "areas of known contamination" in 1981 prior to the construction of the cell which closely resembles total uranium contamination in groundwater measured over 25 years later to the right.

The Final Report on the Comprehensive Characterization and Hazard Assessment of the DOE conducted by Bechtel in June of 1981 states "The area (referring to the R-10 area highlighted in the figure to your left) has been fairly unstable, eroding east to the Central Drainage Ditch and eroding west onto the area west of the site into the West Ditch. Also, this area is underlain by one or more saturated zones, creating the potential for subsurface migration to off-site areas."

The most likely source of groundwater contamination near the IWCS is historic

leaching from the R-10 pile prior to the construction of the IWCS. The R-10 pile was open to the elements from 1946 through 1982. That's for over 36 years.

The R-10 pile now is located inside the Waste Containment Structure along with the other wastes and residues, however, current groundwater contamination near the IWCS demonstrated by the figure on the right closely mimics the documented location of contamination in 1981, the figure on the left, prior to the construction of the IWCS.

The Corps is committed to closely monitoring groundwater contamination near the IWCS as part of the ongoing Environmental Surveillance program.

One data gap identified during the remedial investigation was the potential for groundwater contaminants to migrate off-site. Highlighted in this slide are general areas of interests with the greatest potential for off-site groundwater migration which were identified at the public workshop last June.

The primary groundwater contaminants having the greatest potential for off-site migration was uranium, however, chemical contamination also had the potential to migrate off-site in the rightmost area highlighted.

To address this data gap during the Remedial Investigation Addendum work, 23 temporary wells identified in blue were installed. Of these 23 wells, 10 wells where are identified in red were made permanent based on initial findings such as quick turnaround analytical results from the laboratory and radiological and chemical screening and the rest were sampled and closed.

Preliminary results based on a single sampling of them indicate that uranium contamination in groundwater exists off-site, but only slightly above the U.S. EPA Safe Drinking Water Act standard. The Corps is assessing which of these newly installed wells should be incorporated into the Environmental Surveillance Program for monitoring to ensure

the protection of human health and the environment during this investigation.

Next slide. The third topic of interest for the Remedial Investigation Addendum was the potential for contaminated groundwater to enter ditches on Niagara Falls Storage Site. To address this comment in the RIR addendum, the following approaches were taken.

Uranium in surface water from the West Drainage Ditch were compared to uranium in nearby groundwater wells to determine if a pattern existed which may infer a connection between the surface water in the ditch and groundwater. It did not appear that there was this connection.

Secondly, groundwater modeling was conducted to simulate groundwater entering the ditches in order to estimate the level of contaminated surface water that would result from this and thirdly, in 2008, the Corps enhanced the Environmental Surveillance program at Niagara Falls by increasing the frequency of collection of surface water and

sediment in the ditches from annual to biannual, the number of sample locations from seven to ten and the parameters sampled for to include metals, organic chemicals in addition to the radionuclide and water quality parameters.

Currently, there are four surface water and sediment locations sampled in this Central Drainage Ditch on Niagara Falls Storage Site, three in the West Drainage Ditch and remaining three in east-west ditches that feed the Central Drainage Ditch. To date, uranium is found above background in surface water in the West Ditch during the RI sampling cannot be replicated.

In other words, uranium in surface water in the ditch as part of the Environmental Surveillance Program remain comparable to background after several rounds. Regardless, the Corps is committed to closely monitoring surface water and sediment in ditches as part of the ongoing Environmental Surveillance program.

One concern raised in the Niagara Falls Storage Site Remedial Investigation Report is the potential impact for former LOOW subsurface utilities on the integrity of the Waste Containment Structure. The original purpose of these 1940's era pipelines was to support the former LOOW freshwater treatment plant.

As shown on the photos in this slide, when the IWCS was constructed in 1980's, the United States Department of Energy excavated around buildings that now house radioactive residue to the native confining clay layer and surrounded the waste with compact clay cutoff walls. The purpose of the cutoff wall was to inhibit groundwater from entering or leaving the Waste Containment Structure

The process of constructing the cutoff wall -- in the process of constructing the cutoff wall, the USDOE severed and removed and filled subsurface lines as shown in this figure to the right. The following weights of evidence on the integrity of the waste

containment structure were discussed either in the Remedial Investigation Report or will be discussed in the Remedial Investigation Addendum.

The first is the routine sampling, monitoring and maintenance of the IWCS cap. Biannual sampling of contaminants in the groundwater near the IWCS is part of the ongoing Environmental Surveillance Program. The groundwater modeling of potential transport of contaminants from the Interim Waste Containment Structure, assuming no protective cutoff wall, which demonstrated protectiveness for 160 years. Limited migration of contaminants due to the naturally confining clay on-site. A geophysical survey in areas north of Building 411 in the -- in the IWCS indicate no short-term competency issues such as fractures, depressions, potential voids and caverns that may impact IWCS integrity. The topographic survey which measures elevations of the ground compared to 1991 as-built elevations, so we compared the

1991 as-builts to the 2009 elevations of the cell to determine if settling had occurred over the past 20 year that would compromise the integrity. Negligible settling was evident. The Corps is committed to closely monitoring the cell as part of the Environmental Surveillance Program to ensure the protection of human health and the environment which is the Corps' number one mission.

And lastly, the potential for plutonium and fission products on the Niagara Falls Storage Site and adjacent properties was raised as a public comment during the review of the Niagara Falls Storage Site Remedial Investigation Report.

Between 1952 and 1954, spent fuel rods, reactor waste and combustible material from the Knolls Atomic Power Lab in Schenectady, New York animal remains and medical debris from radiological inhalation tests on animals at the University of Rochester in Rochester, New York were sent to the LOOW. In the later

1950's the majority of the KAPL waste stream was shipped off the LOOW site to be buried at the Oak Ridge National Laboratory in Tennessee.

To address this concern in the RIR Addendum, the plutonium data set was supplemented with 17 additional soil samples and 54 soil samples of drummed RI waste from dedicated locations that were analyzed to ensure a greater level of coverage throughout the site. Cesium levels in soil posed unacceptable risk in the RI and would be evaluated further in the balance of plant feasibility study.

Cesium found above background in groundwater during the remedial investigation, although below drinking water standard could not be replicated during the Remedial Investigation addendum. It is assumed that the detections of cesium in groundwater during the RI may have been a function of turbidity and not representative of the actual concentration available to groundwater at the

site.

The Corps will continue to consider the potential for plutonium and fission products on the Niagara Falls Storage Site, however, our current focus for the feasibility study will be on the Interim Waste Containment Structure. Thank you for your time and I'd like to now introduce a new member of our Corps team, Jane Staten. She's the Niagara Falls Storage Site Project Engineer.

MS. STATEN: Thank you, Michelle. I have just a short presentation. What's next? As you know, Michelle explained that the Corps is currently preparing the Addendum to the Remedial Investigation Report which will be available for public comment by the end of this calendar year.

Concurrently, the Corps will begin preparing the Feasibility Study for the Interim Waste Containment Structure which Michelle also talked about. The public will be given the opportunity to review and comment as we progress through the development of the

feasibility study. The Corps will first release a fact sheet describing the objectives of each Technical Memorandum and ask for public input on these objectives. The Corps will consider the comments received and then develop and release each Technical Memorandum.

The public will again be provided an opportunity to comment on each Technical Memorandum. Responses to public comments will be posted on the project's website and comments will be considered in the development of the Feasiblity Study.

The first of these fact sheets is in your handout package and outlines the objectives of the Radon Assessment Technical Memorandum. Public comment is requested by July 23rd, 2010, so about a month. Throughout the process, the Corps will continue to maintain the site, to monitor the air, sediment and water at this site and to issue the findings of the monitoring in the annual report.

Now, I'd like to introduce Mick Senus who will present the Lewiston Porter property

sampling.

MR. SENUS: Thank you, Jane. Good evening. My name is Mick Senus. I'm the Project Manager for the former Lake Ontario Ordnance Works as many of you know as the LOOW site. The Corps is working in conjunction with the Lewiston-Porter SchoolFBoard and their environmental consultant, Joe Gardella. We've developed a sampling strategy, within the Corps authorities, to address concerns regarding any potential impacts from the former activities of the DoD or Department of Defense, Manhattan Engineering District and the Atomic Energy Commission on school property.

I am here this evening to present that strategy. On this slide, the Lewiston-Porter School campus is. Located in the undeveloped portion of the former LOOW. The green shaded area in this figure is the former LOOW site. The outline of the campus is show on this figure along Creek Road on the left-hand side.

Niagara Falls Storage Site is located

within the developed area of the former LOOW and is shown here in a dashed line in the central portion of the map.

The Corps is performing ongoing investigations for LOOW under the Defense Environmental Restoration Program for Formerly Used Defense Sites or FUDS. The Corps investigations for the Niagara Falls Storage Site or NFSS are performed under the Formerly Utilized Sites Remedial Action Program, otherwise known as FUSRAP.

In other words, FUDS investigates potential chemical impacts from former DoD activities at LOOW and FUSRAP determines potential radiological impacts from the former Manhattan Engineer District or MED and the Atomic Energy Commission, AEC activities at the NFSS.

In August of 2009, the Corps and Lewiston-Porter School Board met and discussed data gaps and previous sampling analyses conducted at school property. As a result, the Corps performed a data gap analysis and developed

the proposed sampling strategy to address concerns regarding any potential impacts from former DoD, MED or AEC activities on the Lewiston-Porter School property.

Due to funding constraints, the Corps has historically investigated LOOW in phases. Recently, the Corps developed a Management Action Plan which organizes and presents the summary of the Corps' strategy for completing and closing the LOOW site as parcel groups that meet the definition of FUDS under DoD DERP.

Now that the Management Action Plan is available, the Corps plans to close out environmental concerns with respect to past DoD activity by starting with sites with the least potential for environmental impact. Historical sampling and results from previous investigations have identified Lewiston-Porter School area as one of those least impacted sites. However, the Corps acknowledges that this site is publicly accessible so a sampling effort will be conducted within the bounds of

our authority under FUDS and FUSRAP.

Upon completion of this sampling effort, we will have collected sufficient data to conclude whether the school property has been impacted by past DoD activities. This slide on the screen outlines recent history of our partnering efforts with Lewiston-Porter School.

The yellow border outlines the study area for Lewiston-Port School property. The Lewiston-Porter campus building and Creek Road are located on the western portion of this map. The north arrows at the top right corner of the map, straight orange line that bisects the map from southeast to northwest is what we call the Southwest Drainage Ditch as it flows into Four Mile Creek to the north.

The first part of the sampling strategy involves investigating soil disturbances that occurred during the time that the DoD owned the school property which was from 1942 until to 1945. In 1944, the soil disturbances identified during historical aerial photo

analysis performed by Corps are overlain in orange on this 2005 photo of the school property. The features identified during the analysis included ditches, depressions, mounded material, trenches and pits. Upon further analysis and within our authority, the Corps plans to investigate the soil disturbances on the undeveloped portion of the property that are the most suspicious.

These locations are shown in red on the figure and include mounded materials not adjacent to the ditch, trenches or pits. The Southwest Drainage Ditch will be also investigated. I'll discus that in a moment.

The Corps will be using GPS or Global Positioning System to locate each of these targeted disturbances. Next, brush will be cleared as necessary to provide access to the locations. The Corps intends to access the majority of the locations by the Occidental property from the east and will clear the brush with mechanical equipment.

Hand clearing will be performed when it is

necessary to access a location from the school campus.

Once brush clearing is completed, the Corps will inspect each location in order to determine if the soil disturbance still exists, estimate the size of the feature and determine if anything else in the immediate vicinity of the historical disturbance warrants further investigation.

Depending on the size of the disturbance, one to four soil borings will be performed to a maximum depth of ten feet below the ground's surface. The soil borings will be performed with a direct push technology to obtain continuous soil samples. This equipment is mechanized and pushes the samplers through the subsurface.

For locations accessed from the campus, soil borings will be performed utilizing hand augers. All soil samples will be inspected for evidence f potential impact including staining, discoloration and odors. The samples will be field screened with an organic

vapor monitoring device that detects presidents -- presence of VOC's or Volatile Organic Compounds. Field test kits will be used to verify that explosives are not present. Finally, the samples will be screened with radiological field instruments for health and safety purposes.

Depending on the size of the soil disturbances, field observations and screening results, one to four surface soil samples and one to four subsurface soil samples will be submitted for lab analysis for each disturbance location. Sample intervals will be biased towards potential impacts that have been observed or detected.

The lab analysis includes volatile organic compounds or VOC's, semi-volatile organic compounds or SVOC's, metals, explosives and polychlorinated biphenyls, also known as PCB's. If radiological measurements exceed two times the established background concentration for a soil sample, the sample will be submitted for lab analysis of gross

alpha and beta, gamma emitters, plutonium, thorium, uranium and radium.

These photos represent the terrain and land features of the study area as of last month when we walked the site for sample locations. The lower left photo is near the 30-inch outfall where it bisects the Southwest Drainage Ditch. The photo in the upper right-hand corner is one of the soil disturbances located under the grouping of trees in this picture

The second portion of the investigation focuses on the Southwest Drainage Ditch which flows through the campus from south to north. The ditch was constructed as part of the drainage system for the former LOOW. Six locations along the southwest drainage ditch shown here in this figure in blue will be investigated.

The Corps will clear brush mechanically along the east side of the ditch to provide access. For each location, a surface water sample will be collected using a pump.

Additionally, a hand auger would be driven manually into the center of the ditch for collection of sediment and subsurface soil to a maximum depth of four feet below ground surface. The sediment and subsurface soil samples will be inspected for evidence of potential impacts including staining, discoloration and odors.

The samples will be field screened with an organic vapor monitoring device that detects presence for VOC's. Field test kits will be used to determine the presence of explosives. Finally, the samples will be screened with radiological field instruments. The surface water and sediment from each location will then be submitted for lab analysis.

Analyses at the Southwest Drainage Ditch also include VOC's, SVOC's, metals, explosives, PCB's, plutonium, thorium, uranium, radium, strontium and gamma emitters. Based on field observations and field screening results, one to two subsurface soils samples will be selected for lab analysis from

each location.

One sample interval will be submitted for chemical analysis and one for radiological analysis. Sample intervals will be biased towards potential impacts that have been observed or detected. It is possible that the soil interval for -- selected for the chemical and radiological analysis will be the same.

On this slide, you will see some examples of equipment that the Corps will utilize to perform sampling at the Lew-Port School property. In the upper, right-hand corner is an assortment of augers, hand augers for collection of soil and sediments. The other two pictures were taken during the Corps investigation at LOOW at the LOOW waste water treatment plant performed last summer.

A geoprobe which utilizes direct push technology to collect surface and subsurface soils is depicted in the lower, left-hand corner. The lower right-hand picture depicts soil core undergoing field screening tests.

This the Lew-Port study school schedule

for the remainder of this year. First, the Corps will prepare work plans which will be an addendum to the existing plans. The existing plans were developed for the investigation at the waste water treatment plant last year and are currently available on the Buffalo District's website, the website listed below on this slide. The work plan addendums are expected to be complete by the end of this month and will also be posted on the same website.

The field work is scheduled to take place in late July or August and data analysis and validation should be complete during September. A technical report will be prepared that will include all field and lab results along with an explanation and discussion of these results. That report, expected to be completed during November, will also be posted electronically to the website for review.

In conjunction with the Lew-Port School field effort, our contractor will be

conducting supplemental sampling on the Occidental property to determine the full extent of impacts. Other updates on LOOW include Underground Storage Tank removal or UST from October 2008. This month, we received DEC Region 9 no further action memo regarding the post-excavation and geoprobe sample, lab analysis results for the UST removal.

The closure report and supplemental closure report will be posted on the web. Also, upcoming on LOOW is a records management project that will catalogue more than 3,000 FUDS documents on LOOW. The final deliverable is expected in the Spring of 2011. For the Office of Economic Adjustment or OEA safety project, the Town of Lewiston is currently getting cost estimates for their portion of the project.

For the archive search report, the Corps is reconciling the last of the comments made by the Army Corps Center of Expertise. The final report is expected later on this fall.

And finally, the Phase IV RI is currently being reviewed by the Corps and in the process of providing comments back to the contractor. The final Phase IV Remedial Investigation or RI is expected at the end of this calendar year. Thank you. I'll now turn this meeting over to Paul Giardina of the USEPA.

MR. GIARDINA: Good evening. My name is Paul Giardina and I'm Chief of the Radiation and Indoor Air Branch of the United States Environmental Protection Agency's Region 2 Office in New York. I want to thank both the Buffalo District of the U.S. Army Corps of Engineers and several of the community stakeholders involved with the Niagara Falls Storage Site for suggesting I attend and inviting me to this meeting.

I'm here to very briefly explain EPA's role in the management of the NFS Site under the Formerly Utilized Sites Remedial Action Program as well as our position on the various issues related to this site as we see them. Let me begin by saying my office has had

extensive and perhaps unprecedented experience in radium removal and remedial clean up investigations and operations.

By far, the two largest radium clean ups to date were the radium chemical company super fund removal action where our agency handled the largest repository of radium used for medical uses back in the 1990's. This involved the removal and disposal of 120 curies of radium. The other radium removal to which I am referring began in the mid-1980's and is known as the Essex County Radium Sites where EPA removed radium waste left over from near turn of the century radium processing operation.

In there, a total of 900 homes in Montclare, Glen Ridge and West Orange, New Jersey were remedied over a 24-year time frame. So, I point to this experience with pride and believe it's useful for what we face today and I'd also point out that there are at least three people on my staff who have actually participated in these kinds of clean

ups for the better part of 35 years and two or three others who are pretty close and I notice Kent walked in from the State of New York and he'd probably just say that he knew me when the Dead Sea was only very sick and that's how long I've been in this business, but anyway, with that perspective, the NFS Site contains in what is termed as the Interim Waste Containment Structure or IWCS.

About one half of all of the world's supply of processed radium and it's left over from the nation's early attempts to make nuclear weapons. EPA has been involved with this site since the first day it was designated in the FUSRAP Program when the U.S. Department of Energy was the lead for the program.

EPA has maintained and remained involved since the Army Corps of Engineers took over back when mandated to do so by Congress. I am not going to recount the history of our site involvement, but I want to point out that in 1986 when we met with the U.S. Department of

Energy, we made it clear that the agency believes that the radium waste with a half-life of just over 1,600 years needed protection that was consistent with long-lived hazards associated with this type of waste. We also stated that we believed that the IWCS should be subject to periodic reviews to ensure its integrity.

Additionally, under the Clean Air Act, EPA has the responsibility as a regulator to ensure that the radon that can be emitted from this facility does not pose a threat to human health and that it meets standards. Consistent with our responsibilities under the National Environmental Policy Act, we also need to assure that any final remedy provides the same level of protection as provided by other similar clean-ups and consistent with Federal rules and guidance pertinent to radiation protection. So, where does that leave us with regard to the issues we face today? I suggest the issues simply put are as follows.

Next slide. Is the IWCS doing what it is supposed to do now? If it is, will it continue to do the job and for how long and what should be the final disposition for the IWCS waste? Let me attempt to briefly address each of these issues from EPA's perspective. Yes, the IWCS is doing what's it's supposed to do. Radon measurements taken as part of the EPA's compliance program for hazardous air pollutants clearly shows the integrity of the cap over the IWCS is performing such that standard levels are not only met, but two orders of magnitude below the level.

Analytical data reviewed by the EPA shows that the two other major pathways for release of radioactivity are waterborne release from the IWCS to surface waters or are released through the sides or bottom to groundwater is not occurring. As such, EPA, based on its review of the data, believes that the radioactivity contained in the IWCS is remaining there and there are no environmental releases that would now threaten human health

or the environment.

Number two. Will it continue to do the job and for how long? This issue is more difficult because an end date for it's usefulness cannot be established now. EPA believes that the longer the IWCS is used for storage of very large quantities of radium waste, the more conservative should be the yardstick with which its future performance should be predicted.

As such, we've commented to the U.S. Army Corps of Engineers that it's recommended that EPA's high-level radioactive waste standards of 40CFR191 be considered at least for the storage of such wastes. We're also aware of concerns of citizens which want there to be adequate detection system for the IWCS which would give early warning if the structure began to fail.

We've received valuable input from several members of the public and they have offered some very constructive thoughts, which included enhanced monitoring objective and I

have personally met and want to thank Dr. William Boeck. Dr. Boeck I see has come in here and Professor Joseph Gardella who is not with us today for providing us with technical opinions.

EPA has taken these and done an on-site review of the situation along with the Buffalo District Office. We have concluded technical expertise from EPA's -- we've included technical expertise from EPA's National Air and Radiation and Environmental Lab in Montgomery. I anticipate this effort will strengthen what we already consider to be an adequate monitoring system and perhaps make it more accessible to the public.

I also want to note that today, I met with the two people I mentioned before plus Ann Roberts has given us a memo which we just got today which we want to look at and add to that and I think we've already got online to schedule a conference to take those into account. So, as you can see, the operative words here are stay tuned.

Three this is maybe the $64,000 question or maybe the multi-billion dollar question. The obvious and overarching question is what ultimately should be done with these wastes? From the beginning, EPA has been dubious about any effort for disposal of these wastes on this site. Our experience in dealing with other matters with long-lived radioactive wastes such as at Yucca Mountain tell us that engineering barriers and institutional controls that would be required for the waste's hazardous life time are not practical.

Remember, this quantity of radium would required controls on the order of 10,000 years. When you realize the United States is 300 years old, I think that establishes why I believe the precedent for engineering controls is inappropriate or reliance on them should I say.

The U.S. Army Corps of Engineers as part of its FUSRAP responsibility is doing largely feasibility studies for the site and EPA has been engaged by the District office on many of

the feasibility study issues. We discuss what standards should be applied and just a week ago I've been talking with Michelle exactly about the high-level waste standards and we've also discussed how likely as we look at these standards and update them, how they may be more conservative.

The District has frequently held discussions with us for the purpose of getting our experience on radium clean-ups as well as issues related to environmental surveillance. We'll continue to do our part and we believe there's a role for all the stakeholders in finally putting these wastes to rest safely in a fashion that is protective with public health and the environment.

I'd like to close with a brief remark about our position on public participation process for the IWCS at NFS. Mike Basile, my colleague in our Western New York Public Affairs Office, Mike, would you wave your hand? I'm sure they know you much better than they know me, not only monitors the situation

but attends virtually all of the meetings. Mike and I truly talk constantly on these matters and we at EPA rely on Mike's expertise as the agency's Senior Public Affairs Expert. Mike and I met earlier today with several citizen stakeholders and I want to reinforce our position on public participation.

We believe that everything that can be done to encourage stakeholder participation that is allowable should be done. In working with stakeholders, it's clear to us they have much to add to addressing the issues and assuring citizens' best interests are served.

Additionally, in working with the Buffalo District, we at EPA believe we are working with a sister Federal agency with a high-quality professional technical staff and leadership that is focused on resolution of these issues. I would challenge those involved with this site, no matter what your role, to channel your passions to find a pathway to work together to move forward.

I hope our relationships with the

community and the Buffalo District can perhaps be considered a model in this effort. Thank you for inviting me and I intend now to do more listening. Thanks. I don't know who I am supposed to introduce.

MS. KREUSCH: Thank you, Paul. Ladies and gentlemen, if you could now move to the back of the room for the poster session portion of the meeting, we will arrange the front so that we can have the discussion workshop. The posters for Niagara Falls Storage Site are on this side of the room so the Niagara Falls Storage Site team will be over there. The Lake Ontario Ordnance Works posters are in the back of the room, so the team will be over there and then, Hank is doing a demonstration of radioactive material in the corner just on this side of the room in the back. Thank you. And we are going to move everything, so if you could pick up your folders, that would be good.

(Brief recess)

MS. KREUSCH: Before we get started with the discussion portion of this meeting, I'd like to go over the operating principals for the discussion part. First, please be courteous. Please turn off your electronics. Please listen respectfully. One person talking at a time. Please raise your hand when you want to speak. Please state your name.

We have a court recorder taking the minutes of the meeting, so we'll want to know who said what, so please state your name before you comment and give everyone a chance to comment and items we cannot address tonight will be put in the parking lot for future meetings. Is there anyone that would like to start the discussion? Ann?

MS. ROBERTS: I have a question on Building 401.

MS. KREUSCH: Okay. That was Ann Roberts for the court recorder.

MS. ROBERTS: Yes, I'm Ann Roberts. I

have a question on Building 401. Could we just return to that slide on Building 401 where we had a breakdown of the use of Building 401?

MS. KREUSCH: Do you have the number?

MS. ROBERTS: Yes. I have a concern about the people who worked in that particular building and could you just go through the different uses of the building with the time frames, the gentleman who gave this presentation?

MS. KREUSCH: That would be John.

MS. ROBERTS: John, yes, sorry. What was the time frame for radioactive storage in that building?

MR. BUSSE: I don't have my notes in front of me. '45 to '50 and then, I think it was -- I don't think --

MS. KREUSCH: Hold on a second. I'll bring them over.

MS. ROBERTS: I think during your talk, I got the impression that you said radioactive storage was after the Boron-10 plant had

closed down?

MR. BUSSE: I don't want to misstate myself. The 40's through the mid-50's and then, the Boron-10 was '53 to '59 and from '65 to '71.

MS. ROBERTS: Right, so radioactive storage, the building was used for that before people actually worked in that building. In other words, people could have been working in a building which was radioactively contaminated?

MR. BUSSE: I guess the potential probably existed back in the 40's and 50's, so that could be correct.

MS. ROBERTS: Well, it's not just the 40's and 50's, it's really the late 50's and into the 60's and 70's when the Boron plant operated because the Boron plant didn't deal with radioactive material, did it, it was just Boron-10?

MR. BUSSE: Just Boron-10.

MS. ROBERTS: Right, but the storage of material took place in the early 50's.

MR. BUSSE: Yes. NIOSH has done dose reconstructions all the way -- they can do dose reconstructions all the way through '97 and any information we glean from that building during the demolition will be passed on to them to further give them additional data.

MS. ROBERTS: Have you managed to find the -- I've been interested to know what data there is on the contamination that was in that building. Are we still trying to actually get that information?

MR. BUSSE: Well, we have the Bechtel report which basically summarized all the surveying that was found there and --

MS. ROBERTS: Right, but we don't have all the references that go with that and we don't have the most important one which was the one for Building 401.

MR. BUSSE: You do have the Viktus Report which has --

MS. ROBERTS: We have the Viktus Report, but we don't have all of the appendices and

references that go with that.

MR. BUSSE: With the Bechtel Report?

MS. ROBERTS: No, with the Viktus --

MR. BUSSE: The Viktus Report is pretty extensive. It goes through how it outlined all of Building 401, how it did the survey and basically did 100 percent in the affected areas and about 25 percent in the areas that were unaffected --

MS. ROBERTS: Right. The survey that I looked at said that the buildings, they were not characterizing the buildings, they were just doing the survey to make sure -- well, to determine whether or not it could be released without restriction and the small amount of sampling that they did seems to be detecting contamination which was not radium and uranium.

MR. BUSSE: They detected primarily from what I know was thorium-230was the primary. They had a couple instances of americium.

MS. ROBERTS: Yes.

MR. BUSSE: But thorium, I think, from my

knowledge is the primary driver within that building.

MS. ROBERTS: Right. And that would have come from the KAPL waste?

MR. BUSSE: It's a potential, sure. The contractor will analyze for plutonium in this building as they characterize it. It will be part of their scope of work. They've been notified that KAPL waste was likely stored in this building and they'll have to account for that.

MS. ROBERTS: I think there's just some general concern because I really feel that there isn't the communication to actually tell people what the issues are. In other words, we're told it's as radiologically-contaminated building, but we're not really given much data on that.

MR. BUSSE: A majority of the radiological contamination has been removed. They had lockers that they removed. SEC went in '96 and '97, removed a lot of that material.

MS. ROBERTS: Were these workers' lockers.

MR. BUSSE: I don't know exactly what the lockers were used for.

MS. ROBERTS: But I thought -- but that information has been passed to the people who were dealing with workers' claims?

MR. BUSSE: It should have been. It's been passed in NIOSH and I don't know if NIOSH has this information in the Bechtel report.

DR. KEIL: We talked to NIOSH and they have indicated to us they have all the data that they need to do those reconstructions. They have a special exposure cohort that identified for the earlier careers for anybody who's worked there. They do not have records for that time period, but they had a special exposure cohort that they proved that they worked there, that they will be compensated if they had one of the identified illness and for later years, they had told us that they had the data that they need to do the reconstruction for the full history of the Niagara Falls Storage Site. That's what NIOSH has told us.

MS. KREUSCH: And that was Dr. Karen Keil.

MS. ROBERTS: Thank you.

MS. KREUSCH: Amy?

MS. WITRYOL: Just to follow up on Building 401, I actually wrote a letter to Commander Snead, I think, back in February requesting that that information be passed along to NIOSH and I didn't get a response on that particular topic, so if there is any documentation on the information provided to NIOSH, I'd appreciate it if that could be made available. With respect to the demolition planned for later this year and I apologize, I missed the slide presentation, but will there actually be a sampling plan, you know, as part of the health and safety or whatever else for the building and will the RAB and the public have an opportunity to look at it, you know, a couple of weeks before the work starts?

MR. BUSSE: You will absolutely have two weeks before the work -- before they even mobilize to the site and work times and that does include sampling and analysis plan.

MS. WITRYOL: Great. And we'll get one of those -- probably a "News from the Corps"?

MS. KREUSCH: Yes.

MS. WITRYOL: Okay. Thank you.

MS. KREUSCH: Next question? Yes? I'm sorry, could you state your name?

MR. CATALANO: Jerry Catalano. I'm going back to the gentleman who talked about the Lewiston-Porter School District there. One of your first statements you mentioned that you have some type of funding constraints. Is that from state, is that from Federal? Why are there constraints at the school especially when it should be a top priority?

MR. SENUS: Yes. The funding constraints were relative to LOOW in general and FUDS, there's only certain money appropriated every year since the history of the LOOW investigation. There were funding constraints obviously for Lewiston-Porter School, but I was eluding to LOOW in general in that we're looking at LOOW piecemeal now as part of the Management Action Plan and re-prioritizing

those sites. The higher priority sites we'll take care of first with the first available funds.

MS. KREUSCH: Does that answer your question?

MR. CATALANO: That's not the answer I'm looking for, but I guess I have to deal with the question -- with that the answer he gave me.

MS. KREUSCH: Okay. Thank you. Bill?

MR. KOWALEWSKI: Can I can add to that? Possibly for the school project, the sampling project, the issue of impacts to the school was raised, I think in late '07 or early '08 to the Corps through the State of New York and we were able to go and get additional funding specifically for the school project over and above our normal allotment, if you will, or budget request for the site, so we are successful in bringing additional money into the district to do that sampling from the FUDS program.

MR. CATALANO: Let me follow up with that

real quick. When you do these studies, when the Army Corps is doing the studies on the labs and all the stuff like -- is there a third part that goes in there and does their -- do you give samples also from the same samples you take and does their own studies also?

MR. SENUS: The samples we're taken are sent to -- by certified labs and there is no third-party sampling at the same time, but we do send split samples out and blanks out. There is a chain of custody for those samples. If -- I'll make it -- if it wasn't clear towards the beginning of the presentation, we are doing this in conjunction with Lew-Port School. We are doing this in conjunction with their environmental consultant and that would be a third party, I think, that you're eluding to.

MR. CATALANO: If some group, if some third-party group wants to say, geez, I might not trust your samples or -- you know, but I want to have my own study done with the same

samples you're using to compare data?

MR. KOWALEWSKI: The Corps would have no problem. We would have to consult with the Lew-Port School, the property owner, but if anybody wanted to splint samples with us and get their own analysis done, that's fine.

MR. CATALANO: Thank you.

MR. KOWALEWSKI: And I should add that in the past, the New York State DEC does do that regularly as part of our investigations.

MS. KREUSCH: Okay. Next question? Ann?

MS. ROBERTS: I have a concern about the Remedial Investigation Addendum. I don't know if we could put the slide on that shows the uranium contamination in groundwater around the IWCS?

MS. KREUSCH: There we go. That one?

MS. ROBERTS: Yes, great. Thank you. Looking at that particular slide, I can pick out where the R-10 pile is, but I don't see that that actually accounts for the very high levels of uranium which is south of the IWCS. I have got concerns -- in fact, I've spent a

lot of time looking at what data there is from the environmental monitoring program and at the end of the day, I've come to the conclusion that the IWCS is leaking. There appears to be radium showing up in the lower water-bearing zone and the levels of uranium south in the upper water-bearing zone to me are more suggestive of leakage, rather than pre-existing contamination from the R-10 pile.

I'm also concerned that when you show that uranium contamination moving along to the northeast along the pipeline that there has been no investigation of the water line which is, basically, the path that that thing has taken. You actually show some contamination in one of the sanitary sewers which then heads north, but you don't follow the water line in a northeasterly direction and looking at the data from the RI, it seems to suggest that that waterline is contaminated, that, in fact, is a preferential pathway. So, I think I would feel a lot happier if somebody did an investigation on that pipeline.

MR. FREDERICK: This is Bill Frederick. I can speak on the contamination --

MS. KREUSCH: Bill, would you go to that microphone that's in the back in the center if you're not going to come to one at the table?

MR. FREDERICK: It's Bill Frederick. Actually, when -- one of the forensics things that we do when we have an aerial photo analysis done, it's something that we have to probably get out and let the public know more about and what it is, is it allowed us to kind of take slides of the operations of the facility over time, which is a good thing.

It kind of allows you to go -- have a little a-ha moment along the way and one of the things that we noticed around Building 409 at the very south end of the IWCS, was that building is completely in one of the slides and I'm trying to remember what the year was, if it's an early-on year, like 40's through 50's and that building is surrounded on three sides by very visible piles of material that are highly coincident with a lot of the

groundwater impact that we see out there.

It is -- it's like, a real telltale sign. You're looking at it going, oh my goodness, look at this. So, that's one of the things why I think we see the halo kind of around the old Building 409 foundation is there was almost like a U-shaped surrounding of the building by waste materials. They had stored some material out there for a period of time and at some point in time, they moved them. Relative to the pipeline, we have build Well 0W11A, Michelle?

MS. BARKER: B.

MR. FREDERICK: 11B over up in that -- I guess if you want to call it that northeast arm of that plume and what we did is we actually used pipeline contamination to kind of connect the plume with an assumption of that could -- we thought at first there might be some pipeline migration issues. Some of the -- when we started looking at some of the data, we starting thinking, well, maybe they're not quite connected and so, probably

what the rendering we're going to have in the future will be more of a plume condition in the south.

MS. ROBERTS: But you haven't looked at the waterline. You looked --

MR. FREDERICK: Did we take the waterline? That was a pressurized line, right?

MS. BARKER: Yes.

MR. FREDERICK: And so, was there bedding on that pressurized line?

MS. BARKER: No.

MR. FREDERICK: Did they take that -- there was no bedding on that?

MS. BARKER: No.

MR. FREDERICK: Is that one of the concrete-encased ones?

MS. BARKER: Right.

MR. FREDERICK: So, concrete-encased clay --

MS. ROBERTS: Have you excavated to look at that because --

MR. FREDERICK: Yes --

MS. ROBERTS: -- because it seemed to be a

variety of water lines. Some actually had bedding, some didn't. I think what makes me suspicious is the number of samples where there is contamination showing up in the wells near that waterline.

MR. FREDERICK: I mean, we -- there was also -- like, we'd have to look at things like that. We have to look at things like operational corridors and roads and stuff like that that were used on-site. That's what we were trying to do with the aerial photo analysis. Why are we finding little spots here and there? If we look at the these waterlines and we're like, God, these waterlines are really -- they're like, pipes encased in concrete, like poured concrete in the --

MS. ROBERTS: Not always.

MR. FREDERICK: Not always, but I think the large majority is really --

MS. ROBERTS: Right, but looking at that and the lack of investigation on that waterline when you have -- I mean, you're

showing this as if the contamination is spreading along the sewer line.

MR. FREDERICK: Yes. We did that conservatively because that connects the dots using --

MS. ROBERTS: Right, but you haven't sampled further to the east --

MR. FREDERICK: -- the data from the --

MS. ROBERTS: -- for the leak. So, the water line --

MR. FREDERICK: The more you take a look at the data and the more you take a look at the surrounding information both in the RI, you're having a head-scratching moment and that's okay.

MS. ROBERTS: No, I'm not having a head-scratching moment. I am thinking that the waterline is contaminated and you haven't actually investigated it.

MR. FREDERICK: Inside the line itself?

MS. ROBERTS: Yes.

MR. FREDERICK: Did we investigate those lines, Michelle?

MS. BARKER: You have --

MS. KREUSCH: Michelle, you need the mike if you're going to --

MS. BARKER: Oh. I was just going to say that we did not investigate the water line as part of the remedial investigation and the reason we didn't is because of use of the line. We focused more on the waste lines like the sanitary sewer and acid line.

MR. FREDERICK: Right. Because it was a pressurized line and in use and everything like that.

MS. BARKER: Right.

MR. FREDERICK: Is that a cap line?

MS. KREUSCH: Mike.

MS. BARKER: Sorry. So, you're talking the --

MR. FREDERICK: The water line.

MS. BARKER: The 42-inch -- the intake line? Is that the one you're focused on?

MS. ROBERTS: It would originally have come from there, but it's farther on and it feeds -- it feeds into that set of pipelines

that go north, but considering where it -- how close it passes to the IWCS, I would have thought that that would be a priority to look at because that heads up north.

MS. BARKER: Right and actually, the fact that the bedding material is not in a preferential pathway and the use is the reason it wasn't sampled --

MS. ROBERT: But not all of the water lines -- some of them did have bedding.

MS. BARKER: Not on this portion of the site. We focused on the red, elongated area is the manholes of the sanitary sewers, so --

MS. ROBERTS: Right, but if you look at the results that you got from the sanitary sewer, then the really high spot in the sanitary sewer is where it intersects with the water line. The contamination there on either side of it goes away. Yes, in the sanitary sewer. So, the water line --

MR. FREDERICK: I don't find that unusual, though. I mean, sewers collect that kind of stuff. I mean, there's sediment in sewers --

MS. ROBERTS: Right, but my point is, given the -- if you look at some of the wells, temporary well points that you --

MR. FREDERICK: The good thing is that we have a point up there that we're monitoring that groundwater impact and when it comes down to assessing our -- creating our feasibility study, all of those utility lines which we sampled with the in --

MS. ROBERT: But not the water line. That's my point. You have overlooked the water line and it passes right close to the IWCS.

MR. FREDERICK: The water lines that don't have surface exposures or have collection points because they were on a different pressurized system, the material probably would not -- I wouldn't figure out a way to --

MS. ROBERTS: I think it's headed along the water line. You think --

MR. FREDERICK: The water lines are quite encased in a big, monolithic concrete in the ground. There's no --

MS. ROBERTS: Right, but the wells which are close to the water line are actually showing contamination. So, whatever is in it is migrating out.

MR. FREDERICK: It's close to the other sanitary line.

MS. ROBERTS: Right, but if you look at the actual results for the sanitary line --

MR. FREDERICK: Right, but the likelihood of getting into a pressurized line, though --

MS. ROBERTS: I know, but I'm just telling you what your data tells you.

MR. BOUSQUET: I guess what -- this is Steve. I guess what Bill is really trying to point out is that the use of the line would not -- its intended use would not promote any off-site migration because it was carrying -- it's a pressurized water line that has water, clean water running into the site. So, it's not like it would be a sanitary sewer or a storm sewer that potentially could carry material off-site.

MS. KREUSCH: That was Steve Bousquet for

the court recorder.

MS. ROBERTS: I can see the logic of that but I think the data from the RI tells a different story so, could I request that the Army Corps go back and just look at the water line and evaluate the data you have?

MR. BOUSQUET: I guess we can go back and take a look at the data that we have to address your concern, but I don't -- like I said, from this point of view, I don't see that that water line is a pathway.

MR. KOWALEWSKI: Ann we've got your report today and I want to thank you for putting it in writing giving us the report that you've done and yes, the Corps will go through that report and we have no problem following up with a telephone call and discussing, you know, our look at the data and where we might go in the future.

MR. ROBERTS: Yes, Gerant Roberts just following up on the discussion. I find it a little odd that where there's some data that supports a hypothesis that is argued against

with a hypothesis why it can't be true. I think when you have a reasonable hypothesis, the only way of scientifically answering that is to actually do some testing, not to put a counter-argument.

This whole process is not about point and counterpoint. It's about protecting, you know, the citizens of this environment. So, I think you have a reasonable hypothesis that your data is showing this, that while it's pressurized and this, that and the other, is it pressurized today? I don't know. Is there a hole in the concrete, is it leaking, who knows? I don't think anyone has been inside that pipe to check. So, don't counter-hypothesis with another hypothesis. Please counter it with data that is transparent to everyone.

MR. KOWALEWSKI: And I guess I'll just close this. With the purpose of the RI is not the last data collection and then, the Corps walks away. It's to collect enough data to conduct the feasibility study and so, what I'm

trying to say is, this is not the end of data collection. It's not trying to put to rest forever an issue. It's -- the purpose of the RI was to get enough data to go into looking at alternatives for cleaning up the site, not to walk away and do nothing in the future.

MS. KREUSCH: Okay. I need to remind everybody to please state your name before you speak.

MR. FREDERICK: This is Bill Frederick again. Honestly, those lines have enough impact that they'll be eyeballed in the FS.

MS. KREUSCH: Thank you, Bill. Next question. Amy?

MS. WITRYOL: Just adding to that topic we do have residents here tonight who live along a pipeline which the Town of Lewiston tied into between Lower River Road and that LOOW site and that was a water intake line and that shouldn't have had anything but fresh water in there, but the finding, when was it, back in the late 70's are whenever the Town went to tie into the end of that pipeline, they found

that there had been hazardous waste pumped into it, so in this community, we're particularly questioning uses of pipelines and expectations what we will and won't find until we actually have the hard data. Thanks.

MS. KREUSCH: Okay. Yes? Please state your name.

MR. MYERS: Yes, I was going to add to the --

MS. KREUSCH: Your name?

MR. MYERS: Kevin Myers. I live on Pletcher Road and we're about 100 feet away from that pipeline right now and it went through the river to probably 401 Building for cooling water and it's a big pipe, 42 inches in diameter which is like, every foot would have 72 square feet of volume and I guess it was pressurized.

I'm not sure if it slopes to the river or not because I assume after they decommissioned, they probably dumped stuff in there because back then, that happened and it was left insecure -- unsecured and it was

probably used to dump in afterwards and I think that there's a big responsibility even for that illegal dumping on DoD because, you know, they just walk away from that and Tim from the Water Pollution Plant and Paul from the EPA, they doubt there was anything dumped in there dangerous because it was used for uptake, but I don't think that proves conclusively that it wasn't and I don't see why it can't be tested and I guess they're afraid if they did find something in there, it would be more dangerous to open it up and to clean it, but the problem is, I live on Pletcher Road and they just built -- they built new houses, developments, roads right over this pipe and next to my house, there's now a water retention pond which, you know, is fairly deep, so there's possibly pathways now and also, to peoples' houses and water lines.

I think there's evidence that it should be looked into and that report that Amy talked about was by Credo Associates. The Town did it and they found mercury and quite a bit of

it. I sent a copy of it to Paul's office and the summary of that said that that -- those chemicals didn't come from the river, they leeched back down to the river from the pipe.

So, I don't -- every time I come to these meetings, no one ever talks about the pipe and I don't know why. I think it's kind of important because it's a pathway right into -- it's a poison conduit from this place and right through the community.

MS. KREUSCH: Paul?

MR. GIARDINA: I got involved in this. In fact, I just met Mr. Myers tonight, even though I answered his letter two days ago, thanks to the Corps of Engineers who found the Agency's original response faster than we found it. So, to put this in proper perspective, in my understanding -- and I would welcome the Corps if they've got different information to correct me if I'm wrong, but the pipe was cut.

The intake pipe was cut and sealed after stuff happened at LOOW, after the work was

done. The question was, did illegal dumping go on into the pipe after that by others not related to LOOW and then, the question is who's responsible and what's worse, looking at the pipe now and exposing workers to danger or letting it sit and I think that needs to be look at. Unfortunately, I don't know that that's a Department of Defense, Corps of Engineers' responsibility or a local responsibility but clearly, if there's a history of illegal dumping going on, it needs to be checked out one way or another, even if episodic types of things are discussed and I don't know the next step because it's not something we would necessarily deal with and I don't know where it is, but there's got to be a path forward to get you a better answer.

MS. KREUSCH: Does anybody on the Corps team have anything further to say on that? Okay. Next question. Amy?

MS. WITRYOL: Just to keep things moving, I -- just to pop back to the school for a moment, Michelle, I apologize. I missed the

presentation earlier. Was it the same one that was given at the school board meeting last week?

MS. BARKER: The one that Mick Senus had done was the same one.

MS. WITRYOL: Same one? Okay. Great. Well, in just looking at the -- my recollection from the presentation last week is I did have several questions, but I think that it's similar to Building 401. Will we actually see a sampling plan, you know, two weeks before the Corps goes out into the field? While I've heard it mentioned that Joe Gardella has looked at everything and is fine with it, I haven't heard Dr. Gardella say that and I know he's a big proponent of public input, so I'm wondering if we could have, you know, some sort of, you know, a defined window in a, you know, News from the Corps note so we can look at it and make comments to the school and the Corps, just informal comments that you don't have to necessarily respond to.

MR. SENUS: This is Mick Senus. Yes,

you will have time to review that. The work plans are on the web right now. The addendum to the -- from the Waste Water Treatment Plant that we sampled last year, there would be an addendum to that that our contractor is working on right now. We expect those within say, two weeks.

MS. WITRYOL: So, you're doing this under the Lewiston Waste Water Treatment Plant Project is where, how your rolling in the school sampling?

MR. SENUS: The work plans, health and safety plan, all the standard regulations that we need to abide by. We will produce an addendum really is what you want to look at where we are sampling, how we are sampling very specific to Lew-Port, that's what we're doing and we will but those on the web.

MS. WITRYOL: Okay.

MR. SENUS: You'll have at least two weeks to go ahead and review those. We don't plan on sampling until late July or August. Does that answer your question?

MS. WITRYOL: Yes, it does. The only thing I would add only because I've mentioned it in previous years is that as long as we have 2,000 curies of radium-226 sitting in the Niagara Falls Storage Site, I think every parent in this community would like to see deep and shallow groundwater monitoring wells between that Southwest Drainage Ditch and the school property unless and until we can prove beyond the shadow of a doubt that we've got a monitoring system in place that is absolutely foolproof and that there's nothing that could conceivably slip past any of the wells that are in surveillance right now. Thank you.

MS. KREUSCH: Thank you, Amy. Paul.

MR. GIARDINA: The water line, put that on the EPA's to-do list. In talking with Mr. Myers here, there may be some things we can look at and at least identify another path forward, so give that one to us.

MS. KREUSCH: Okay. Thank you. Additional questions? Ann Roberts?

MS. ROBERTS: I had a question or a couple

questions relating to the RI Addendum. I was quite disappointed, really, that the public were not asked for input into the sampling plan for the RI Addendum as you're probably well aware and I was quite disappointed that A, the RI Addendum does zero sampling of lower water-bearing zone which is, I think, a data gap in the RI that there is very little sampling of the lower water-bearing zones. I mean, as I said, I have concerns that there's leakage into that zone from the IWCS.

I was also disappointed that there didn't seem to be any samples or relevant sampling south of the IWCS where, in the lower water-bearing zone, you have these high concentrations of uranium. I know we talked about the explanation of storage in that area, but that area was supposed to have been cleaned up before the IWCS was created, so there are records, documents to say it was cleaned.

So, I'm just wondering why there wasn't some sampling south to try and determine

whether the uranium contamination in that area. Either it's coming from the IWCS or it's pre-existing. I don't believe it's pre-existing, but I don't see any sampling to try and prove or disprove that.

MS. BARKER: I can address that.

MS. KREUSCH: Michelle Barker.

MS. BARKER: Thank you. I'm just making sure I get everything in for your comments here. The first is the work plans. When we started the remedial investigation, we developed an extensive amount of work plans, both safety plans and health plans and sampling plans. For the RIR Addendum, our strategies, our sampling techniques were similar to what we used for the RI. The actual sample locations we identified in the work plan ended up being changed in the field and the reason is that we sort of took an approach to this field effort as we have a general feel for the areas of interest which we highlighted in June at the public workshop.

When we got out there, we sort of let the

field results speak for themselves and we adjusted the locations based on preliminary data we received to make sure that we sort of worked in a realtime mode. So, how we did that is we would -- we had some quick turnaround analysis for uranium, which is one of the indicators that we were looking for.

We also had field screening results, so we sort of let them guide us to where these well locations should be, so it was sort of a different approach than we've taken in the past and I'm not sure, you know, even with our input for the work plan that it really could have resulted in what ended up happening in the field and I think we intended on that to begin with.

The second item you mentioned is the lower water-bearing zone. We did extensive sampling with the lower water-bearing zone during the Remedial Investigation. One of the recent additions in 2008 to the Environmental Surveillance Program was we did add a deep well that's immediately downgradient of the

cell, so that would be part of the upcoming results to, you know, show as a better protective measure.

The south of the IWCS, we did add a well south of the IWCS during the Remedial Investigation Addendum. We located it in an area that was sparse and shallow coverage for that lower portion of the cell, so we made sure that, you now, there was sufficient coverage throughout the southern half. We located that immediately south of the cell to best be a best indicator of, you know, any kind of cell breach or integrity issues. We felt that was more critical.

One other thing to note is, that area south of the cell is actually sort of upstream, if you will in groundwater with respect to the cell. The groundwater direction actually goes to the north which is straight up and a little west, so I understand that that is an area where the clay cutoff wall had an increased amount of sand lenses and therefore, potential vulnerability

specifically in that area, so we try to look at where those sand lenses may be and make sure that there's adequate coverage in the southern end.

MS. ROBERTS: I hear what you're saying, but I think what concerns me is that there is an assumption that the high levels of uranium that you're showing in red on the diagram are caused by pre-existing contamination and I would have thought you could have done some sampling which would either confirm or disprove the theory that it's leaking. I see nothing. I see one sample which seems more compelling to map out any uranium in groundwater to the west whereas I'm far more concerned with the migration of uranium in groundwater in the upper water-bearing zone to the east because you have preferential pathways there, you have the Central Drainage Ditch and I'm -- to me, it just looks as if it's leaking.

I cannot believe that you're getting those sorts of levels of uranium in an area that was

supposedly cleaned up. So, I would think there is -- that ought to be a high priority to prove or disprove whether the IWCS is leaking at that particular spot.

MS. BARKER: We do have some other areas on site that are away from the cell that were known, documented storage -- rad. Storage areas that have very elevated concentrations, specifically, uranium which is sort of what we used as an indicator, you know? It's the most mobile contaminant that we have on-site from a radioactive standpoint.

So, the levels, I guess, don't surprise me. They're comparable to other areas with known rad. storage. I guess our main focus was, as you said, to ensure the integrity of the cell and to monitor that closely. So, that's why we focus that well immediately south of the containment cell versus somewhere that is not going to migrate off-site.

The purpose -- the main purpose of the Remedial Investigation was to ensure that -- to kind of focus on off-site migration so that

was our -- that was our focus, but we did add that well in as an extra measure for the southern half.

DR. KEIL: We have wells to the south, that have been involved in environmental surveillance, true?

MS. BARKER: Yes.

DR. KEIL: Our environmental monitoring reports showed trend analysis over the past ten or more years and we don't see increasing trends in uranium.

MS. ROBERTS: I do. I do. I've been through all the environmental monitoring reports, I find it highly, well, odd that a detection of radium in the lower water-bearing zone to the level of 5 picoCuries. Thereafter, the DOE stopped measuring the lower water-bearing zone. I mean, if they had included a further piece of data to say, well, we thought this might have been due to sediment, so we did a filtered sample as well as an unfiltered, but there is nothing.

I mean, the response from the DOE is well,

we stopped measuring and that, to me, is highly illogical. If you find contamination, you don't stop measuring and similarly, it's the same situation when I look through the performance monitoring where the DOE were actually measuring the levels of liquid inside the IWCS.

It was supposed to operate for five years. The data that I've looked at, which was limited, seem to suggest there were problems, that the water level increased dramatically after closure which is something they talk about, that this could be a serious problem, that it's indicating that the cell is leaking.

That seems to have occurred, but the data is not really complete because lightning strikes and instead of continuing this program where they say they've built seasonal variations the level inside the IWCS, the program disappeared.

DR. KEIL: We don't necessarily agree with what the DOE decided to do about continuing or not continuing certain wells in the program

and that's why in the last couple years, after we've evaluated our own Remedial Investigation data, we've re-evaluated our entire monitoring program and we added some wells back into the program, so --

MS. ROBERTS: Right, but you've only just recently added one well that monitors the lower water-bearing zone. There has been no monitoring of the lower water-bearing zone for the environmental monitoring program for several years.

MS. BARKER: And I think one of the reasons for that might be that we did extensive monitoring the lower water region in the Remedial Investigation up until even 2003, I think. So, with our Environmental Surveillance Program, we're sort of monitoring the worst areas or the area that are most vulnerable to focus on.

So, you know, the first sort of indicator would be that 4B well which is right immediately downgrading of it so. So it's not like we don't know what's in the lower water-

bearing zone. Has every single lower water-bearing zone groundwater been sampled, no, but the majority of them have, so we do have that data available.

MS. ROBERTS: Right, but has the well where the DOE found contamination been sampled?

MS. BARKER: That one has not. I'm not sure why that was and it can be. As we talked before that, that radium result was actually an unfiltered and a lot of times, radium likes soils. So, if a sample was mixed or, you know, as far as sampling if they'd bailed it then it would be turbid and you might see some radium.

Unfortunately, as you pointed out, they didn't have a filtered sample to accompany that to show that that is why it was what it was, but we're certainly open to looking at that if that's a concern.

MS. ROBERTS: Thank you.

MS. KREUSCH: Michelle, is that something I should put on the action items?

MS. BARKER: OW15B. OW15A. Sorry.

MS. KREUSCH: 15A?

MS. BARKER: Yes.

MS. KREUSCH: And we're going to resample?

MS. BARKER: Yes, look at re-sampling.

MR. KOWALEWSKI: Bill Kowaleski. Ann, I just wanted to add that our overall scope for this site does include a groundwater component, okay? And so, we can't leave the site until we fully address the groundwater issue which would come after the IWCS and the soils are addressed. So, I go back to the fact that the data we have today is really to support the feasibility study and the solution for the IWCS and the ROD and just to confirm that there's no imminent hazard out there, we still have much more work to do when it comes to groundwater down the road.

MS. ROBERTS: Could I just ask if there's any plan to sample the lower groundwater in other areas in the NFSS because certain exposure units, there was no investigation into lower groundwater. Most of the wells

seem to be around the IWCS and outside of that exposure unit, there was zero monitoring in certain areas, so is there plans to extend the or do additional sampling of the lower water-bearing groundwater?

MS. BARKER: We did do sampling outside of the IWCS area in the lower water-bearing zone during the Remedial Investigation, but if there are areas that you have specific interests in, we can talk with you as we kind of work through your comments and mutually develop a response on them.

MS. ROBERTS: Yes and I think it's just when I looked at some exposure units, there wasn't any investigation at all and this happened -- I'm going to say five or six of the exposure units. So, when you looked at the actual number of wells that were sampled in the lower water-bearing zones, it was only a small fraction and the focus seemed to be entirely on the upper water-bearing zone.

MR. FREDERICK: This is Bill Frederick. I think what we were doing is we were kind of

following the paradigm that when we were looking at the lower water-bearing zone around the Interim Waste Containment Structure, the legacy plumes that are around it relative to -- and then, looking at the lower water-bearing zone in the area, the reality of it is the lower water-bearing zone does not show the impacts to the extent that well -- no, to no extent as the upper water-bearing zone and so, the paradigm of -- around the Waste Containment Structure to have the lower water-bearing zone almost represent a clean zone, I mean, it's naturally a mineralized groundwater and so, when we were looking at some of the other EU's and we were finding surface impact, that we wanted to identify the groundwater impacts from those surface impact or chasing some legacy groundwater that we may have had from the DOE, we just kept it to the upper water-bearing zone, knowing that that's the main transport pathway and the glacial lacustrine layer in between the upper and lower water-bearing zone acts as a nice

aquatard between those two hydraulically-separated units and so, the zest of the lower water- bearing zone was, I guess, not so zesty simply because of the paradigm of the IWCS area with being, you know, more of the impacted area and not seeing the same impact at depth.

So -- and then, there's a pathway component, too when you're looking at pathways down to the lower water-bearing zone and glacial lacustrine layer maintains a good -- deadens the inter-connectiveness of those two units. So, the migration, even a vertical migration between those two units maybe in certain areas of the site, that vertical migration is more robust in other areas.

That package of clay in between the two units basically acts as a perching zone for the upper water-bearing zone. So, I mean, that doesn't mean we can't -- that that's the reason behind the -- just the thought process. That's why probably be if you want to consider the lower water-bearing zone not getting it's

due, that was the thought process.

MS. KREUSCH: Okay. Bill, for those that are not as familiar as other with the upper and lower water-bearing zone things, when you talked about the aquatard, cold you explain to them what that means as far as vertical migration?

MR. FREDERICK: If you think of a layer cake style structure, you have the upper water-bearing zone is the top cake part of the layer cake and then, you know, then there's a clay zone that lies in between the top part of the cake and the bottom part of the cake. So, if you think of a frosting zone in between the upper part of the cake and the lower part of the cake, that frosting zone in that cake is a clay that inhibits the movement of water in between those two units and they respond hydraulically differently. Like, during the dry season in the summer, the water levels in the lower water -- in the upper water-bearing zone goes down and where the upper water-bearing zone are actually going up because of

just the way the recharge cycles occur and show hydraulic separation. So it's kind of like, a layer cake style with one of those pieces of cake being a.

MS. KREUSCH: Before over here, there a question in this corner of the room. Could you state your name, please?

MR. AGNELLO: Vincent Agnello, resident in Town of Porter. I would like to make an observation and then, two questions. I've been coming to these meetings for approximately two years plus. We -- the RAB has been disbanded and these quarterly meetings are supposed to be for citizen input in lieu of this citizen's RAB and watching the discussion today for 45 minutes or so on this pipe and whether or not there's contamination here shows that this process is totally flawed and it's a total failure.

I thank Ann and Gerant Roberts for coming and being active. They've been active for many, many years in studying the problems on this LOOW site, which extend up approximately

68 years of mistakes and flawed decision making and we have input from citizens and all I hear is no, it's not that way, it's not that way, it's not that way, but nobody is saying I'll look at it.

With all due respect to Michelle, it sounds like there's one person here making all the decisions here. I don't know of the whole process and I apologize if that's a misstatement. I would like to see more citizens involvement and not just at quarterly meetings.

I would like to ask two questions. One is contamination on the site. We've been talking about upper and lower barriers of water and contamination and contamination around the buildings and so forth. I know it rains and water has to go somewhere. What is being done regarding water on this site and is it leaving the site in any way -- contaminated form, whether it's chemical or radiological?

MR. FREDERICK: I'll take it. Bill Frederick again. We actually -- the

monitoring that we do. I'm going to look at Michelle for a second and think out loud. We do quarterly groundwater levels -- I'm just going to run through a little inventory, mental inventory for a second, quarterly groundwater levels, semi-annual surface and sediment and then, annual groundwater right know.

MS. BARKER: I think it's biannual groundwater.

MR. FREDERICK: Biannual. Semi-annual groundwater, two times a year. So, the sampling that we take for the surface water especially, that definitely would be the most mobile pathway. That's how things would get off this site the quickest. We sample that twice a year. The sediment and samples at locations that kind of come onto the site, in the middle of the site and then, leaving the site and some of the things we're going to be looking at and we've been discussing with the folks here and the EPA is picking a few locations that are a little bit more robust,

doing a little bit more tighter sampling on it.

It's kind of in the planning phase, so it's like, in the arm-waving phase, so somewhere down the line there will be more data to not only look at, but information to show that yes, it is protective. Right now, nothing is leaving the site, nothing is of concern to the public to a point where, you know, you don't have to worry about the water coming of the Central Drainage Ditch from the site. We get water coming on from your modern neighbors. We sample that coming on so we can make sure that anything coming on our site isn't bad as well as, you know, leaving our site. So, we want to make sure we both know what's coming on and leaving. So, if there is something that's attributable to us, we can catch that and we can do something about it.

For groundwater, we have looked at the groundwater impacts that we've had. We've added more wells. We're going to be added more wells to our Environmental Surveillance

which is like that semi-annual monitoring and some of those wells are like, at the fence lines and stuff like that if you want to call them compliance points.

And right now, the concentrations that we do see in some of those wells that we just installed recently are above drinking water limits, but they're in -- the good thing is that the groundwater on the site is so immobile and it moves so slowly and the absorption of any kind of contaminant in the soil like the radium and the thorium and uranium is a little more mobile, but it still has a tendency to be like -- the soil acts like a sponge, so it doesn't allow the -- the water can move faster than the contaminants can move. So, is -- am I answering your question? Is it safe? I believe it's not a safety concern to the residents of the area based upon the numbers that I see and these numbers are pretty low. Is it something that you want to leave there forever? Of course not.

DR. KEIL: The -- all of our years of environmental monitoring surveillance reports on the web and it shows there's nothing leaving the site that's an issue. In surface water, we have been monitoring since 1997, '98, so that's the purpose of this cap was to contain it and as Mr. Giardina said from the EPA, the cap is working and to answer your earlier question, the reason we're deferring to Michelle, Michelle has been the Project Engineer on the project for ten years, so she's the one that has all the facts and figures about the sampling off the top of her head, so we work as a team to make decisions on the sampling and just the fact that we did the Remedial Investigation Addendum was to address all the comments that we got from the public, from the RAB group, from all stakeholders, so we listen to the comments. We took action. We were trying to address the concerns by doing further sampling and evaluations and as Bill has also stated, we are moving forward with the feasibility study.

We're looking at -- all options are on the table right now to look at what -- and how to address the residues underneath the IWCS from plume removal, you know, variations of that, so we're trying to make sure that it will remain protective of human health and the environment for years to come. We're trying to be responsive to your concerns.

MS. KREUSCH: Paul Giardina?

MR. GIARDINA: I'd like to shift gears slightly because there was one other concern that was raised this afternoon that's actually been raised by some of the citizens I was talking with and I'd sort of like to get it started now and rolling. The history of the site shows that the Department of Energy at one point had a piezometer reading in the water levels in the actual building where the K-65 wastes are and we've talked about it with the Corps and it appears that it was in place, it was working and then it stopped working, struck by lightning or something and then, there is some reference that it might have

been repaired.

And the question that I think we need to say is what -- and I phrase this question -- we'd all be a lot better off if we knew what the water level in the building was and the IWCS was, but from an EPA perspective, it's probably a very bad idea to try to do something heroic like set up something that could jeopardize the clay cover and then, you'd have a lot of radon coming off of it.

The question I have is, what do we now really about the piezometer that's there? Is it useable, not useable and as I now recollect after hearing today's thing, was it really installed more to worry about the water from the actual waste of the -- was, you know, had some degree of water? What were they measuring and if you could find the records and we can figure out is there a smarter way or is there an existing way to understand water levels that might be occurring until such time as we actually can get the waste out of here? That's that I think we need to --

and Bill, am I phrasing that what you want?

I Think that's what we really want to do, you know? It's EPA's position that cap seems to be working just fine to keep the radon in and by far, the radon is a serious environmental pathway that we want to control, so we're not about ready to approve any kind of change that would drive something if there is some waywe can figure out in but some existing way, we'd certainly like to relook at that and relook look at that relatively quickly and I would just suggest maybe by the next quarterly meeting and we have a little conference call set up in August, so even if we can get it sooner than that, that would be good.

MS. KREUSCH: Okay. Vince had another question and then, the gentleman in the back.

MR. AGNELLO: My second question and maybe this can be referred to Paul Giardina, in the past, there's been question about a disaster plan for this community if there's a breach of the IWCS and BP is proof that a worst case

scenario does happen and today, we did have an earthquake just north of Ottawa I believe it was, so earthquakes do happen. Is the -- will the EPA or will somebody in this room here work on a disaster plan for this area are should I just move out of this community because I'm sorry I ever moved in.

MR. GIARDINA: Well, you're asking a question that isn't EPA's responsibility but I'm sure I can turn that over to the other people who have some responsibility for it and we actually have discussed this. EPA has discussed this with the Corps and our concerns are -- and I don't want to go into too much detail before you, but if something were to be left on-site for a long period of time, we no longer want people to look at risk. We want people to look at it in a deterministic fashion and I used Yucca Mountain in my speech and I assume there will be an earthquake. Assume there will be a tornado. Assume all of these things can happen over a finite period of time and then, determine what you have to

do to mitigate that as best as you can using engineering barriers or whatever.

Now, I'm going to comment very carefully here. I am aware that Department of Energy-owned facilities, which this is and those that are tended to by those who handle it are responsible for these kinds of issues and that's obviously following 9/11. I know something about that considering where my office is. I know that the Corps is addressing that, okay?

It's also a function of what the state does. There's a State Emergency Management Office that does that and they're required to look at it such that they postulate what's the worst thing that could happen and have mitigation techniques for it and I've addressed that it.

So, it's also because of some national security issues, not something that you -- because in the short term, if somebody actually took an action against the site, that might have more problems than, you know, if

there's a 5.5 earthquake in Quebec.

MR. AGNELLO: There's a lot of scenarios that can happen.

MR. GIARDINA: At Yucca Mountain, we postulated that there would be -- if anybody has been to this area of Nevada you might chuckle but what happens when the next glacier takes off the first 1,000 feet of soil and that's what we're sort of figuring. It's really the responsibility through other areas but and I know the Corps is looking at it.

MR. AGNELLO: Thank you.

MS. KREUSCH: There's a gentleman in the back in a blue shirt.

MR. GIARDINA: I think Bill knows more about this than I do.

MS. KREUSCH: Okay. Bill?

MR. KOWALEWSKI: Bill Kowalewsi with the Corps and I just wanted to add to Paul's statement. The bottom line, it is a DOE-owned facility. The Corps is the caretaker and we've put a lot of serious work and effort into security and emergency response since

9/11 to include planning, to include working with the state and Federal Department of Homeland Security, Department of Energy.

And while Paul eluded to, you know, we can't give out the combination to the bank vault, I want to reassure you that those discussions those relationships that planning has taken place and you know, the Corps is ready 24/7 to respond and kick that off if needed, which did, by the way, occur today at a local level. Within a minute of us shaking in our offices, this team was on the phone to the site caretakers and directed them to do a walk around, a visual survey, a photographic survey and make sure that there was nothing wrong, so that system does work and I want you to know that.

MS. KREUSCH: Okay. The gentleman in the back, please state your name.

MR. BLUSCH: Sam Blusch and I live over here on Riverwalk. I just bought a house out here about a year ago. This is my first meeting and what I can see, we're damned if we

do and damned if we don't, so we've got to do something. We all agree that something has to be done. I think you're playing with a hand grenade with the pin pulled out.

From what I can see from my heavy -- from my experience in heavy construction for 43 years, the groundwater is going to pick up because those silos, they look like -- I was talking to this gentleman over here, them silos looks like to me that they're concrete. It was said here before they're going to put plastic down on the ground and that but when they start knocking those silos down and the building down, I'm assuming the contractor is going to use water hoses to hold that dust down. That's what they're talking about. That's what they usually do on heavy construction jobs. So, all that extra water is going to be hitting the plastic that's put on the ground.

So, you're going to have to have some type of containment-type berms or a pump or something to take that out with a truck

because that's when your groundwater is going to increase because as sure as a dime to a doughnut that's what's going to happen and then, you're going to get a lot of air pollution because I'm assuming they're going to use like the Indians did when they knocked down those grain silos in Buffalo, they're going to probably use a big steel plate on a crane and crack that up.

So, that's when your air pollution is going to come into effect because I don't know if that guy that's going to be a laborer on the ground with a water hose is going to be able to spray up onto top of that. Your pollution, you're going to have to watch your air movement in there, so your pollution is going to be blowing from the air and you're going to get a lot more ground pollution.

So, what I want to know and my question is this: If it does come to the point where I don't know too much about radiation where you're picking up a lot in the groundwater, you're picking it up in the air with your

monitors which I -- we used them on different construction jobs. We used it to pick up gas. Anyway, if that comes to a point where that level goes up, does someone in this room have authority to shut the job down so you can remedy the situation?

MR. BOUSQUET: Sir, my name is Steve Bousquet and I actually worked on several projects in the FUSRAP Program where we dismantled buildings. Most recently we took down Building 14 at the Linde Praxair Site in Tonawanda. What we're talking about building is, there will be a berm around that to capture any of the water that is run off of that and filtered, treated and disposed of in on accordance with state and Federal regulations.

I will tell you that when we took down that building at the Linde sight, we took it down in a surgical manner where we had realtime dust monitoring which is, I believe, planned for this site as well. We had also radiation monitoring that was upwind,

downwind, crosswind to account for any type of particles that may be leaving the site.

And I will tell you that in doing that, we used the aerial man lifts and things like that to mist the structure as we were taking it down. It's not going to be a wrecking ball. It will probably be something like a Cat 380 or something like that with a hydraulic grapple on it that will crunch it, lower it down. It will be a surgical removal.

So, I can speak with confidence that the plans that TES is currently working on and submitting to the Corps for review are going to have quite scrutiny to go through in our project and you're right. Heavy construction is a dirty business, but we're going to do our best and we have proven our best at the Linde site in taking down these buildings.

MR. BLUSCH: Thank you.

MR. BOUSQUET: Yes, sir.

MR. KOWALEWSKI: Sir, just to follow along, the Corps safety policy on your job is anyone, a worker, an equipment operator, a

supervisor can shut that job down as soon as they observe a hazard, so it is not like there's several layers of management or decision making. A heavy equipment operator can raise his hand, say this job is unsafe, they need to shut it down and that will happen.

MR. BOUSQUET: I'll tell you, sir, that we've had those types of stand downs where we we've had an issue where we have had a laborer or an operator, a union guy come up, say, you know what, I don't like the way this is going. I think we need to take a step back. And we have done that. We have done that. We will do that if that is the case, I promise you that.

MR. BLUSCH: Okay.

MS. KREUSCH: Okay. There's a question on this side of the room.

MR. GIANNETTI: Robert Giannetti, Village of Lewiston. I don't know if I'm entirely satisfied with the answer that was given to Mr. Agnello and I would like to pursue

specifically the catastrophic event question and most especially in the light of what happened today and I guess it's a two-fold question. One, what is the biggest danger and I don't want a qualified answer. If there is a ranking of these things, just give it forthrightly, please. What are the biggest dangers to this community from a catastrophic event, are they seismic, are they terrorist, what are they?

And I think we have a right to know this and it is reassuring that there are plans in place, but I guess we could start specifically with the seismic event. What is the effect of a seismic event that would affect the site in terms of is it a -- is it mostly a water event, is it an airborne event, is it both of those? This is a serious question and I think it's bought into light by something that has happened today and something that has happened as far away in the Gulf of Mexico with a unforeseen consequence. So, please try to address that in a way that a laymen can

understand this without undue qualification and in a forthright manner. Thank you.

MS. BARKER: Just to put it in perspective, so we have a 5.5 magnitude earthquake in Ottawa. Ottawa is about 228 miles from us as the crow flies. The cap was designed to handle a 5.3 to 5.8 magnitude epicentered here. We looked at the closest fault line which is the Clarendon-Lyndon Fault in Attica. So, that's sort of the design of the cell.

At that level, what it does is they have the protective three-foot clay cap that goes on top of the waste and it forms a crack. It would form a crack. It doesn't crack into the waste itself. So, from that standpoint, the biggest danger would be radon release. We do monitor radon as part of our Environmental Surveillance Program.

The terrorist, we've done studies. We've worked very closely with Homeland Security in developing scenarios, what could happen? If this happened, what would happen, from bombing

to planes running into the cap, you know, some kind of -- some may be sort of unrealistic looks at it and obviously, we can't get into the specifics of it.

But the one good thing about the placement of this waste is so you have the waste stored in buildings that were originally part of the freshwater treatment plant at LOOW. The basements of them are nine feet deep, so this waste is placed sort of nine foot below ground surface.

Then, you have many feet. You have over 20 feet of contaminated waste and debris on top of that with three-foot compact clay on top of that and 18 inches of topsoil, so you see where I'm going as far as, you know, the amount of explosion or the amount of impact that it would take to get down to these residues, so I hope that helps.

MS. KREUSCH: I'm sorry. I don't know your name.

MR. ROBERTS: It's Gerant Roberts. Thanks for the explanation, Michelle, in terms of the

design for earthquake protection. I guess what I wanted to ask on follow up to that is, I can see how you can design something to withstand a certain level of event, in this case, seismic.

I think most people would be aware that whether it be a bottle, a vehicle or whether it be a clay cap, things age. So, after 20, 30, 40 years of aging, what is the magnitude of a seismic event that can be tolerated and would that be modelled? Typically, there are multi-factors in aging.

There's thermal aging. There's aging due to erosion, there's aging due to possible fissures or cracks in the system and goodness knows what else, so how was that modeled and over what time period was that resistance to a 5.3 to 5.8 seismic event? Was that modeled covering over what time period?

MS. BARKER: This was a Department of Energy assessment and they looked out 1,000 years. However, just some things to note is annually, we do a radon flux event where we

actually put 180 charcoal canisters on the cell and we measure any type of radon that might be coming out. So, that's sort of a preliminary indicator of any kind of cracking or integrity issues that way.

We also do perimeter monitoring for radon. The settling aspect, we recently in 2009 did a topographic survey to measure the elevation of the cell to see if any settling had occurred that might compromise the integrity and we compared the 2009 with the 1991 or the original construction I guess since there was the addition on top of the cell to see, you know, if there had been any settling that might indicate any kind of issues and I'm just reading here to make sure I have it correct. The average change in elevation across the surface of the cell between 1991 and 2009 is plus or minus a tenth of a foot. So, that's good news. We have very negligible settling which indicates the integrity.

When DOE constructed the cell, they actually intentionally took anything that

might leech or degrade which might cause settling and they place it outside of the landfill itself. They didn't want to put anything in there that might encourage settling and so that's evident now today, you know, some many years later that it still shows it's, you know, still is around as-built elevations.

MR. ROBERTS: I think you'd agree, though, most of those observations that we made, for example, the dimensional aspect of settling are really just sort of semi-qualitative assessment. I guess my point is, is anyone with more current experience validated the model that this thing would last and survive, you know, seismic events to the level you indicated. I'm talking about a mathematical model that looks at multi factors of stress, you know. In a lot of deterioration situations and materials such as polymer, for example, you can have mechanical stress, chemical stress due to repeated expansion/ contraction, moisture levels, there could be

animal burrowing, I mean, all sorts of thing and the way to model that is to use a multi-factor aging model. Has that been attempted?

MS. BARKER: We actually, from the groundwater perspective, we have a three-dimensional model that we looked at different sort of failure scenarios, one being erosion of the cell or some kind of decay. We are in the Feasibility Study going to be focusing more on the integrity issues.

In looking further, you know, into the future, our first technical memo for the radon assessment is called -- is basically looking at the potential for radon to be released under different scenarios from the IWCS and the next one is the dose assessment, so I guess it's coming would be my answer that we're looking into. We've sort of ensure the current protectiveness but need to look into the future at these alternatives.

MR. ROBERTS: I don't wish to take up too much time. I did want to make a couple quick

comments on two of these things, one is still the analogy of the layer cake. I guess for that analogy to hold, it would seem that the clay layer was completely perfect throughout this sort of area of consideration.

I'm not a geologist, but I find it hard to believe that a clay layer can be completely intact 100 percent. Landfills, when they design these, they've used other layers in addition to clay and the clay landfills have been rejected as imperfect design, so why would a geological clay layer be 100 percent intact.

And the other point I wanted to make is, Karen, you mentioned I think quite categorically on a number of occasions is nothing is migrating off the site. We feel it's safe. I think really, you know, when someone makes such a categoric statement, you really have to say within the scope of the tools that we're using, my professional opinion is that nothing is migrating. I don't think you can stay categorically that nothing

is leaking, especially when wells have been removed over various periods of time. Thank you.

DR. KEIL: Yes. And thank you, I appreciate that. It is very -- I agree with that. It is our current understanding that the current data that we see that. We appreciate that.

MS. BARKER: To answer the first half of your question, we have Don DeMarco here. He actually conducted the groundwater modeling for the IWCS at this site.

MR. DEMARCO: Hi. I'm just behind you right here. My name is Don DeMarco and I am a geologist and I have studied at stratigraphy at this site in a fair amount of detail, both from the perspective of understanding that the depositional sequence of events that led to the sediments that have bee observed, but also with respect to the hydraulic properties of the materials that are on-site and having worked on numerous sites, one advantage I found in studying the site is the amount of

bore hole information.

And this led us through hundreds of bore hole. We were able to confirm the lateral continuity of the glacial lacustrine clay which is what we refer to it as, but that confirmed our understanding or expectation from a depositional point of view and just very briefly, I'll mention that the glacial lacustrine clay layer was deposited by a glacial lake.

That is basically a transgression of what we've referred to today as Lake Ontario, but at some point in the past, the water levels were much higher and as Lake Ontario currently covers a wide area, the lake covered this entire area, so the depositional sediments that led to the clay are regional in nature. Unlike some of the sand lens deposits that we see in the upper -- the brown clay till, some of those which are -- their origin is traced back to glacial fluvial streams which can be very localized and intermittent. The glacial lacustrine clay is regionally- extensive.

However, there is some variation in the thickness of the GLC, which we refer to it in an abbreviated form as a GLC. There is some variability in the thickness of the GLC but I don't recall exactly offhand, but I believe that the average thickness is something on the order of 15 feet.

With respect to the modeling, Michelle had hinted at the modeling. We did, in addition to baseline modeling, we're really focusing on groundwater here. I know a lot of the concerns with respect to an Emergency Action Plan. A more imminent risk might be related to air, but we studied -- using our groundwater model, we studied potential worst case scenarios and the impact on groundwater contamination and you had referred to degradation of various materials and you know, you might be referring to concrete and settling.

From our point of view as modelers, we look at the effect the any type of degradation on the increase in the hydraulic conductivity,

basically, the permeability of whatever the substance is, whether concrete or clay and in our model, to account for this, we considered not only a baseline case which is a conservative parameters, you know and our best estimate value of hydraulic value parameters, but then we also considered these worst case scenarios and one of the worst case scenarios considered, well, what happens if we have an animal burrow through the cap?

In essence, that translates into an increase the hydraulic conductivity of the cap. The cap would then allow more recharge to penetrate through. We also considered well, what happens if, unbeknownst to us at this point in our characterization, maybe there's a bore hole that penetrated multiple layers that we're unaware of?

So, we evaluated that hypothetical scenario and explored the impact on groundwater, but we also looked at earthquakes and I will note that the earthquake today has actually been downgraded from a 5.5 to a 5.0,

so it seems to be just outside the range that the cap was designed for. Although, of course, that's with an epicenter right at the cap and in this case, the earthquake was some distance.

But nevertheless, we considered these scenarios, however hypothetical they may be and investigate in advance what would be the effect. So, I just I guess in follow up to Michelle, I wanted to kind of give you a broader overview of some of the -- how we use the numerical modeling to evaluate some of these conditions that, in essence, really represent deterioration in the cap.

MR. ROBERTS: Thank you very much for that. That was very helpful. I think, however, when you put this into context in terms of quantity of high-level waste coming from this, you said half of the world's deposits are here, that puts it very, very high on the severity level. The numerical model is obviously very helpful in assessing the reaction to possible events, but I think

because of the severity of the situation, it would be prudent at least to combine the numerical model with some empirical data.

For example, in the case of a seismic event and I think Georgia Tech has a shake table frequently in the design of buildings when we're looking at San Francisco, the shake table was used with scale buildings and you can also look at the effect of various seismic events. It would be fairly easy to replicate the structure that you have, including the clay cap and subject it to empirical measurements to, in part, validate some of the numerical models that you have.

MS. KREUSCH: Okay. Thank you. Nona MCQUAY?

MS. MCQUAY: My name is Nona MCQUAY. I'm a resident of Cambria and I actually have two questions, one for Mr. DeMarco in regard to the geology of the area, if we really know as much as we should about it, because today in the 5.0 quake, the Niagara Escarpment Slope rocked and rolled, while in the City of

Lockport, my computer screen just flickered, so there is quite a variation given what's happening out there.

My second question is related to that and that is, that you did have a plan in place to go out and visually observe the cap and the surrounding area after this earthquake. My question is then, did you do any monitoring for radon which would be the risk and since I'm downwind, I would really like to know. Thank you.

MS. KREUSCH: John, do you want to answer first or -- John, you're going to go?

MR. BUSSE: Yes, I'll go first. Actually, we had an HP on site at the time who was overseeing some other work and he did have a monitor out there and he did walk the perimeter of the cap to verify that there was no leaking to verify the visual observations were correct.

MS. KREUSCH: Bill K?

MR. KOWALEWSKI: And I'll add that the event is not over with and we have discussed

the possibility of sampling some wells to see if there was any spike or change in any groundwater conditions after today's even.

MS. MCQUAY: I'd like to mention there was an aftershock that occurred. Not everybody felt it, but there was, so it would be a very good idea to keep monitoring. Thank you.

MS. KREUSCH: I'm going to let Don respond and then, Paul.

MR. DEMARCO: I wasn't aware that -- I hadn't heard that the Niagara Escarpment had rocked and rolled, but in some ways, it doesn't surprise me given the nature of the rock but with respect to the sediments on site, the stratigraphic units that make up the Niagara Escarpment are not present on the site itself with the exception of the Queenston Formation. The Queenston Formation is a reddish shale and that makes up one of the a lower-lying units in the Niagara Escarpment but the dolostone and limestone layers above the Queenston Shale are not represented on-site.

Now, what we do have on-site, the Queenston Formation sort of marks the lower -- the deepest extent of the lower water-bearing zone and the sequence of sediments that lie above the Queenston Formation include the basil red till, the eluvial sand and gravel unit, the glacial lacustrine clay, the upper brown clay till and then sand lenses that are embedded within that brown clay till, but I guess my point is, is that all of the sediments on-site are far are more malleable than the brittle rock that makes up the Escarpment.

MS. KREUSCH: Paul?

MR. GIARDINA: I have a question for John.

MS. KREUSCH: Could you lean toward the mike?

MR. GIARDINA: You said you had an HP on-site. If you didn't have an HP on-site, about how long would it take to get somebody there in your best estimate?

MR. BUSSE: It takes half an hour.

MR. GIARDINA: Okay. You could get

somebody there within an hour under most circumstances?

MR. BUSSE: Absolutely. We have portable monitors on site.

MR. BOUSQUET: I supervise all the HP's in the district and we could get somebody there within an hour, hour and a half tops.

MS. KREUSCH: Okay. Bill K and then, we're going to need to get wrapping up soon.

MR. KOWALEWSKI: I wanted to just follow up on John's statement about additional studies, for example, the seismic studies that you mentioned and that the Feasbility Study process that we're going through which would evaluate a range of alternatives for the long-term remedies would include the identification of further studies that might be needed to support each of those alternatives. So, while they may not be completed now, they will likely be mentioned in the feasibility study of things that are needed in the future.

MS. KREUSCH: Okay. We've got time for about five more minutes of questioning. Ann?

MS. ROBERTS: I just had a question about the grey clay in that, as I go through the RI, even with the limited amount of sampling in the lower water-bearing zone, there have been radiological contaminants found. So if the clay is so perfect, how did the radiological contaminants end up in the lower water-bearing zone?

MS. KREUSCH: Bill Frederick.

MR. FREDERICK: We're going to look into the well of concern, all right? We've already had that discussion. So, in -- there's basically one sample taken by the DOE in what, 1993 that kind of has drawn the attention of you, so we'll go check. That well still exists, it's still there and we will take a sample from that and we will found out if there's any concern. The biggest concern was that was radium-226 sample. It seems to be a spurious hit. There was no uranium marker along with it, but that doesn't preclude it from being investigated further.

MS. ROBERTS: No, I think the concern was

having detected that particular level of radium, the sampling seems to disappear in the sense that the DOE discontinued looking at the lower water-bearing zone but having found that, I went back and looked at the amount of sampling that you've done in the RI and I was struck how limited that was but even so, in the RI, you do record the fact that contamination has been detected in the lower water-bearing zone. Well, as far as I'm concerned, if the clay is so perfect, you shouldn't be detecting anything virtually, only naturally-occurring material.

MR. FREDERICK: That's pretty much what we found is naturally occurring ranges of data.

MS. BARKER: The only thing I could think of is there might have been burial areas. There was also excavation done by Department of Energy on various portions of the site. They had lagoons in some places that may have caused some interaction. Those would be the things I can think of.

MR. FREDERICK: I actually have a homework

assignment for Ann, too.

MS. ROBERTS: Sounds good.

MS. KREUSCH: Amy, you have another question?

MS. WITRYOL: Well, just a couple comments. In answer to Vince Agnello's question, we don't have a storm water retention program at the NFSS, so we don't have sampling on all the storm water leaving the site, so we really don't know how much contamination is leaving the site.

With respect to the catastrophic event scenario, I assume that the Army Corps will work closely with the DEC because if we have a seismic event significant enough to split open the NFSS cap, it may very well split open any one of or all of the 12 chemical landfills next door and how are we going to address emergency response for all of that, assuming that the NFS would not be the only impact in addition to all of the other sites in this area of Niagara County.

As far as the cell design and all the

discussions and the modeling and in addition to the age, keep in mind there is no bottom to this cell. The only thing that was constructed was the sides and the top and patching up this Cold War-era basement that material was poured into. Thank you.

MS. KREUSCH: Thank you, Amy. Any additional comments or questions from the audience or from the Corps team? Ann Roberts?

MS. ROBERTS: Sorry to hog the microphone, but I just wanted to make a request that I was quite disappointed that we having a discussion on the RI Addendum when were unable to obtain all the data from the results that you have. So, it would have been, I think, more beneficial to the community to have the data before we actually have the discussion of the RI Addendum so that we could have some more meaningful input. I think to me, the data is very important so that we can actually make the greatest contribution that we could.

MS. BARKER: I know we submitted some of

the data. Obviously, our data has to go through validation process to ensure the quality, so definitely as soon as it's validated, we will post that to the website. This was sort of an introduction, I guess, to the Addendum, it wasn't really the full meeting, so there will be a meeting after this where we talk about the conclusions and everything and you'll have the data by then.

MS. KREUSCH: Paul?

MR. GIARDINA: I just want to note there's a person here that should be noted and that's Bill Nowak from State Senator Thompson's office and Bill has been interested in a lot of the FUSRAP issues. His office has talked, I think at length, with my staff and actually, today we met on a related issue to this. So, I just want people to realize that Bill is here and you know, attending the meeting and talking and I think the citizens should realize if they don't know who he is, they should realize he's here and there is, you know, interest by the State Senator's

Office and Bill.

MR. BOUSQUET: I also think there's a representative from Congresswoman Slaughter's Office, a staffer.

MS. WITRYOL: He left early and we had representatives from U.S. Senator Schumer and Gillibrand here and Senator Thompson technically where we're sitting does not represent this district, but he does chair the New York State Senate Environmental Conservation Committee and we are extremely grateful that he sent a representative here.

MS. KREUSCH: Thank you. And thank you. Are there any additional comments or questions? Thank you very much everyone for coming and for your input tonight and the team will be available for a few more minutes while we clean up the room, so everybody get home safely. Thank you.