US Army Corps of Engineers

Huntington District

Formerly Used Defense Sites Newsletter

Summer 2007 Edition

Neighborhood Complaints Trigger Well Abandonment at PBOW

As residents in the Sandusky area know, the groundwater contains high amounts of sulfur. If anyone has ever been on Route 250 in the area of Wagner Quarry, it is hard to ignore the rotten egg odor which emanates from the exposure of subsurface formations, due largely to quarry operations. Plain and simple, the groundwater in the area stinks.

Groundwater monitoring wells have been installed in strategic locations around the PBOW property. One of those locations is along North Patrol Road where it parallels Bogart Road. The property along Bogart Road is prime real estate and has been heavily developed. Residents in the area adjacent to the well along the northern reaches of Patrol Road have brought these odiferous conditions to the attention of the Unites States Army Corps of Engineers (USACE), the agency responsible for well installation and maintenance.

Over the past several years, during routine monitoring of the well along northern Patrol Road, the resident of the property immediately adjacent to the well periodically complained of the odor from the well. The USACE responded by installing mechanical plugs in the well to prevent off-gassing. As a final step, the well was fitted with a threaded cap to prevent the well cap from being pushed off from pressure build-up in the well, and causing odor to migrate across the fence and into backyards. Although measures were taken to prevent gas from leaking from the well, odorous gas continued to escape from the well. Residents were unable to use their backyard due to the odors. USACE had to make a decision to maintain or abandon the well.

Removal of monitor well surface protection devices

USACE maintains a network of approximately 100 groundwater monitoring wells as part of the PBOW environmental restoration project. Each well is critical in evaluating groundwater flow patterns and migration of contamination. But USACE understands the impact of such a project on the local community. USACE strives to maintain a balance between the integrity of the goals of the environmental restoration project and the welfare of the community. It was obvious the problem with this well was not going away. A permanent solution had to be implemented.

In May 2007, USACE decided to abandon the well along North Patrol Road. The residents were pleased with this decision; it would allow them to use their backyards. Abandoning the well was not a simple task. The State of Ohio regulates the abandonment or "closure" of wells.

Drilling rig shown removing monitor well casing - removal performed by Frontz Drilling,

A rig was called in to complete the closure activities. Knowing the well was off-gassing due to a build-up of pressure added another safety element to the project. Jacobs Engineering, a USACE contractor, was on-site to coordinate the closure activities. Working with the skilled drillers from Frontz Drilling in Wooster, Ohio the well was safely abandoned and closed properly. Due to the concern of USACE and the PBOW Restoration Advisory Board, the local community residents are able to work, play and entertain in their backyards.

Worker adding bentonite pellets as part of well abandonment procedures

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Safety Hazards Eliminated at WVOW

Earlier this year, the USACE eliminated a number of safety hazards at WVOW. The hazards were identified during previous quarterly inspections and in spring of this year work began on demolitions and site restorations.

The Quonset hut had been purchased by USACE in accordance with the OU-2 Record of Decision (ROD). The ROD had required that an industrial park be purchased in order to clean up the former Yellow Water Reservoir. The building had been part of that park and was later utilized by USACE and their contractors as an office and storage facility for sampling gear and equipment. After burning in February 2006, the Quonset hut had been rendered unusable. The demolition of the Quonset hut began with removal of electrical utilities followed by the removal of debris from within the building. The exterior building walls were completely demolished. The metal frame walls were disposed in a container for recycling. The concrete slab flooring was left in place for use in storage of investigative waste drums and as a decontamination area as needed.

Excavator beginning Quonset hut demolition

Demolition of containment structures at former sewer treatment plant

A small former sanitary sewer plant which had been used by the industrial park was situated in the OU-2 Yellow Water Reservoir area and exhibited a hazard of open vaults filled with water and two manhole entrances. The plant had not operated in years and was overgrown with weeds and brush. Sampling was conducted on the vault water and floor sediment prior to demolition. Analytical results deemed that both the water and sediment could be removed without special hazardous waste handling. After removing excess water from within the cells, the concrete vaults were crushed at the floor to allow drainage and the concrete walls were collapsed into the vaults. Any metal rebar or piping was removed for recycling. The metal vaults were completely pulled from the ground, cut with a torch, and recycled. The former vault areas were filled with clean soil and stone and restored to ground level.

Demolition and restoration work at former sewer treatment plant

Adjacent to Cap 8 in the former TNT Manufacturing area, an old hand-dug well was found among a group of trees and Easter lilies. The open well lined with stone was found while working behind the Compost Building, and reportedly at least one dog had fallen into it in the past. The well was roped off with caution tape and flagged until it could be filled in. During demolition surrounding soil material was used to fill in the well and the area was reseeded and mulched.

After the closure of Pond 16, all that remained of the original pond construction was the drainage control structure and concrete culverts that once emptied into Mill Run Creek. In more recent years, the metal lid that once covered the top of the structure had been removed. This left an opening with a 20-foot drop exposed at the surface. The entire structure, including concrete culverts, was demolished. Clean soil and stone were used to refill the open pit back to ground level and the site was restored.

During a previous investigation, a containment basin was found near the edge of one of the OU-3 Red Water Reservoir caps. The basin, constructed with brick walls, resembled a rectangular box with a sewer drain within, so there was no standing water. The soil at the floor of the basin was sampled for nitroaromatic compounds prior to demolition. The floor of the basin was broken to assure drainage and the walls were collapsed into the basin. Soil and aggregate were added to bring the soil to grade. The site was re-seeded and mulched.

View of control structure being abandoned at Former Pond 16

Close-up view of Pond 16 control structure being abandoned

The completed demolitions and restoration activities created a safer environment for both humans and wildlife that frequent the former TNT site.

To get more information on restoration activities at WVOW or other FUDS sites, call the FUDS information hotline at:
1-800-822-8413
OR
Visit the FUDS website at:
www.lrh.usace.army.mil/projects/current/derp-fuds

WVMA Team Gives Presentation at Mountain State Forest Festival

This year the U.S. Army Corps of Engineers (USACE) presented a booth at the Mountain State Forest Festival held in Elkins, WV from October 5-7, 2006. This booth allowed the FUDS Team Members the opportunity to speak with local citizens about the past usage of the West Virginia Maneuver Area and extending the message of following safety procedures while visiting the Dolly Sods Wilderness Area. Promotional items prominently featuring the Dolly Sods safety message were passed out to festival attendees. These promotional items included water bottles, highlighters, pens, and key chains. Each promotional item featured the Monongahela National Forest's UXO Hotline Phone Number. Overall the presentation was deemed a success since the Dolly Sods safety message was presented to a large group of people.

Close-up view of USACE booth

USACE information booth on West Virginia Maneuver Area at Mountain State Forest Festival

West Virginia University Conducts Research at WVMA

The U.S. Army Corps of Engineers, Huntington District, has entered a research agreement with West Virginia University (WVU) and the Monongahela National Forest to conduct environmental forensics sampling to identify possible unexploded ordnance (UXO) locations at the former West Virginia Maneuver Area. The scope of the research is to develop environmental forensic capabilities at WVU to identify concentrations of contaminants from UXO in the Dolly Sods Wilderness Area. The sampling will use surface and ground water, soil, and biological sampling to identify UXO contaminates and decomposition products. The results of the sampling will be combined with GIS and transport models to delineate possible concentrations of ordnance within the wilderness area.

The first round of sampling was conducted on 25-29 June 2007 in the Dolly Sods North and Wilderness Areas. During this round of sampling WVU faculty and students, a USACE UXO Safety Specialist from Huntsville, AL UXO Center of Expertise, and two USACE Huntington District employees participated. The UXO safety specialist was present to ensure team safety by ensuring the sampling locations were clear of any possible UXO prior to sampling. Areas of UXO finds from the 1997-98 trail clearance were used in order to determine sampling locations with known UXO locations that had previously been determined. Results from this sampling event will likely be available in August following analytical analysis of the sampled media. The completed sampling results and GIS input will produce insight into weather the sampled media contains munitions constituents and soil characteristics of the Dolly Sods area. This information could prove extremely beneficial in locating UXO in Dolly Sods in the future.

West Virginia University students participating in environmental forensics sampling

PBOW Removal Action in TNT Area B Completed

The saga of TNT Area B has continued over the past several years, beginning in the earliest of days of World War II to present day. In late 2006, the last remains of the excavated soil were disposed and the site was prepared for seeding. It has been a long road to get to where the site is today.

In its production days, TNT Area B housed one of 3 explosives manufacturing plants at Plum Brook Ordnance Works. Although production was state-of-the-art, disposal of wastes and material handling contributed to widespread contamination of the soil in the immediate area.

During the initial investigation conducted in 2000, the United States Army Corps of Engineers (USACE) contractors identified several small areas within the area designated as TNT Area B. The numerous small plots, measuring approximately 20'x 20' were contaminated with lead and nitroaromatics from the explosives manufacturing process.

In 2003, USACE initiated a Removal Action (RA) to excavate the contaminated soil, treat it on-site and dispose of the material off-site. Contaminated soil was excavated, stockpiled and composted using a mixture of chicken manure, straw and water. The mixture reduced nitroaromatic levels to a concentration that would allow the solid waste to be landfilled. The composting project was successful and completed in early 2004. However, during the excavation, it was determined the contamination was more extensive than the initial investigation indicated. With a portion of the contaminated material excavated, composted and disposed, the project was "mothballed", pending the award of funding to remove the additional contaminated soil. Before mothballing the RA however, USACE determined the extent of contamination in the areas to be excavated. The wait was on for more funding.

In 2005, funding became available to complete the Removal Action. Having defined the extent of the areas to be excavated in 2004, the RA was focused on completing those excavations. USACE utilized two soil disposal methods, one for sanitary landfill disposal and the other, more costly, disposal in a hazardous waste landfill. USACE was aware some of the excavated soil would need to be disposed in a hazardous waste landfill due to the concentrations of contaminants. However, a large portion of the soil could be disposed in the Erie County Landfill because it did not meet the criteria of a hazardous waste as defined in Code of Federal Regulations Title 40.

Last pile of contaminated soil being removed from the site

Working through the process and negotiating with Erie County, USACE realized a significant savings in the cost of solid waste disposal. In addition, disposal of the solid waste in the landfill was mutually beneficial to Erie County since Ohio EPA approved the material for use as daily cover at the landfill. Otherwise, daily cover material would need to be trucked in from adjacent borrow areas. Savings were realized through the efforts of USACE and Erie County working together.

The saga of TNT Area B is still not complete. Long-time residences to the area are aware that northern Ohio was home to many species of prairie grasses. With the agricultural development of the area followed by the construction of an ordnance manufacturing plant, preservation of the native prairie grasses became only a passing thought.

On a cold winter afternoon in early 2007, the RAB made a site visit to TNT Area B to view the "finished product". The land was barren and awaiting the planting of a conventional turf grass as agreed in the project work plan. Normally the seed is a contractor mix, basic grass, nothing exotic. As the group looked on the barren land one could sense the wheels turning in the mind of one of the RAB members. Mr. John Blakeman is a

View of site prior to re-seeding

Restoration Advisory Board member, local school teacher (retired), Ohio prairie grass expert, and Environmental Specialist for Plum Brook Operations Support Group (PBOSG) . Mr. Blakeman described the ideal soil conditions required for prairie grasses to thrive. As he spoke the group seemed to all agree that TNT Area B would be an ideal place to reintroduce the native prairie grasses into the area of Ohio once covered with numerous species of the grass.

John Blakeman proposed to NASA that the area be reseeded with prairie grass. Prairie grass would provide an effective, low-maintenance groundcover and it would provide prairie

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PBOW Removal Action in TNT Area B Complete (continued)

habitat for the Plum Brook Station (PBS) rare plants nursery. NASA officials were supportive of the idea. USACE coordinated the seeding with the contractor and in early 2007, TNT Area B became one of the first pieces of land reclaimed from a tainted past to foster the growth of a species that once thrived in this part of Ohio. The species of prairie grass planted in TNT Area B include Switchgrass, Big Bluestem, Little Bluestem, Indiangrass, and a Tallgrass mix.

From the early days of farming the land to removing the waste remaining from the days of war, TNT Area B stands as a beacon of what can be accomplished when people are open to new ideas, and willing to commit to a common goal. With the first sprout of the prairie grass, the saga of TNT Area B will be complete.

Bob Kehres of Ohio Prairie Nursury Ltd. spreding prarie grass seed over site (In-set shows close-up of grass seed mix)

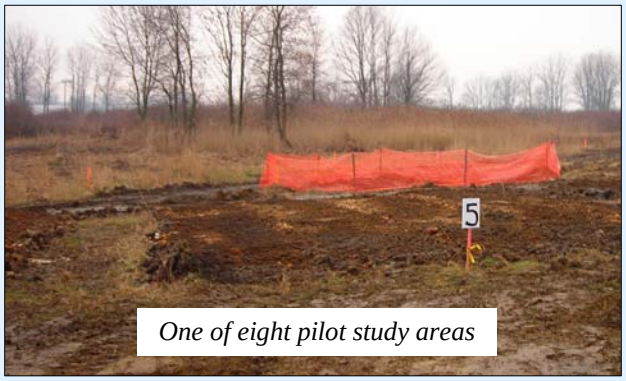
Ohio Prairie Nursury Ltd. personnel prepares to spread grass seed

Prairie grasses planted included Switchgrass (upper left), Little Bluestem (upper right), Indiangrass (lower left) and Bib Bluestem (lower right)

PBOW Pilot Study-Pentolite Road Red Water Ponds

The past year at PBOW has moved rather slowly, but more importantly, the project has realized successes. One of the first successes stems from a small project initiated in Reservoir No. 2 Burning Grounds (2BG). United States Army Corps of Engineers (USACE) contractor Jacobs Engineering conducted the Remedial Investigation at 2BG in 2004. Through experience and professional networking with USACE Huntsville District, Jacobs proposed to conduct a pilot study of treating the contaminated soil in 2BG with lime. Although the lime had limited success in treating all of the contaminants in 2BG, success was noted in the reduction of nitroaromatic concentrations in the soil.

Building on the experience gained in the 2BG pilot study, the USACE project Team proposed to conduct a similar pilot study in the area of Pentolite Road Red Water Ponds (PRRWP). In 2005, a small project was conducted to remove contaminated soil in the red water ponds area. During the excavation it was determined the contamination was limited to nitroaromatics and the nitroaromatics contamination was extensive and funding was not available to support a full-scale Removal Action as conducted in TNT Area B. In late 2006, funding was acquired to conduct the pilot study of treating the nitroaromatic-contaminated soil with lime. The study indicated that lime treatment of nitroaromatic-contaminated soil is a viable option to excavation and off-site disposal. In mid-2007 funding was acquired to move forward with full-scale lime treatment of the soil in the PRRWP area. The project is expected to get underway in late 2007.



One of eight pilot study areas

Operable Unit 4 Groundwater Extraction and Treatment System Determined to be Operating Properly and Successfully

On January 25, 2007, the U.S. Environmental Protection Agency, Region III (EPA) accepted the U.S. Army Corps of Engineers' (Corps) demonstration that the Operable Unit 4 groundwater extraction and treatment system (OU-4) was *"operating properly and successfully"* (OP&S). The OP&S demonstration was presented in a technical report that the Huntington District Corps had submitted to the EPA in October 2006. EPA's approval of the OP&S demonstration was made in accordance with Section 120(h)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as a precondition to the eventual deed transfer of federally-owned property at the former WV Ordnance Works (WVOW) to other parties.

Background - Significance of Determining that OU-4 is OP&S

Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), requires that before federal-owned lands are transferred to other parties, the deeds transferring any property where hazardous substances had existed must contain a covenant warranting that *"all remedial action necessary to protect human health and the environment with respect to any [hazardous] substance remaining on the property has been taken before the date of such transfer."* In October 1992, Congress added Section 120(h)(3) to CERCLA, to clarify that *"all remedial actions are considered as being taken"* if the construction and installation of an approved remedy has been completed and the remedy has been demonstrated to the [EPA] Administrator to be "*operating properly and successfully*." A remedy is operating *"properly"* if it operates as designed and is operating *"successfully"* if it will achieve the performance goals as stated in its decision document. The remedy must also be protective of human health and the environment.

Point Pleasant Ordnance Works Coalition Request to Transfer Federal Land Purchased for OU-4

Receiving EPA's approval that OU-4 was OP&S was a great accomplishment for the WV Ordnance Works Tier I Team and is a major step in the Corps' efforts towards transferring property that the Army had acquired in 1989 for the OU-4 groundwater remedy. Subsequent to the OU-2 Record of Decision (OU-2 ROD, September 1988), which required Army's purchase of approximately 54 acres of land for the OU-4 remedy, the Army and the State of West Virginia signed a *Cooperative Agreement for Property Transfer* on December 15, 1988. The "Cooperative Agreement" stated that following completion of the OU-4 remedy, the land that had been purchased for OU-4 would be transferred to the state and incorporated into the Clifton F. McClintic Wildlife Management Area (MWMA). A portion of the purchase included a 7.21-acre parcel, designated as Tract 101, which had been acquired from the Power Distribution Products Co. (PDP) in 1989 and has remained unused since acquisition.

In November 1996, the Point Pleasant Ordnance Works (PPOW) Coalition sent a letter to the EPA proposing that the former PDP property be transferred to the Mason County Development Authority (MCDA), rather than the state, following completion of the OU-4 remedy. The PPOW stated that they would like to see the property utilized as an incubator for small business and would accept any deed restrictions on the property.

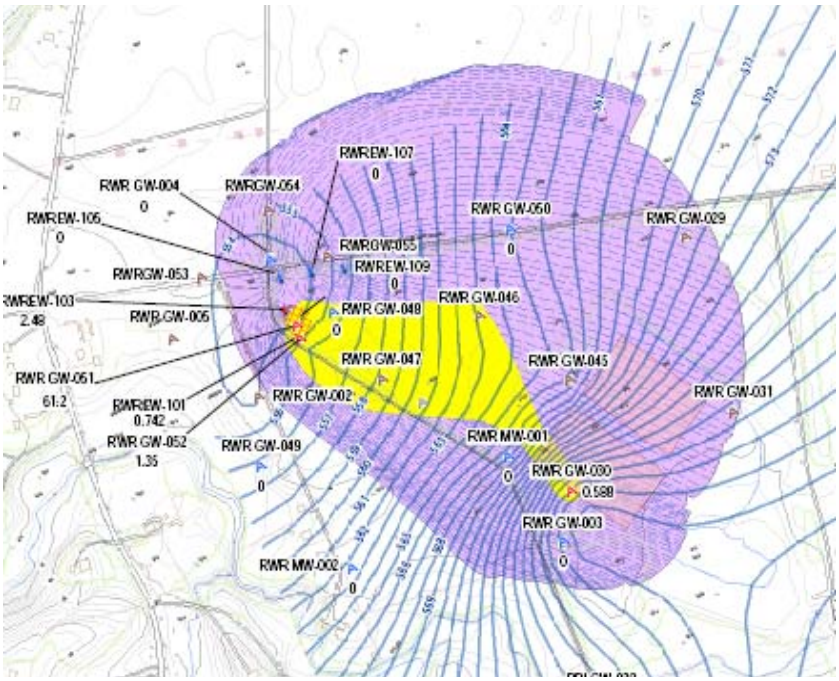
The EPA forwarded the PPOW coalitions' request to the Huntington District Corps in December 1996, and stated the Corps must determine OU-4 to be "operational and successful" prior to transferring the PDP property to the MCDA. The EPA also stated that the Corps must prepare an Explanation of Significant Differences (ESD) to the OU-2 ROD to reflect the change to the property transfer agreement and that the "Cooperative Agreement" would have to be modified to document the State's agreement with the Corps' decision to transfer the property to the MCDA rather than the state.

In a January 1997 letter to the Huntington District, the WV Department of Environmental Protection (WVDEP) stated that based upon their review of investigations that had been performed at or near the PDP property, no Department of Defense (DoD) related hazardous substances had been released to the environment, or resided within the fenced area of the property, which would preclude its use by the MCDA.

In February 1997 letter to the Huntington District, the WV Division of Natural Resources (WVDNR) stated that the PDP property would be better utilized in the production of jobs and economic benefit to the community and county and proposed that the "Cooperative Agreement" be amended, to deed the property directly from the Corps to the MCDA.

Explanation of Significant Differences to the OU-2 Record of Decision

In April 1998, the Huntington District drafted the ESD to the OU-2 ROD and solicited input from the Point Pleasant community by conducting a public meeting on April 30, 1998 at the Mason County Library. The Corps presented the ESD at



Red Water Reservoir capture zone in purple; 2,4-DNT plume in yellow

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Operable Unit 4 Groundwater Extraction and Treatment System Determined to be Operating Properly and Successfully (continued)

the meeting, but received no questions or comments from the community. However, subsequent comments were received by telephone and letter which were addressed in the Responsiveness Summary of the final ESD. With EPA's and WVDEP's approval, the Corps issued the ESD to the OU-2 ROD for *Modification to the Property Transfer Agreement* on June 19, 1998. The ESD detailed the revisions that would be made to the *Cooperative Agreement for Property Transfer* and included the deed restrictions that would be placed on the PDP property until OU-4 was completed to ensure that future use by the MCDA would be compatible with the continued operation of the OU-4 remedy.

Determining that OU-4 is OP&S for Transfer of the PDP Property to the MCDA

In July 2002, the Corps submitted the first OU-4 OP&S demonstration report to the EPA. The EPA disapproved the report, stating that the demonstration did not conclusively prove that OU-4 had developed well-defined cones-of-depression in the groundwater to show that the system was capturing and would eventually cleanup the contaminant plumes. The Corps conducted in depth groundwater investigations and evaluation of OU-4 over the next several years to determine the requirements to enhance the system and conclusively demonstrate that OU-4 was OP&S. The EPA and WVDEP were consulted during this period and also provided recommendations for system improvements.

From the additional studies, recommendations, and field inspection of the extraction wells, the Corps determined that twenty-two additional groundwater monitoring wells were required to enhance the monitoring well network to adequately define the water table drawdown and capture of the contaminant plumes. The field inspections showed that the extraction wells' intakes were not at their "optimum" location, and that lowering of the pumps and cleaning the wells could help achieve greater drawdown of the groundwater, thus expanding the capture zones.

From 2004 to 2006, the Corps installed the new monitoring wells, made required repairs and adjustments to the extraction wells and evaluated the success of these actions through additional groundwater analysis and evaluation of system's operation data. The data showed that enhancements to OU-4 were effective; groundwater mapping data showed more defined cones-of-depression, thus increasing the capture of contaminated plumes. System data showed that treated water was successfully meeting all water quality discharge criteria.

The Corps submitted the second OP&S demonstration report with the new data and revised evaluation of OU-4 to the EPA in October 2006. In their January 25, 2007 approval letter, the EPA stated that the demonstration showed that OU-4 had formed well-developed cones of depression and that those cones encompassed the majority of the contaminant plumes. EPA further stated that the capture zone analysis in the report indicated that capture of the plumes existed or was predicted to occur, with the most highly contaminated plumes under the hydraulic control of OU-4. The EPA concluded their letter with the following statement "EPA would like to congratulate the USACE for preparing a detailed, high-quality technical demonstration that meets the intent of EPA's *Guidance for Evaluation of Federal Agency Demonstrations that Remedial Actions are Operating Properly and Successfully Under CERCLA Section 120(h)(3) (interim) (August 1996)".*

Proving that OU-4 was OP&S is one of the last two major steps in transferring the PDP property to the MCDA. The Huntington and Baltimore District Corps are currently finalizing the *Findings of Suitability to Transfer* (FOST) for the property. The Corps plans to have the FOST signed by the end of 2007 and transfer the property shortly thereafter.

Aerial view of PDP building property that will be transferred to the Mason County Development Authority

Historical Aerial Photographic Analysis Being Performed at WVMA

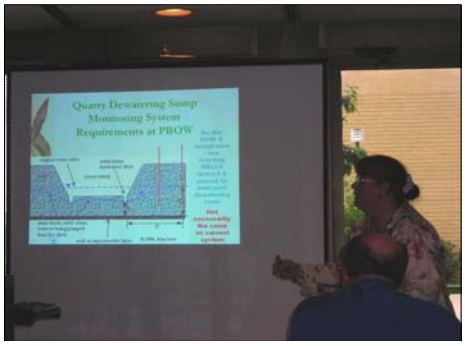
The USACE Topographical Engineering Center (TEC) has been contracted by USACE Huntington District to provide GIS-Based Historical Photographic Analysis on the West Virginia Maneuver Area (WVMA). This work will be strongly utilized for the preparation of the Preliminary Assessment (PA) currently being developed for the WVMA. The PA consists of conducting historical research on the property to determine what environmental impacts could possibly have resulted from the Department of Defense's use of the tracts that made up the WVMA. TEC is currently in the process of acquiring the necessary 1945-era aerial photography on the WVMA Main Impact Area and utilizing GIS-based technologies to analyze the photographs. This interpretation will be used to determine weather there are DoD-related impacts to the Main Impact Area. These impacts could include, but are not limited to, craters, ground scars, structures, mounded areas, vehicle tracks, and trails. This image interpretation is done by utilizing single-optical and stereoscopic viewing, at various magnifications, to identify the various features. Once the image is magnified visible signatures are recognizable in the photography. These signatures include size, shapes, shadows, tones, and patterns. The final product that will be produced by TEC will include a report containing the aerial photographs with interpreted areas highlighted, a GIS database containing all digital aerial photography, interpretations, and historical documentation, and an overall topographic map of the Impact Area with all of the interpreted areas highlighted.

PBOW Restoration Advisory Board Accesses TAPP Support

The Plum Brook Ordnance Works (PBOW) Restoration Advisory Board (RAB) consists of representatives of the local community who work closely with the United States Army Corps of Engineers (USACE) to accomplish the task of environmental restoration at the former ordnance manufacturing facility. The RAB members are ordinary folks who have dedicated their time to the board for numerous reasons. The most common reason is their ancestors, parents or grandparents owned the land prior to the Department of the Army taking the land to support the defense efforts of World War II. Although the war is history, and they no longer own the property, each RAB member remains connected to the land where they once played or farmed.

The folks who make up the RAB come from a variety of backgrounds, some agricultural, some professional disciplines such as engineering, academia and medical backgrounds. With the exception of the education the RAB members have acquired since being involved with the restoration project at PBOW, knowledge of environmental issues is limited. Since the RAB's inception in 1997, the group has developed a comprehensive understanding of the overall restoration project, the components of a project of this magnitude, and the ever-present obstacles to progress.

To assist the RAB in reviewing and understanding the technical aspects of the restoration project, the Formerly Used Defense Site (FUDS) Program provides the RAB access to professional services through the Technical Assistance for Public Participation (TAPP) program which was established by the Department of Defense for this purpose. At PBOW, the TAPP contractor is helping the RAB members to understand specific issues such as investigation results, contaminant migration and groundwater flow patterns. To access professional services, the RAB made a formal request to the USACE, which in turn solicited qualified individuals or consultants, and the selection of the TAPP contractor was made based on experience, cost of services and approval by the RAB.



Dr. Julie Weatherington-Rice reviews sump operations at Wagner Quarry in Sandusky

Bennett & Williams (B&W), located in Columbus, Ohio is the contractor selected to provide the services to the PBOW RAB under the TAPP program. Julie Weatherington-Rice, Ph.D., a Senior Scientist with B&W is experienced in working with citizen's groups in her capacity as a geologist, hydrogeologist and soil scientist. She is providing the PBOW RAB members with science-based technical assistance. In addition, Dr. Weatherington-Rice has called on expertise from other public agencies to contribute to the technical support of the RAB, a resource that is openly available to the public. Dr. Weatherington-Rice has participated in site visits to PBOW as well as the Erie County Landfill. She has also participated in a visit to the local quarry to gain insight into the operations at the quarry and how quarry operations may be influencing conditions at PBOW.

Using the information provided by the TAPP contactor, the PBOW RAB members have become increasingly aware of the environmental restoration process, factors affecting contaminant migration, risk to human health and the environment, regulations governing the clean-up process, and most of all, the members have learned to think outside the box and confidently ask questions.

The TAPP support is limited in funding and scope of services, and the availability of services will expire in the next couple of years. However, Dr. Weatherington-Rice has provided the RAB members with new insights and resources to continue to function effectively as part of the PBOW environmental restoration project team.

Erie County Landfill representative explaining landfill operations to PBOW RAB members

Fire Safety Presentation Conducted for WVMA Personnel

On May 8, 2007 the U.S. Army Corps of Engineers (USACE) Huntington District hosted Unexploded Ordnance Safety Presentation at the Harr Conference Center at Blackwater Falls State Park in Davis, WV. The presenter was Bill Veith, UXO Safety Specialist, from the USACE UXO Center of Expertise in Huntsville, AL. Attendees of the safety event included officials from local fire departments, Monongahela National Forest representatives and personnel from local environmental groups. Nick McHenry, USACE Huntington District, started the presentation with a brief introduction on the West Virginia Maneuver Area FUDS Project and general site information. Mr. Veith's presentation was extremely informative and consisted of general UXO safety information (Military Munitions Rule 40 CFR 266.201), proper documentation to record while reporting a find, and information specific to the West Virginia Maneuver Area. Information specific to the Maneuver Area included possible firing/target locations and specific information concerning munitions used at the artillery ranges in the Impact Area (60-mm & 80-mm mortars, 3.25" rockets, 105-mm Howitzer, etc). Following the meeting an open discussion was had concerning the Impact Area mapping, possible other presentation opportunities, and other general recommendations and opinions.