

NEWPORT NORTH PROJECT
OSM 40(2152)101.1

LOCATION

Newport Township
Luzerne County, Pennsylvania

SUBMITTED BY

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PROJECT START DATE

October 25, 2008

PROJECT COMPLETION DATE

August 21, 2009

CONSTRUCTION COST

AML Funds - \$ 672,590.91

ORGANIZATIONS RESPONSIBLE FOR RECLAMATION

U.S. Department of Interior, Office of Surface Mining - Funding and Oversight
PA-DEP Bureau of Abandoned Mine Reclamation – Development, Design and Construction Management
Earth Conservancy – Property Owner
HUD, Inc. – Property Access
UGI Utilities, Inc. – Property Access
Knorr Contracting, Inc. - Bloomsburg, PA

DATE SUBMITTED

April 4, 2011

INTRODUCTION

Any person associated with abandoned mine programs understands the dangers that remain as a result of years of unregulated mining. The Newport North site has unfortunately demonstrated the peril that exists in even the most unassuming abandoned mine feature. During a six-year span, the Newport North site was the location of two incidents that resulted in six fatalities. Many topics are addressed within the 184-page Surface Mining Control and Reclamation Act (SMCRA) of 1977, but the most imperative point is to prevent endangering the health or safety of the public. Recognizing the importance of the public's safety is paramount in the reclamation of abandoned mine lands (AML). The Newport North reclamation project echoed this sentiment by eliminating the abandoned mine feature where the tragedies occurred.

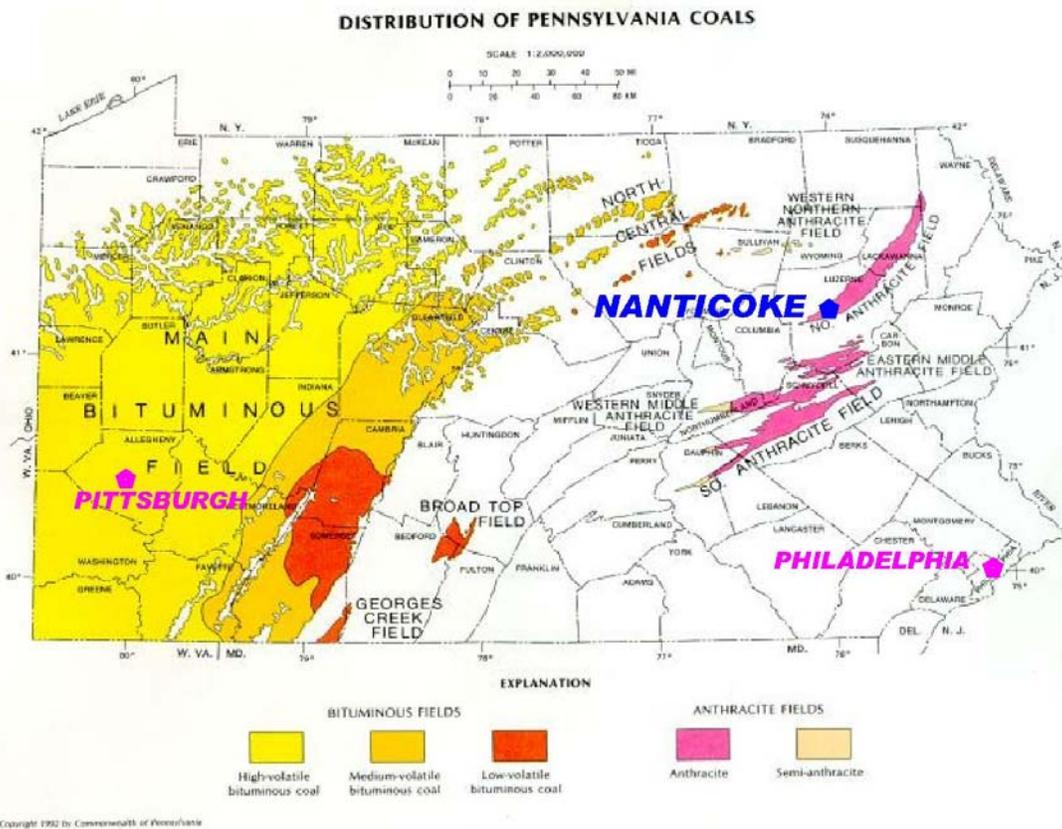


Figure 1: State map showing the location for the City of Nanticoke.

MINING HISTORY

The Newport North site is located near the City of Nanticoke in Pennsylvania's northern anthracite coal region. Coal mining drove the region's growth and economy for over a century and employed a large portion of the populace. The goal of the mining industry was to extract the valued coal to fuel the rapidly growing industrial machine of America. Maximum production was of the highest concern for the mine operators with little regard toward the environment.

In the anthracite region, the geology of most coal seams does not lie flat, but rather folds either downward or upward. Because of these folds, the stripping of the coal seams in the anthracite region resulted in huge long pits with steep, sometimes vertical, sidewalls. The pattern of pits and spoil piles are commonplace within the anthracite region. This includes the area where the Newport North project lies. Upon the demise of the region's coal-mining industry, a myriad of hazardous abandoned mine features remained, leaving the local landscape highly degraded. Through SMCRA, a system was developed to prioritize the abandoned mine features according to, among other criteria, the risk they pose to public health and welfare.

Wanamie Colliery did the first mining at the Newport North site through deep mining during the late 1800s and well into the 1900s. After more than a decade of inactivity, mining restarted in the 1950s when Glen Nan Colliery began second mining, often called retreat mining. In the late 1950s and 1960s, strip-mining became the primary method of coal removal. The strip mining led to a scarred landscape that is most visible to those who frequent the area. The prominent abandoned mine feature at the Newport North site was a half-mile long pit that, at spots, was over seventy feet deep with vertical and near vertical highwalls.

Just north of this pit was the location of a much smaller pit that measured only about a half-acre in area. This smaller pit was located just off a heavily traveled dirt road that meandered through the woods. The pit had a mine-water discharge at one end that kept it water filled year round. A highwall surrounded the entire pit, except for an area near the outlet of the pond where the terrain was level with a dirt road. These two noted abandoned mine features account for only a fraction of the dangers left from mining that exist in an 1,500 acre area northwest of Nanticoke.

The Newport North site had a number of hazardous mine features that justified the need for reclamation. However, the site's location being more than a mile from the nearest residence or public road made access difficult through rugged terrain. The site was categorized as one of lower importance because of its remoteness when compared to other hazards in the regions abandoned mine land inventory. One feature at the site was a small water-filled pit that measured less than half an acre in size and about 20-feet in depth. Trespassers often frequented the water-filled pit for swimming on hot days. This feature barely met the Office of Surface Mining's (OSM) hazardous water body classification because of its remoteness. Access to the area requires four-wheel drive trucks or all-terrain vehicles because the dirt roads leading to the site are very rocky and heavily eroded. The water-filled pit appeared no more hazardous than any other abandoned mining feature. Earth Conservancy, a not-for-profit organization, owns the land where the Newport North site is located. They have an agreement with the Pennsylvania Game Commission that allows hunting and hiking but prevents any motorized vehicle access. However, many individuals ignore the signs and trespass to remote locations, like this site, with their vehicles for the off-roading thrill; oblivious to the inherent dangers present in these abandoned mine areas.



Figure 2: Water-filled pit that was the location of six fatalities.

TRAGEDIES

On the night of January 1, 1998, a group of seven young adults in two trucks was out four-wheeling through the woods just as many have done before. The journey was a familiar one, which many of them had taken before. Their trip took them along very rough and windy snow-covered roads along edges leading to steep drop-offs. One of the trucks had engine problems and broke down. The group then decided to drive back down the mountain and retrieve another truck that would be able to tow the inoperable vehicle out of the woods. Six of the group got in one truck and proceeded up the mountain to turn the vehicle around while the other driver stayed with his vehicle. The driver incorrectly turned off the dirt road and directly onto the small water-filled pit that was snow covered and frozen on the surface. The vehicle broke through the ice and plunged into twenty feet of frigid water. Only one of the occupants was able to free himself from the vehicle and survive. The soaked survivor waited for a few minutes, however none of the others surfaced. The survivor met up with the driver of the disabled vehicle and they made the over two-mile hike in the darkness to get help. Once alerted, it took emergency responders nearly two hours to battle their way to the remote location of the accident.

This incident showed that this remote tranquil site was more dangerous than appeared. DEP's Bureau of Abandoned Mine Reclamation (BAMR) worked to update the AML inventory and obtained aerial photography to create a contour map. Nonetheless, a second occurrence at the water-filled pit seemed highly unlikely and projects larger in size and proximity to populated areas took preference.

Unfortunately, on April 26, 2004 the same small pit was once again the site of a second tragedy. A truck carrying two individuals traveled to the same remote area late at night. Similar to the first incident, the driver of the truck mistakenly drove off the dirt road over a small highwall into the water-filled pit and sank. The driver was able to escape from the vehicle; however, the passenger never surfaced. It took the survivor over three hours to make the trek out of the woods and seek help. It was daylight before rescuers reached the scene of the accident. The victim was a volunteer firefighter who many of the emergency responders knew and had worked along side. No longer could anyone view the first tragedy as just an isolated incident. This second occurrence heightened the need to reclaim this site.



Figure 3: The (Wilkes Barre) Times Leader newspaper headlines of the two tragedies.



PROJECT DEVELOPMENT AND DESIGN

The two fatal accidents caused reclamation of the water-filled pit to be a high priority. Public and political pressure heightened the need to eliminate the hazard for fear that another incident might occur. The Pennsylvania Department of Environmental Protection's (DEP) Bureau of Abandoned Mine Reclamation began to develop and design a project for the site. The scope of the project had to be defined as the mountainside has hundreds of acres of abandoned mines.

The Department opted to reclaim only about 36 acres of property immediately surrounding the fatality-causing pit. This was a phased based attack to avoid potential

problems associated with larger projects, which could delay the design process. The project site's property owner was very receptive to the reclamation plans. The remote location of the project dictated the need for a very long access road through rough terrain. The adjacent property owner and a utility owner granted permission for the project's access to pass through their lands. The Department obtained the environmental clearances needed to assure the project would not affect endangered species or their habitats. The project's design entailed eliminating more than 3,000 feet of highwall during the backfilling of a number of strip pits (AML Features 1 and 16); including the waterbody that was the scene of the two accidents. The material to fill the pits originated from a large on-site spoil pile (AML Feature 17). The design called for grading approximately 370,000 cubic yards of on-site material with slopes less than a three-to-one ratio (3:1) to resemble the pre-mining condition. In addition, the proposed project included installing more than 1,800 feet of rock-lined ditch to control storm runoff and a mine discharge that fed the water-filled pit.

PROJECT CONSTRUCTION

On July 17, 2008, a competitive bid opening occurred with 16 contractors submitting proposals. The award of the Newport North project occurred on August 28, 2008 to Knorr Contracting, Inc. of Bloomsburg, PA with a low bid of \$717,080.00. The project work began on October 25, 2008.

The contractor's first task was to widen and upgrade the one and three-quarter (1 ³/₄) miles long access road. The narrow and rough dirt road needed improvement to handle the construction traffic. The contractor greatly improved the access road to minimize the amount of maintenance necessary during the project. Once the installation of the erosion and sedimentation controls and clearing and grubbing were complete, the contractor began the grading. The contractor used a Caterpillar D-11 as its primary earthmover, along with excavators and trucks. The plan called for more than 1,000 tons of rock for the drainage ditches, which would equate to over 50 truckload deliveries. The prospect of having fully loaded tri-axle trucks negotiating a dirt road under difficult winter weather conditions convinced the contractor to separate rock during the grading process and then stockpile it for use in the ditches. Prior to the backfilling of the water-filled pit, the contract required treatment of the mine discharge fed water followed by dewatering via pumping. Treatment of the discharge was needed in order to prevent the low pH water from polluting a nearby-unnamed stream. The contractor executed all the required grading, drainage work, and reforested vegetation at the site with a combination of grass, legumes and tree seeds. Completion of the project occurred on August 21, 2009 at a final cost of \$672,590.91 and successfully accomplished the goals without any major problems. No longer do potentially dangerous features exist in this 36-acre section of former strip-mined land.

During the construction of the project, the contractor believed that the original ground contours shown in one section of the plans did not match the conditions in the field. The contractor indicated that calculations using the plan's contours would not fully account for the amount of earth moved in the field. Grading had already begun in this area, preventing a resolution through a field survey. DEP chose to verify the original contours

using the recently released technology of LiDAR contour mapping for this county. LiDAR is an acronym for light detection and ranging, which utilizes lasers to map the topography of the Earth. Comparisons between the original contours developed from aerial mapping and LiDAR contours determined that there were no significant differences between the two methods. Actually, the LiDAR data showed less grading than with the original contours. The contractor accepted the findings. Without the LiDAR confirmation, the contractor may have contested this matter.

STAY OUT-STAY ALIVE EVENT

On April 29, 2009, while the project was under construction, the site held an event to publicize the Stay Out-Stay Alive program. The event attendees included Pennsylvania DEP Secretary, John Hanger, along with representatives from the Mine Safety and Health Administration, Pennsylvania State Police, state politicians, the property owner and local media. The focus of the event was to bring attention to the Stay Out-Stay Alive message and to discuss how the Abandoned Mine Lands Fund provides the money needed to perform the work to eliminate such hazards. In the backdrop for the event stood the ominous water-filled pit where the six individuals had regrettably perished. A recap of the event aired on local television stations and in local newspapers articles.



Figure 4: Attendees of the Stay Out-Stay Alive event that occurred at the site.

POST CONSTRUCTION

The reclaimed Newport North site now mirrors the pre-mining landscape. The project's vegetation has grown nicely, preventing erosion issues and supporting wildlife. Birds and small mammals now inhabit the sporadically placed wildlife habitats. The project has already blended with the surrounding environment. The individuals that abide by the landowner's requirements can now safely hike or hunt on this land.

There are plans for future projects at the Newport North problem area to reclaim the remaining AML features. The remaining large strip pits and spoil piles still pose a serious danger to the off-road vehicles that frequently visit. The unnamed stream that receives the discharge and runoff from the completed project experiences stream loss and feeds an underground mine pool. In most cases, reclamation projects in a watershed begin at the lowest point. However, this site's circumstances dictated that the upper part of the watershed be reclaimed first.

Even though reclaimed, people still frequent this remote area with off-road trucks and all-terrain vehicles. DEP has worked with the property owners in an attempt to block access points but the trespassers either remove the blockages or create new entrances. Trespassing to these remote locations has become part of the culture to a small group. The drivers of the four-wheel drive trucks have turned one section of the project into a mud bog pit for their entertainment. At a high point on the project that overlooks Nanticoke and much of the region, those who frequent the area erected a large flagpole with solar lights as a sign of their defiant claim to this area.

SUMMARY

Stay Out-Stay Alive programs throughout the country often emphasize that abandoned mine lands are not playgrounds. The Newport North site has to be the ultimate example of that slogan's validity. In order to have what most categorize as a good time, the individuals involved in the two fatal incidents put themselves in a dangerous situation. Unfortunately for them, the outcome was the furthest thing from their original intentions. The sites that are not "playgrounds" at one time created and supported the communities that now view them as dangers. The over century long industry held little to no regard for the workers and their families so the notion that the welfare of future generations should have been considered is greatly naïve. Current and future generations now carry the burden of solving these problems to prevent tragedies like those that occurred at this site. State, Federal and Tribal agencies utilize a fee on coal production to finance the AML Fund to eliminate these potentially dangerous features. We hope that one day through the reclamation efforts of the public and private sectors, restoring the mining scars and hazards will create a positive view of the coal-mining heritage.



Figure 5: The water-filled pit frozen and snow covered.



Figure 6: Near-vertical highwall of a stripping pit at the Newport North site.

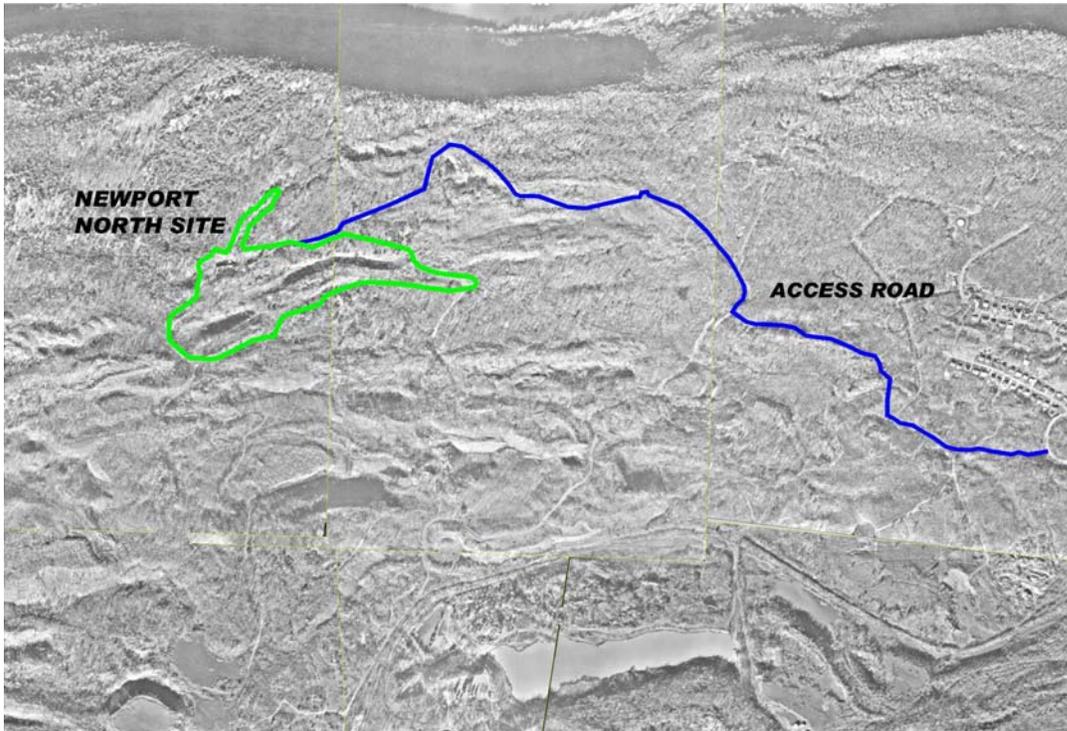


Figure 7: Aerial imagery showing the length of access road, remoteness of site, and the numerous features in the PA 2152 problem area.



Figure 8: The pumping of the water-filled pit.



Figure 9: Contractor grading site with a Cat-D11 dozer.



Figure 10: Shortly after reclamation, the trespassers erected a flagpole.



Figure 11: An aerial view of the Newport North project shortly after completion.



Figure 12: The mud bogging area trespassers created.