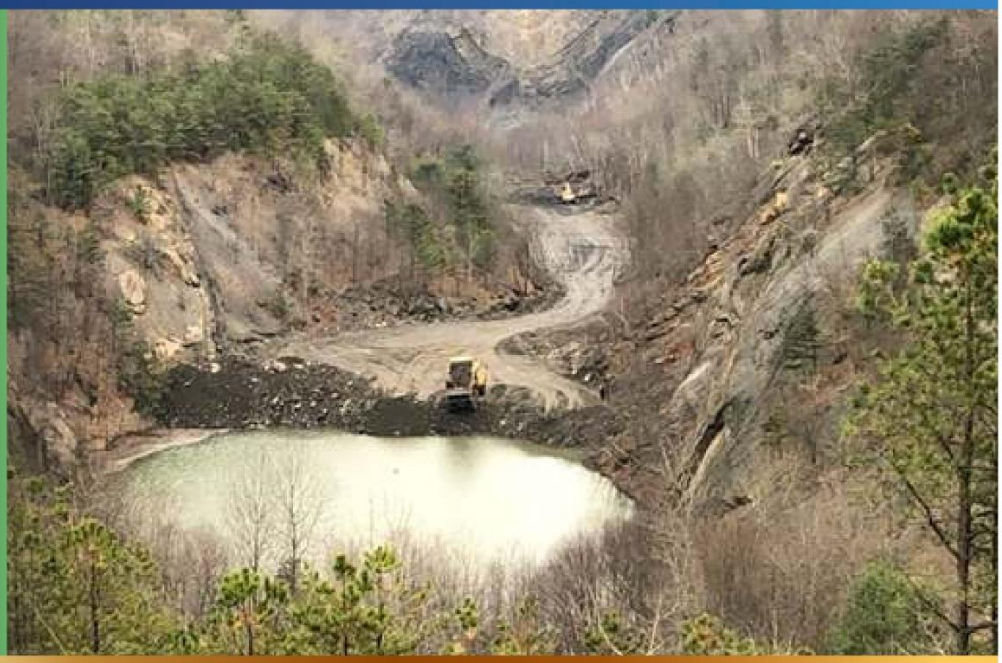
Anthracite Outdoor Adventure Area
Bear Valley

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Abandoned Mine Reclamation

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT



2022 OSMRE Award Nomination

Abandoned Mine Land
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT
Reclamation AWARDS

AOAA
www.aoaatrails.com
Coal Township, PA

June 2022

Anthracite Outdoor Adventure Area - Bear Valley

2018 Abandoned Mine Land Economic Revitalization (AMLER) Project

LOCATION

Problem Area 3233 (PA 3233)
Coal and Zerbe Townships, Northumberland County

SUBMITTED BY:

Brian J. Bradley, P.G., Director
Patrick M. Webb, P.E., Assistant Director
Kim S. Snyder, P.E., Environmental Program Manager

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Abandoned Mine Reclamation

PROJECT TEAM:

Construction / Inspection	Design / Drafting	Development/Planning	Realty
Lawrence Dobash, P.E.	Stephen Fisanick, P.E.	Bryan Jones, P.E.	Ruth Scotti
Rodney Webb, E.I.T.	Jeffrey King	Joseph Kasulaitis	
Thomas Dizio			
Kent Pheasant			
Ed Frey			

PROJECT START DATE
August 15, 2019

PROJECT COMPLETION DATE
April 8, 2022

PROJECT COST
$9,961,228.06

PROJECT PARTNERS

U.S. DOI, Office of Surface Mining – Funding and Oversight
PA DEP, Bureau of Abandoned Mine Reclamation – Development, Design and Construction Management
Northumberland County AOAA Authority – Manages AOAA recreation facilities

CONTRACTOR

Morgan's Excavating, LLC (Mount Union, PA) - General Contractor
Valley Seeding Co., Inc. (Sugarloaf, PA) – Seeding Subcontractor

DATE SUBMITTED
June 14, 2022

Project Background

Project Summary

The Anthracite Outdoor Adventure Area (AOAA) – Bear Valley project was funded through Pennsylvania's Abandoned Mine Land (AML) Program and the 2018 Abandoned Mine Land Economic Revitalization (AMLER) Program, which includes both AML reclamation and site work that would improve economic and community development. The 88-acre project involved the unique concept of reclaiming six (6) AML features, all categorized as Priority-2 (P2) health/safety hazards, and constructing 6,600 feet of extreme rock-crawling trails on the reclaimed AML under the guidelines of the AMLER program. The rock-crawling trails were designed to include very large boulders which act as obstacles for modified four-wheel drive vehicles such as trucks, Jeeps, and "buggies" to navigate over. An article published on November 20, 2019, in *The Daily Item*, a daily newspaper in Sunbury, describes the concept of the project and includes a short video of Dave Porzi, Director of AOAA operations. (*Daily Item* article: AOAA looks to develop Rubicon rock crawl at Shamokin-area park | News | dailyitem.com) Under the AMLER program, the project also involved rehabilitating and constructing: over 9,000 feet of all-terrain vehicle (ATV) trails including pull-offs and mud pits; nearly 5,000 feet of improved roads; a new, 150-feet by 300-feet parking area ; and a 100-feet by 100-feet helicopter pad. See Figure 5 for locations of all proposed work. The new extreme rock-crawling trail and ATV trails will be managed by the Northumberland County AOAA Authority (https://www.aoaatrails.com/), which also currently manages a system of ATV trails called the Eastern and Western Reserves, totaling approximately 6,500 acres of county-owned AML/forest lands. The trail maps can be found by visiting these webpages: AOAA Eastern Reserve Trail Map (aoaatrails.com) and AOAA Western Reserve Trail Map (aoaatrails.com). The benefits of the project are threefold: eliminating the public health and safety hazards; providing a new unique recreational resource for both Pennsylvanians and people from surrounding states; and revitalizing the local economy through an increase usage of local businesses.

The project is near two (2) previously reclaimed sites: Boyers Knob Lookout, Project No. OSM 49(3237)101.1 and Gowen City Northwest, Project No. OSM 49(2067)101.1. Over 100 acres of AML were reclaimed between the two projects at a cost just over $1,600,000. The project areas were used as part of the original trail riding system and entrance facilities and became a part of the "Eastern Reserve" trail system. The AOAA – Bear Valley project will be part of the "Western Reserve" trail system and further enhances the growth of the park that was started and continued back when those original projects were completed in 2014 and 2005, respectively.

Project Location

The project is within Problem Area 3233 (PA 3233 – Bear Valley Southwest) and located in Coal and Zerbe Townships, Northumberland County, Pennsylvania (See Figure 1). PA 3233 is referenced on the Shamokin 7.5-Minute USGS Quadrangle Map and this link (40.7650899, -76.6067678) corresponds to the project site coordinates in Google Maps The project is located approximately two (2) miles southwest of the city of Shamokin. According to the 2020 Census, the population of Coal Township is 10,139, Zerbe Township's population is 1,802, and the population of Shamokin is 6,942.

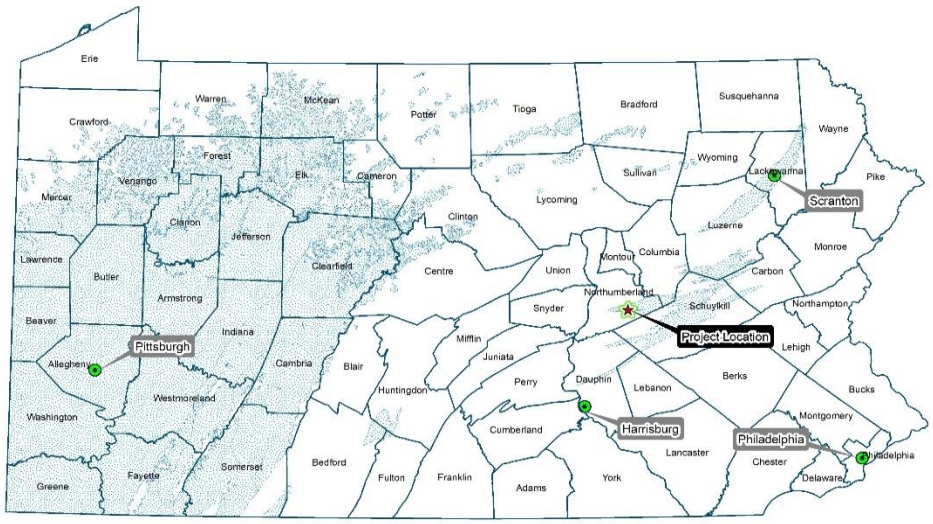


Figure 1 – PA County Map displaying project location, including major cities and the coal distribution throughout Pennsylvania is shown in light blue.

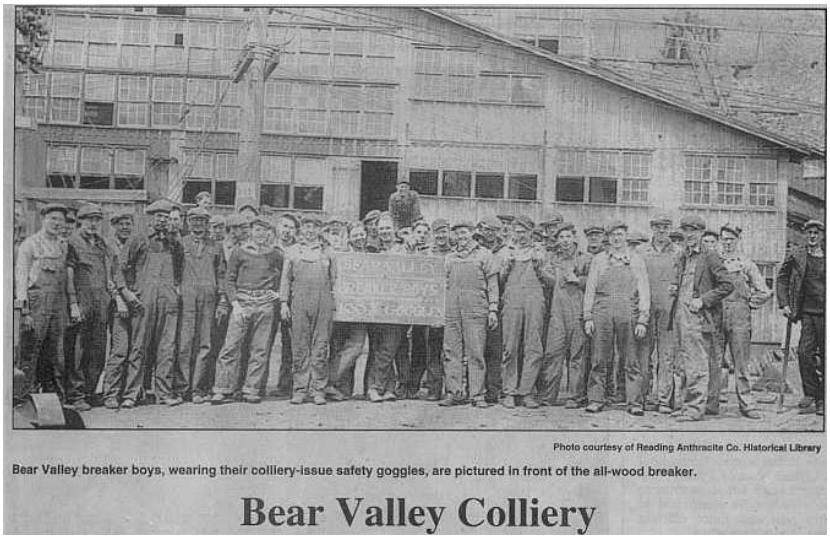


Figure 2 – The Bear Valley breaker boys (photo likely from the early 1920s); article was published in the Pottsville Republican Herald, October 18, 1997

Figure 3 – The Whaleback

Mining History

The project site is located within the Western Middle Anthracite coal field. Mining took place within the former Bear Valley Colliery, which was both underground mined and later surface mined. The underground mining started in the late 1800s and continued through the mid-1900s and the area was then surface mined until 1955 (Figure 2). The AML features within the AOAA – Bear Valley project area are a direct result of previous mining operations.

A unique geological feature called the "Whaleback" was discovered during underground mining operations and then later daylighted during the strip-mining operations (along the same strip cut within the AOAA – Bear Valley project). The Whaleback is an anticline of the Pennsylvania Llewellyn Formation, which was beneath the Mammoth coal seam. It is known to be one of the best exposures of folded rock in the country and consequently, it is a popular destination for college geology class field trips (See Figure 3). More information about the Whaleback can be found here PDFProvider.ashx (pa.gov).

Figure 4 – DH at the southern portion of the site

Description of AML Problems

As mentioned in the *Project Summary*, there were a total of six (6) P2 AML features that were reclaimed, including 4,000 feet of Dangerous Highwall (DH) along the southern portion of the site with an average height of 100 feet (See Figure 4), 1,000 feet of DH along the northern portion of the site with an average height of 80 feet, a 1.3-acre Hazardous Water Body (HWB) located within the southern DH, an eight (8) feet by 15 feet Vertical Opening (VO) (depth unknown), one smaller VO measuring three (3) feet by four (4) feet (shallow depth, non-bat habitat) and one Hazardous Equipment/Facilities (HEF). The HEF measured approximately 45 feet by 60 feet with an average height of 15 feet. The locations of the AML features are shown in the Project Area Map (Figure 5). More details regarding the AML features are in section titled "*Elimination of Significant Health and Safety Problems".*

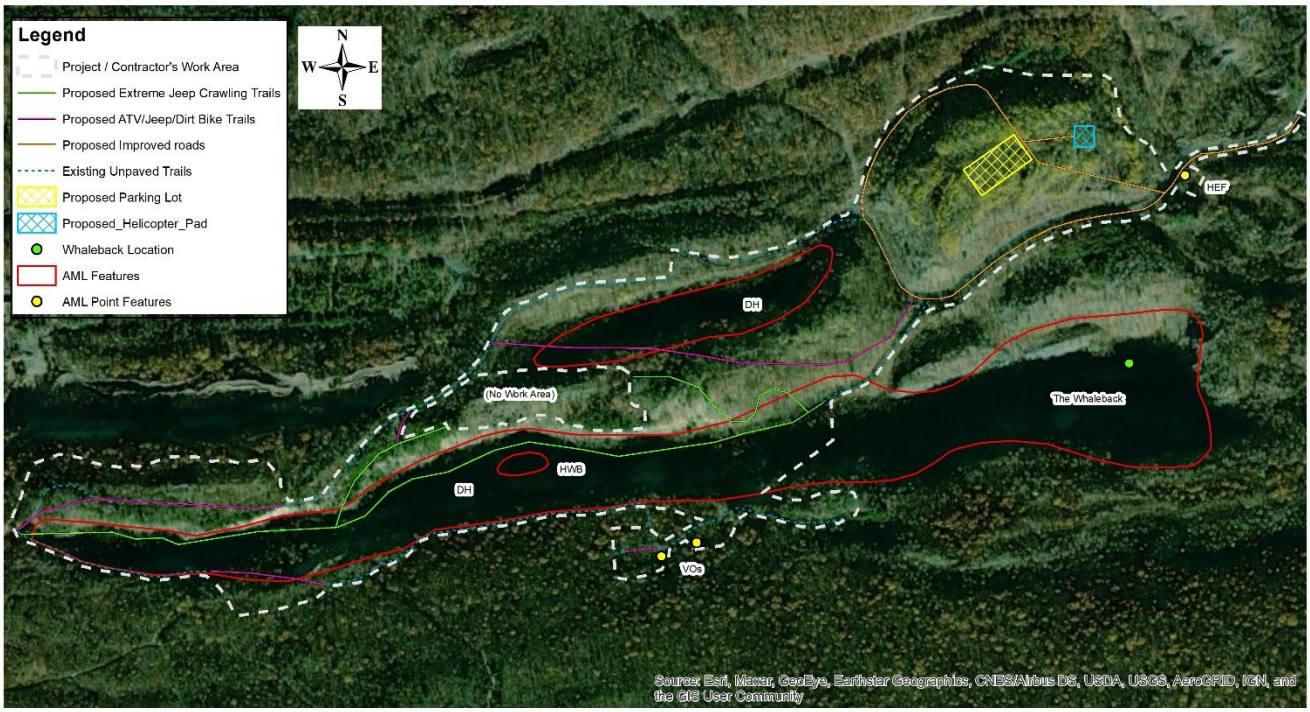


Figure 5 – Project Area Map

Innovative Use of Current Technology

The AOAA – Bear Valley project involved the excavation and grading of nearly 2.5 million cubic yards (CY) of on-site material using a large array of current industry standard hauling and heavy equipment, including several CAT dozers from the D-6 to D-11 size range, Volvo A35D to A40D haul trucks, CAT 320CL excavators and a customized Kenworth Fuel Truck that was retrofitted to disperse water and control dust. Most of the material, nearly 1.7 million CY, was removed from the eastern end of the project (average cut was 85 feet, average hauling distance was 0.4 mile or 2,100 feet). The material was used to fill the Hazardous Water Body, Dangerous Highwalls and large Pit area and provide drainage and elevation change from the western limit of the project to the east, while also creating the flat top on which the parking area, helicopter pad, and mud pit were constructed. Another nearly 800,000 CY of on-site material was graded on the western portion of the project. Global Positioning System (GPS) surveys were conducted as

Figure 6 – Hummocky Piles from the Air

needed to ensure proper grades and elevations were achieved, to make payments to the contractor for their work, and to ensure the ATV and extreme rock trails were placed at the proper location to provide the best experience for future patrons of the site.

Also utilized on this project was the Forestry Reclamation Approach (FRA) for planting tree seedlings. The FRA is a method for reclaiming coal-mined land to forest under the federal Surface Mining Control and Reclamation Act of 1977. The FRA is based on knowledge gained from both scientific research and experience and it can achieve cost-effective regulatory compliance for mine operators while creating productive forests that generate value for their owners and provide watershed protection, wildlife habitat and other environmental services. This method has also been used on AML sites where it has successfully established trees as the piles create loose soils for root/tree growth while also helping to capture moisture and prevent erosion. State mining agencies and the Department of the Interior's (DOI) Office of Surface Mining Reclamation and Enforcement (OSMRE) consider the FRA to be an appropriate and desirable method for reclaiming coal-mined land to support forested land uses. Pennsylvania, California, Kentucky, Maryland, Ohio, Tennessee, and West Virginia have codified the FRA in their official policy or a memorandum of understanding to signal their acceptance of the FRA as a means of reforesting mined sites. (The Forestry Reclamation Approach: Guide to Successful Reforestation of Mined Lands, US Department of Agriculture, Forest Service. Adams, M. [2017]).

Difficulty of Achieving Reclamation Under Existing Conditions

Special and Unique Considerations

This project was certainly not your ordinary, run-of-the-mill grading project in a low or diminished use area due to the unique nature of the reclamation work and its location in the middle of an outdoor adventure park frequented by tens of thousands of people every year. There were many unique considerations and aspects of the contract work, beginning with the grading itself. The grading in this case included not only long and steep hauls, excavation of material, ripping of rock, dozer pushing, etc., but also involved the handling and re-handling of hundreds of thousands of cubic yards of on-site material due to stockpiling and sorting large boulders found during excavation. The boulders were temporarily stored for several months while the areas of the extreme rock trails were brought to grade and later hauled to the extreme rock trail area, sorted again, and placed in a pattern that will be both challenging and safe for future riders. It was very difficult to estimate how many boulders were going to be needed so the contractor excavated and handled all large boulders, which consumed a large amount of time and equipment resources.

Figure 7 – Bat Gate During Installation

The contractor also had many other issues to address, including but not limited to the demolition of an old abandoned mine structure, the placement and seeding of the FRA hummocky piles in very steep, rocky areas which required benching for installation, and the installation of a bat gate into a crop fall on a particularly steep, remote area of the project. The bat gate work required many pieces of equipment including two (2) excavators, operating in tandem, to line up and install the pipe. The contractor and Department of Environmental Protection (Department) personnel had to be very sharp, staying a safe distance away from the mine opening while lowering the pipe safely into place, anchoring it into the opening, and then carefully backfilling and securing it so continued ingress and egress is still possible by the bats but also preventing any human access.

However, the most difficult and unique task was reclaiming dangerous mine features while also replacing them with less dangerous, outdoor adventure park features. This is not a consideration the Department would normally have to adjust for. Typically, an AML feature is addressed to diminish the risk to human health and safety or to provide/construct enhancements for wildlife but for this project the AML features were reclaimed in ways that would allow for construction of the extreme rock and ATV trails. For this to happen, several

entities needed to be able to come together, make changes, and respect one another's opinions to keep the project moving toward completion. The Department, and quite possibility no other entity, has ever completed similar reclamation work. There were no set procedures or playbooks, no written specifications that were worked on and reviewed over decades. The contract's specifications and drawings were the best attempt to depict and describe the work and how it should be conducted. Many things needed to be adjusted and revised in the field, which was challenging and not ideal. However, when looking at the finished product, and all the time and effort spent on meetings, discussions, and site visits, it was all worthwhile and is a project that makes everyone involved proud to be a part of.

On-site Difficulty of the Project

As with any reclamation project, there will be some challenges, and this project was certainly no exception. There were many on-site issues addressed along the way; some of which are outlined in other areas of this narrative as they could also qualify as special and unique considerations. To begin, the project involved a massive amount of grading and hauling work so all the typical problems associated with this kind of work, such as steep, long hauls, drainage, dust control on dry days and difficult muddy hauls on wet days, were included by default. These problems were compounded by the number of times materials and boulders needed to be maneuvered around the site complicating logistics.

Figure 8 – An Extreme Rock Trail Climb on a Steep Slope near the Western End of the Project During Construction

The AOAA lease spans a huge area with interconnecting trails and roads. During the project work, these trails remained open and available to rider pass holders who frequently used them throughout the contract. Given the project area was surrounded by such trails and roads, it was necessary to block and gate off the entries to avoid a rider gaining access. This became obvious very quickly after the project pre-bid meeting as several contractors had concerns about this issue. Therefore, an addendum was prepared to address several things including the installation of five access gates at locations around the project. Also, tour groups on field trips with local universities' and colleges' geology departments frequent this area to view the geologic feature known as the whaleback. The whaleback and the project site shared the same main access, and several times early in the juncture of work large buses blocked the road inhibiting the contractor's work. Despite technically trespassing on the work area, the contractor tried to accommodate the tour groups as much as possible. Eventually, tours were stopped for work to proceed. These tours were part of the reason the improved roadway and parking lot was constructed. When tours resumed in Spring 2022, the constructed areas provided closer access to the whaleback and safer, easier areas for turn arounds and exits. With so many roads and trails around the project site, some were unintentionally blocked by hummocky pile construction and had to be re-opened once discovered.

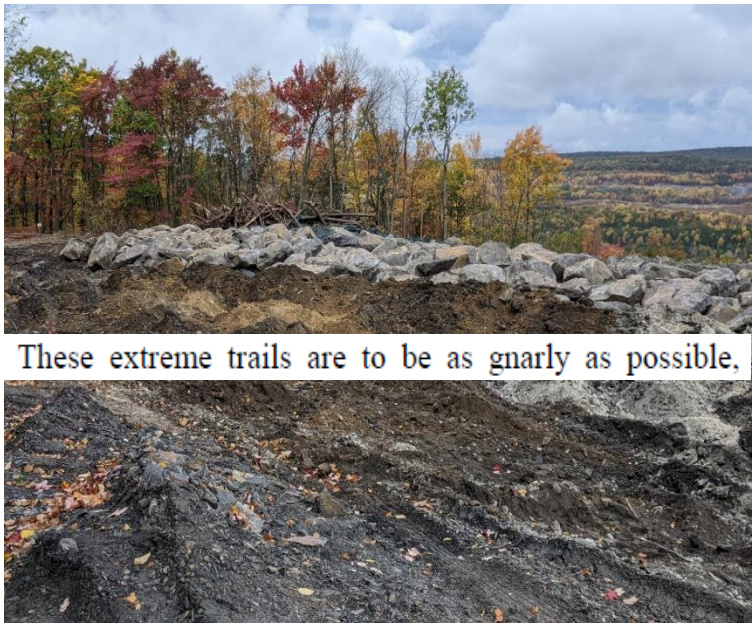


Figure 9 – Extreme Rock Crawling Trail with Actual Contract Language from Project Designer, Steve Fisanick, to Describe its Construction

Again, the most obvious difficulty with this project was the fact it was the first of its type completed. There was no template, no specification or detailed drawing previously used with success, therefore making it a one-of-a-kind design. The project designer, Steve Fisanick, worked closely with AOAA representatives to effectively manage their expectations and then blended classic reclamation techniques used in the past with newly developed techniques to create the extreme rock crawling trails and ATV trails in a manner acceptable to the lessee. Once completed, it was bundled in a way that would also make sense to the contractor for building according to the designer's intentions. While this was done, as good as anyone could have reasonably expected, there remained much to discuss and decide in the field. Several meetings were conducted by Department Representative, Rodney Webb, and the Department's Inspection staff consisting of Kent Pheasant, Tom Dizio, and Ed Frey, to determine the specific details. The most important meeting occurred in October 2020, when it was brought to the Department's attention that the way the extreme rock trail was depicted on the project drawings and plans would not be safe for the AOAA's future riders. At this meeting, all parties agreed on an acceptable change in the design of the project and work was able to continue without any issue or delay.

Project Start and Completion Dates and Construction Costs

The first project meeting between Department design and construction staff, AOAA staff, local township representatives and a group of prospective contractors was the pre-bid conference held on May 23, 2019. Due to the unique nature of the project work, the Department wanted to ensure that all the contractors understood the exact requirements so they could more accurately bid the work. Seven contractors attended the meeting, The Notice to Proceed was issued on August 15, 2019 and a pre-work conference was conducted on August 27, 2019. The project work was completed on April 8, 2022 and a Final Inspection meeting was held on April 19, 2022. The final project cost was $9,961,228.06.

Name of the Organization Responsible for the Reclamation, Including Contractors

The responsible organizations were the Department's Bureau of Abandoned Mine Reclamation (BAMR) for development, design and construction management, the OSMRE for funding and oversight, Morgan's Excavating, LLC as the Contractor, Valley Seeding, Co. as a Subcontractor, and Northumberland County AOAA Authority in managing the AOAA facilities.

On-Site Effectiveness

Effective/Innovative Use of Technology

The approximately 88-acre AML site was very rocky with long, steep sidewalls. Although the project work reclaimed the dangerous highwalls, some steep graded areas were constructed due to both the extreme rock crawling trail design and to accommodate the adventure park. Thus, several techniques, including the FRA-hummocky piles and hauling/grading equipment, described above in the section titled 'Innovative Use of Technology', were required to help control drainage. The hummocky piles were created over a large portion of the site regardless of the varied types of soil found throughout the project. Some areas had decent material easily graded into 4-foot mounds and placed in an interlocking pattern. However, other portions were placed in areas with almost no soil, and final grade required adjustment for bedrock. In those areas, more cohesive material was hauled in and placed using an end-dump method. This was much more difficult and time consuming, but in the end, it proved to be well worth the effort. The rocky areas typically expected to produce more stormwater run-off performed very similarly to the other areas with regard to absorbing run-off as there were no significant issues of drainage or sediment creating an off-site issue. A large portion of the storm drainage water is

Figure 10 – Hummocky Piles in Rocky Areas

absorbed and held in the valleys of the hummocky piles, where you have vegetative growth. Most of what remained follows the path of the main extreme rock trail and was met temporarily with multiple rows of 32-inch compost filter sock and earthen berms to keep any sediment from exiting the project site. However, during the several years of project work it was obvious that a permanent structure should be installed to continue to filter the sediment after the work was completed. Hence, a significant large rock apron was constructed using some of the smaller boulders and rocks not used for the extreme rock trails. Since its construction, it has performed very well. There is no reason to believe it will not continue to benefit the park if it is maintained and sediment is removed intermittently.

Landscape Conforms to the Natural Environment

Nearly 2.5 million CY of earthen material was excavated and graded to backfill the site to approach pre-mining contours. The FRA was utilized on this project, which involved grading the site with hummocky piles of earthen material and planting over 13,000 mixed tree seedlings. The types of trees planted were Sugar Maple, Northern Red Oak, Black Cherry, Chestnut Oak, and Pignut Hickory. The FRA method creates a suitable, uncompacted growing medium for trees, which will aid in restoring native forest land, improving water quality and soil chemistry, and reducing erosion and sedimentation. The FRA method is endorsed by OSMRE and the Appalachian Regional Reforestation Initiative (ARRI), and as noted previously, it has been highly successful on numerous Pennsylvania reclamation projects. More details can be found at the following link: OSMRE and ARRI.

Figure 11 – Hazardous Water Body

Elimination of Significant Health and Safety Problems

The project site was heavily visited. Residents used the hazardous water body (HWB) as a recreational swimming area. The adjacent rock cliff (in the southern portion of the project site) was used to jump into the HWB, which created a very dangerous situation (See Figure11). In addition, the project site is located within the existing AOAA's Western Reserve ATV trail system. Many of the ATV trails in this area were dangerous due to being close to the six (6) identified P2 AML features. The project reclaimed all six (6) features, thus eliminating the significant health and safety hazards. The HWB and both DHs (5,000 feet) were backfilled with over 2.4 million CY of on-site material, utilizing the FRA method as previously discussed. The HEF was demolished. A bat-friendly gate consisting of a 36-inch high-density polyethylene pipe and angle iron was installed in the larger VO, while the smaller VO (non-bat habitat) was backfilled.

Funding

Effective Use of Funds

The AOAA – Bear Valley project is one of the more expensive Pennsylvania AMLER projects to date. The project was competitively bid, and the public bid opening was held on June 3, 2019. Three (3) contractors submitted bids, however the lowest bidder retracted their bid due to an error. The second lowest bidder was Morgan's Excavating, LLC of Mount Union, PA with a bid amount of $9,675,287.50 and was awarded the contract. Subsequently, Morgan's Excavating, LLC took on a subcontractor, Valley Seeding Company, to complete seeding work. The addition of a specialized subcontractor increased project efficiency. Approximately 75% of the total project costs were funded by Title IV (AML Program) funds for the reclamation of the AML features and approximately 25% of the total project costs were funded by AMLER funds for the construction of the extreme rock crawling and ATV trails and for the improvements and construction of roadways and parking area. To significantly reduce the total project costs, the Department's BAMR provided in-house project development/planning, design, drafting, permitting, construction management, and inspection services rather than using consulting firms. The final project cost was $9,961,228.06.

Leveraging – Use of Partners for Funding or Technology

The combination of the AMLER Program and Title IV AML Program funding allowed this project to be completed. In addition, the knowledge, experience, and partnership between the OSMRE, the Department's BAMR, the Northumberland County AOAA Authority, Morgan's Excavating, LLC, and Valley Seeding Co. propelled the project forward in a timely and well-coordinated manner.

Benefits to the Community

Community Support for the Project

The AOAA – Bear Valley project has local community and political support. Community support is exemplified by the increase in business at AOAA over the past several years by both county and non-county residents. The main newspaper serving the City of Shamokin, *The News-Item*, published an article discussing the increase in business in 2021. According to Dave Porzi, Director of AOAA operations, AOAA gross sales reached nearly $1 million, a 6% increase from 2020, and had nearly 39,000 visits to the AOAA facility (*News-Item* article: AOAA grossed nearly $1 million in 2021 | Local | newsitem.com). After the opening of the new extreme rock crawling and ATV trails, business is expected to significantly increase in the surrounding communities and the nearby City of Shamokin. The article also discusses how AOAA has donated back to various local municipalities for their continued support through the years (See section titled *Long-Term Benefits to the* Community for additional details). Another article published on December 12, 2020 in the *Williamsport Sun-Gazette* discusses a newly approved City of Shamokin ordinance, which allows ATV vehicles to drive from nearby ATV parks, such as AOAA, onto specific streets in the downtown business district (*Williamsport Sun-Gazette* Article: Dirt bikes, ATVs on streets help revitalize ex-coal town | Sun-Gazette). City officials believe the passage of this ordinance will increase patronage to local businesses "like they haven't seen in decades." One Berks County resident, Ed Manning, moved to Shamokin to open a cigar shop due to the potential increase in local businesses. Interestingly, the potential increase in business at AOAA as a result of this partially AMLER funded project, will directly correlate to increased business in surrounding municipalities like Shamokin via the increased ATV traffic on local roadways due to the recent passage of this ordinance.

Long-Term Benefits to the Community

The Northumberland County AOAA Authority hosts an annual event called the "Fight the Blight" benefit ride, which raises funds to remove dilapidated structures in Northumberland County. The benefit ride takes place at the AOAA trail system with several stops and includes a meal. According to an article published on October 28, 2021 in *The News-Item*, the Northumberland County AOAA Authority partnered with the Housing Authority of Northumberland County (HANC) to raise $7,500 in the 2021 "Fight the Blight" event (*News-Item* article: County housing authority receives fourth 'Fight the Blight' donation from AOAA | Local | newsitem.com). In addition, the Northumberland County AOAA Authority continues to donate back to the surrounding municipalities and Northumberland County. An article published on June 3, 2021 in *The Daily Item*, a daily newspaper in Sunbury, PA, states that the Northumberland County AOAA Authority donated a total of $75,000 to Northumberland County at a public meeting in June 2021. The revenue was generated through fees collected to ride at the AOAA. The AOAA has given more than $175,000 in donations to the county since it opened in 2014 (Daily Item Article: AOAA donates more than $75K to Northumberland County | | dailyitem.com). In addition to the above, the AOAA has impacted the surrounding communities by bringing many people into the area. In response, two (2) full-service ATV/UTV/dirt bike repair shops, six (6) bed and breakfast/Airbnb rentals, (2) new hotels, and one (1) new campground have opened for business out of necessity and opportunity while a private company purchased 150 acres and erected ten (10) mini cabins.

Year	2019	2020	2021
Number of Visitors	≈24,000	≈28,000	≈39,000
Total Sales	$649,826.44	$912,939.97	$973,928.07

Surface Mining Control and Reclamation Act (SMCRA)

Exceeds the Spirit and Intent of SMCRA

The AOAA – Bear Valley project surpasses the intent of SMCRA by combining both AML reclamation with the construction of a new recreational resource for the community via the AMLER program. As previously mentioned, the 88-acre project involved the reclamation of the following Priority 2 AML features: DH totaling 5,000 feet, a 1.3-acre HWB, two (2) VOs and an HEF. Over 2.4 million CY of on-site material was excavated and graded to backfill the site to approach the pre-mining contours. Prior to reclamation these AML features were very dangerous. The HWB was used as an illegal, unsupervised swimming area and the other AML features were located very close to existing ATV trails. The elimination of these features created a safer environment for the public. The FRA method was utilized, which involved the grading of the site with hummocky piles of earthen material and involved planting over 13,000 mixed tree seedlings. In addition to the AML reclamation, the new extreme rock crawling trail and ATV trails will not only provide a new recreational resource for the community but will also stimulate the local economy, as discussed in the previous sections.

Increased Public Awareness of SMCRA

The AOAA – Bear Valley project was highly publicized in the local newspapers: *The Daily Item* (Sunbury), *The News-Item* (Shamokin), and *The Sun Gazette* (Williamsport). This was likely due to the unique and relatively new AMLER program, which created public interest. In addition, U.S. Secretary of the Department of the Interior, Deb Haaland, and White House National Climate Advisor, Gina McCarthy, toured the site in July 2021 (See Figure 12).

Figure 12 – Secretary Haaland and White House Climate Advisor Gina McCarthy tour the project site while project manager, Rodney Webb II

This visit was also featured in *The News Item* and on a Press Release from the Department of the Interior. The press release can be found here: Secretary Deb Haaland, National Climate Advisor Gina McCarthy Discuss Investments to Support Reclamation Jobs During Pennsylvania Visit | U.S. Department of the Interior (doi.gov) . The newspaper publications and Secretary Haaland's visit created great publicity for the SMCRA.

Figure 13 – Senator Bob Casey and Department Deputy Secretary John Stefanko press event podium - May 2022

Recently in May 2022, U.S. Senator Bob Casey toured the AOAA and the project area to highlight how AML reclamation projects can benefit local economies and communities. Additionally, he wanted to bring attention to the Bipartisan Infrastructure Law, which passed in November 2021 and will provide Pennsylvania with an additional $244 million for AML this year alone. The Senator held this press event in the new parking lot area with the ATV and extreme rock crawling trails in the background. The press release can be found here: Wolf Administration, Sen. Bob Casey Highlight Importance of Infrastructure Act and Abandoned Mine Reclamation for Pennsylvania (pa.gov).

Transferability to Other AML Projects

Although the AOAA – Bear Valley project is unique, many techniques utilized can be transferred to other AML projects in the future. For instance, the FRA method that was implemented

in the AOAA project can be used on upcoming AML projects. In addition, since several AMLER projects combined AML reclamation with construction of new recreational resources (i.e., ATV trails, walking trails, etc.), the design and construction techniques used for the AOAA ATV trails can also be utilized on upcoming projects.

Summary/Conclusion

As a result of the AOAA – Bear Valley public health and safety hazards were eliminated through the reclamation of six (6) Priority 2 AML features, a new, unique recreational resource for both Pennsylvanians and people from surrounding states was created, and the local economy through an increase usage of local businesses was revitalized. The new rock crawling trail and ATV trails were constructed and provide a great recreational attraction for the local community and surrounding municipalities and states. The project will also stimulate the local economy and help the residents as the AOAA continues to donate back to the local municipalities.

The following link shows a drone flight performed in May 2022. The drone was flown from the west end of the extreme rock crawling trail eastward, toward the parking lot and the Whaleback, before flying back west and ending at the overlook area. (Drone footage can be found at this link: AOAA's currently "Unnamed" Boulder Trail & the Whaleback - YouTube.) Also please enjoy these videos of the first attempts to traverse the extreme rock crawling trail now named "Mammoth" Trail: WE BREAK IN THE NEW MAMMOTH TRAIL AT AOAA!! - YouTube and a tour taken by Torq-Masters Industries: AOAA Offroad Park Mammoth Trail Tour - YouTube. The videos display the scale of the AOAA – Bear Valley project well, but it is truly best to see it in person.

(Project pictures continue on following pages.)

PRE-CONSTRUCTION (APRIL – JUNE 2019)

DURING CONSTRUCTION (OCTOBER 2019 – JANUARY 2020)

DURING CONSTRUCTION (JUNE 2020 – AUGUST 2020)

FOREST REVEGETATION APPROACH - HUMMOCKY PILES, WITH PROJECT INSPECTOR KENT PHEASANT

DURING CONSTRUCTION (OCTOBER 2020)

1ST PIECE OF COMPLETED EXTREME ROCK CRAWLING TRAIL

DURING CONSTRUCTION – EXTREME ROCK CRAWLING TRAIL WITH AOAA STAFF (OCTOBER 2020)

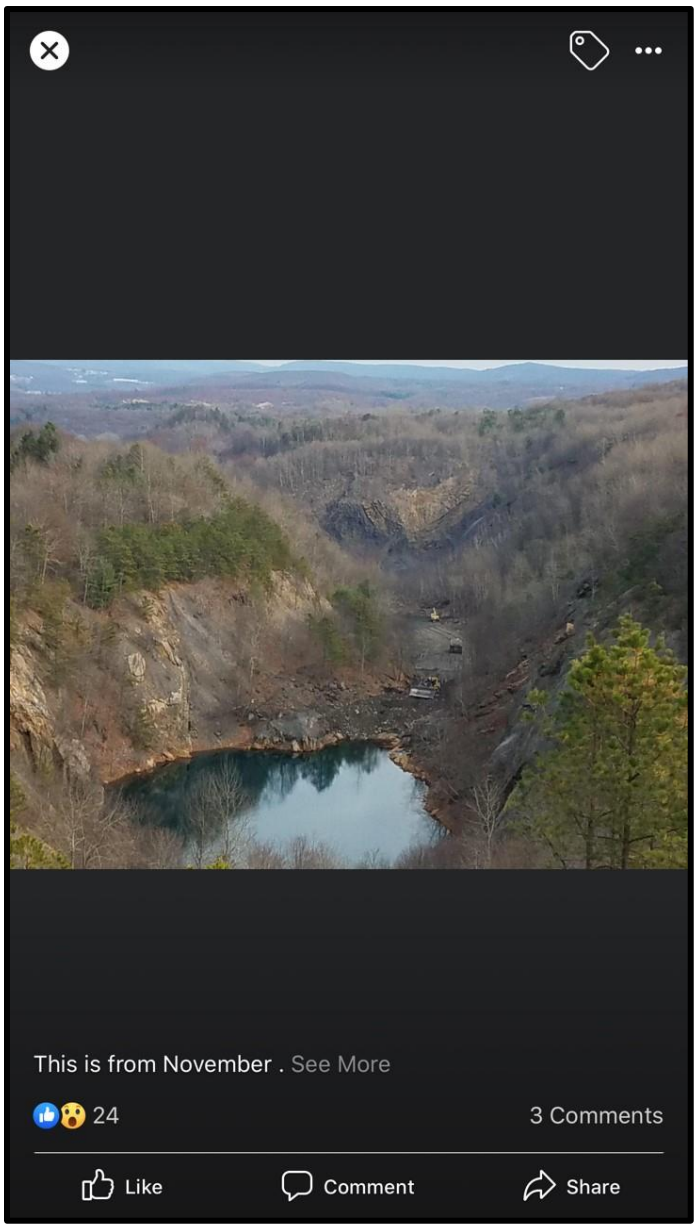
DURING CONSTRUCTION, AERIAL OBLIQUE PHOTO (JUNE 2021)

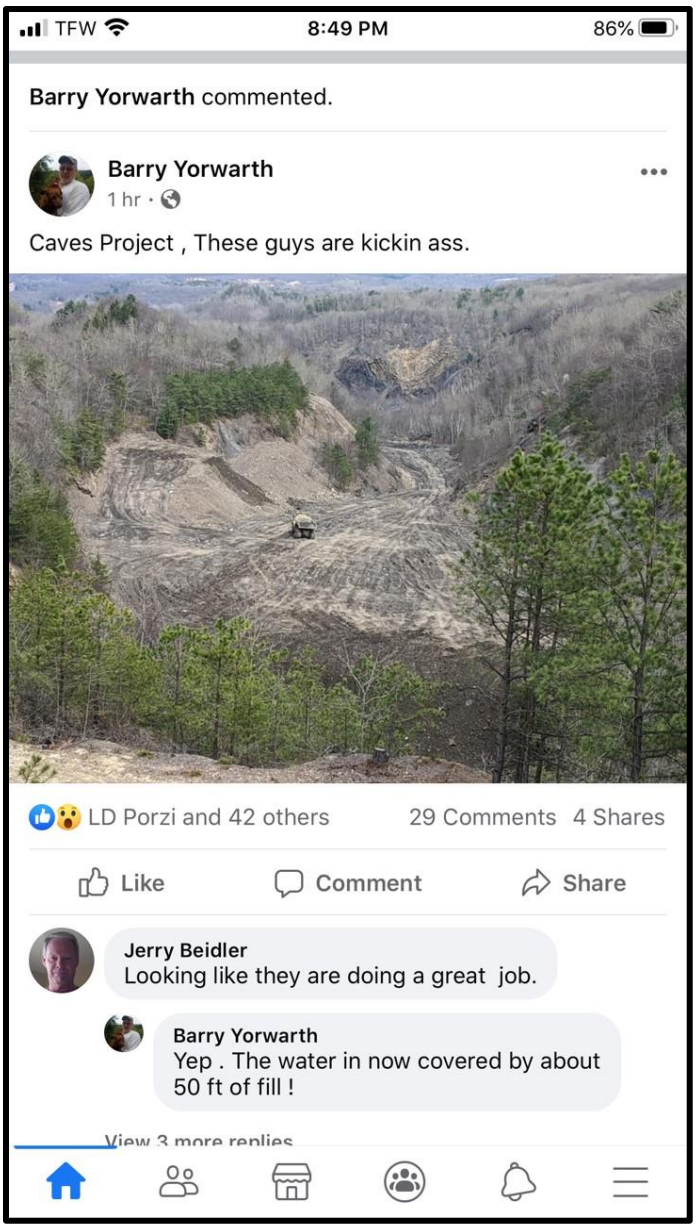
AOAA TOUR CONDUCTED FOR THE U.S. SECRETARY OF THE DEPARTMENT OF THE INTERIOR, DEBRA ANNE HAALAND AND WHITE HOUSE NATIONAL CLIMATE ADVISER, GINA MCCARTHY

DURING CONSTRUCITON (AUGUST 2021)

AERIAL OBLIQUE PHOTO, WITH GEOLOGIC FEATURE "THE WHALEBACK" VISIBLE IN THE FOREGROUND (NOVEMBER 2021)

AERIAL OBLIQUE PHOTO, VIEWING EAST (NOVEMBER 2021)

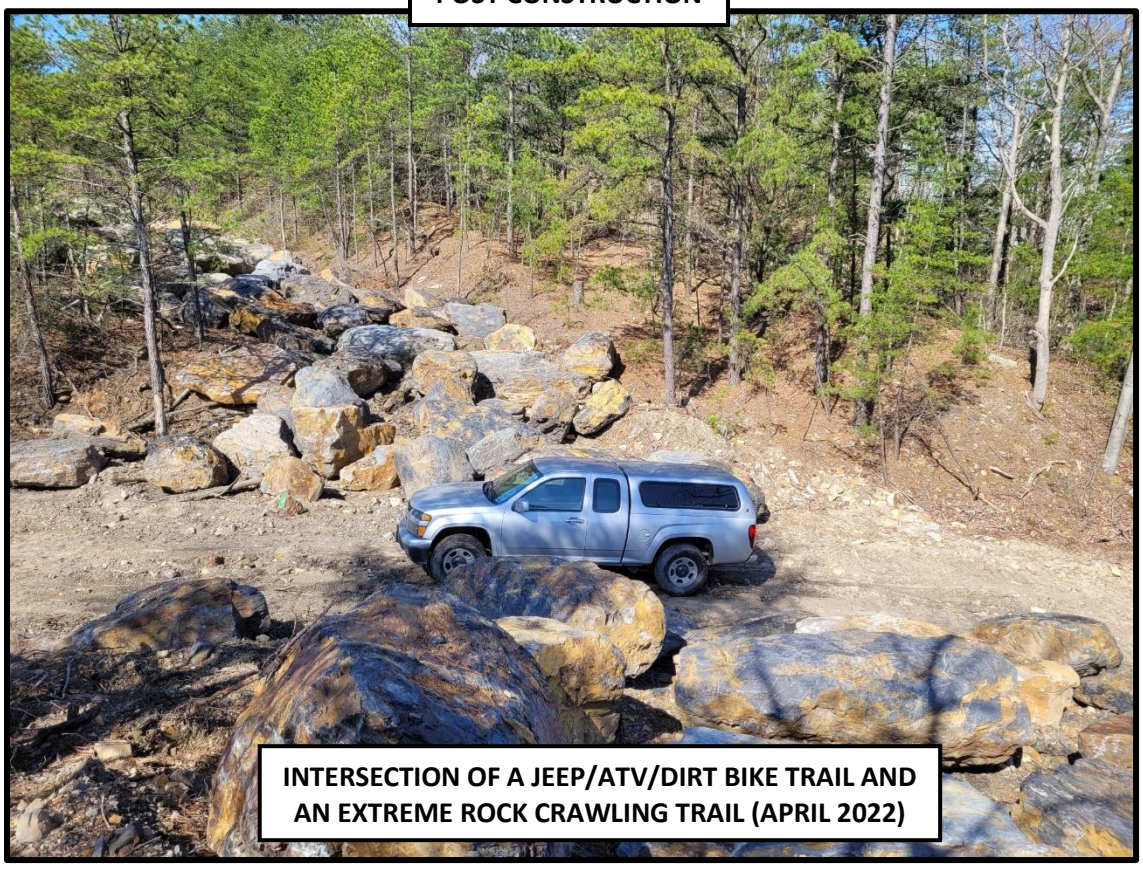




AOAA SOCIAL MEDIA POSTS DISPLAYING EXCITEMENT OVER THE WORK PROGRESS AND ANTICIPATION FOR THE PROJECTS COMPLETION (NOVEMBER 2019 – JUNE 2020)

VIEW EAST OF THE PARKING AREA AND HELICOPTER PAD (APRIL 2022)

POST CONSTRUCTION



INTERSECTION OF A JEEP/ATV/DIRT BIKE TRAIL AND AN EXTREME ROCK CRAWLING TRAIL (APRIL 2022)

POST CONSTRUCTION (APRIL 2022)

POST CONSTRUCTION – SENATOR CASEY PRESS EVENT (MAY 2022)

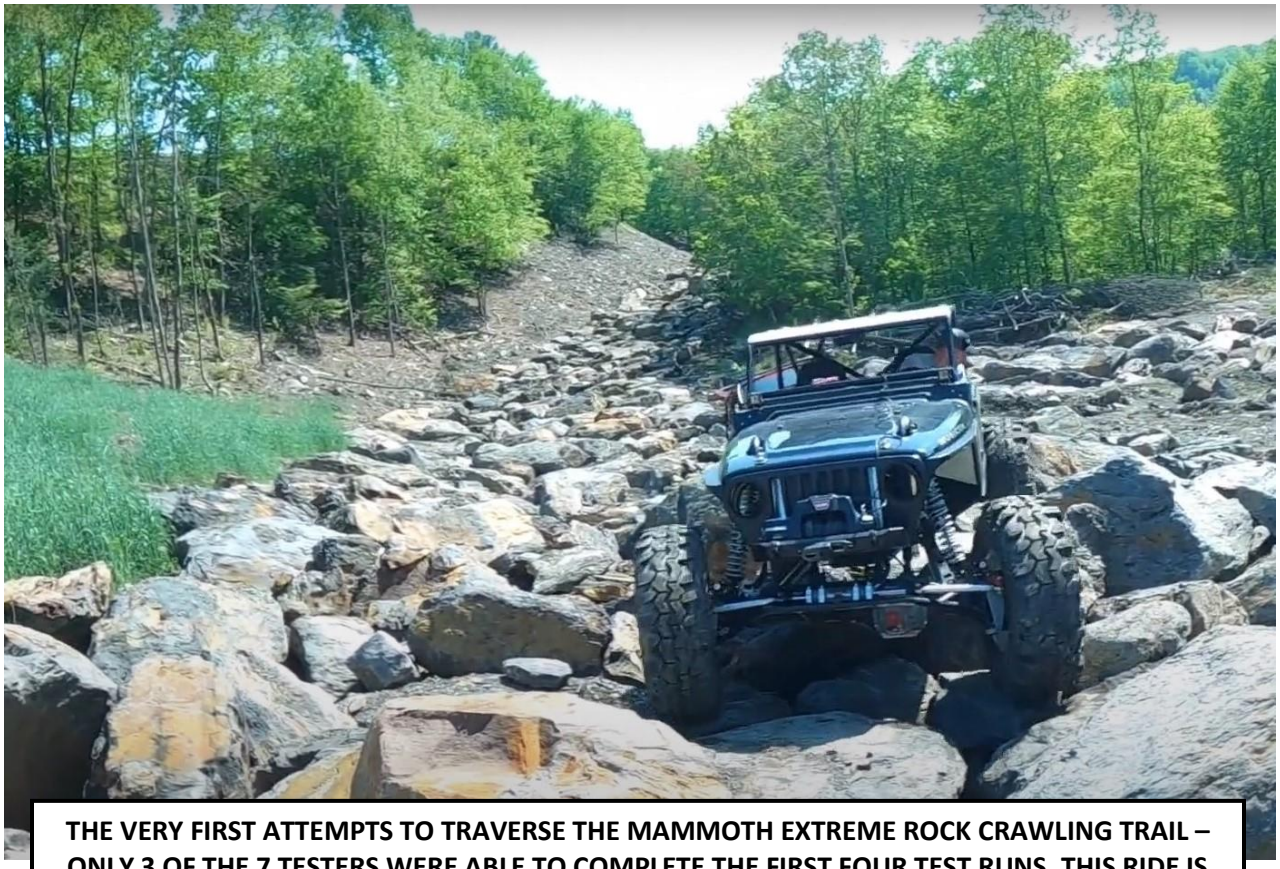
FROM LEFT TO RIGHT, DEPARTMENT DEPUTY SECRETARY STEFANKO, JOHN DAWES – FOUNDATION FOR PA WATERSHEDS, SENATOR CASEY KATHY VETOVICH – PRESIDENT OF SHAMOKIN AREA BUSINESSES FOR ECONOMIC REVITALIZATION, AND DAVE PORZI - AOAA DIRECTOR OF OPERATIONS

AOAA DIRECTOR OF OPERATIONS, DAVE PORZI, DEPARTMENT DEPUTY SECRETARY STEFANKO AND SENATOR CASEY

POST CONSTRUCTION (MAY 2022)

THE VERY FIRST ATTEMPTS TO TRAVERSE THE MAMMOTH EXTREME ROCK CRAWLING TRAIL – NONE OF THE 7 SELECTED TESTERS FINISHED THE WHOLE COURSE AND IT TOOK 3 HOURS TO TRAVEL 1,100 OF THE 6,600 FEET OF TRAIL

POST CONSTRUCTION (MAY 2022)



THE VERY FIRST ATTEMPTS TO TRAVERSE THE MAMMOTH EXTREME ROCK CRAWLING TRAIL – ONLY 3 OF THE 7 TESTERS WERE ABLE TO COMPLETE THE FIRST FOUR TEST RUNS. THIS RIDE IS "NOT FOR THE FAINT OF HEART" ACCORDING TO TORQ-MASTERS INDUSTRIES, WHO TOURED THE SITE IN MAY 2022