



NASLR
NATIONAL ASSOCIATION OF
STATE LAND RECLAMATIONISTS

Fall/Winter 2017

<http://www.naslr.org>

NASLR field trip participants get close up with a dragline on the Fisher Mining Thomas Mine.



2017 Conference Issue

2017 Conference Pages 2-3

Presidents Message Page 4

2018 Officers Page 5

Using Lidar to Locate Abandoned Mines in Colorado Pages 8-9

2018 Conference Location Page 10

2017 Conference



The 2017 annual conference of the National Association of State Land Reclamationists (NASLR) was hosted by Pennsylvania in beautiful Williamsport on the banks of the West Branch Susquehanna.

The 2017 annual conference of the National Association of State Land Reclamationists (NASLR) was hosted by Pennsylvania in beautiful Williamsport on the banks of the West Branch Susquehanna. Attendees came from many different states and backgrounds, some from neighboring states, while others travelled from faraway places like Louisiana and Montana.

The conference took place over three days with presentations on the first and last days with a field trip on the second day to allow all attendees to leave the conference room and experience what we all came for: mining and reclamation activities in Pennsylvania.

The conference was kicked off by William Plassio, Director of District Mining Operation with the Pennsylvania Department of Environmental Protection. Mr. Plassio welcomed all attendees to Williamsport and hoped we would enjoy the conference. We certainly enjoyed the presentations, the field trip, lunch at the Pennsylvania “Grand Canyon”, and all evening events.

Over the course of the three days, 15 presentations were given on a wide variety of topics ranging from reclamation of refuse piles, new rehabilitation and reclamation technologies, erosion and sedimentation control solutions, enhancement of wildlife habitats through reclamation, to using drones to assess reclamation efforts. The field trip’s first stop was at the Thomas mine, permitted by Fisher Mining

Company, where we saw active coal mining using a Marion 22-yard dragline and the current reclamation completed, which consisted of wetlands, ponds, other features to enhance wildlife habitat, and a 1,700-foot constructed stream channel receiving groundwater flow from the mine. The second stop led to the Antrim Acid Mine Drainage Treatment Plan and Micro Hydro facility, where we learned about the facility’s waste water treatment with hydrated lime and it’s two hydroelectric turbines. The last stop before lunch was at a bluestone quarry, permitted by John DiMichele. Mr. DiMichele was kind enough to showcase how bluestone is removed, split and sized to create various bluestone products. The Pennsylvania Grand Canyon served as a scenic lunch spot where we enjoyed our sandwiches and viewed the Pleistocene geologic history of northern Pennsylvania. The afternoon stop showcased a passive treatment technology at the Fallbrook Passive Treatment System that has significantly improved the water quality of the Fallbrook, a major tributary of the Tioga River. The Fallbrook Passive Treatment System was made possible through private and public partnership as the system was designed by Hedin Environmental, funded by Southwest Energy, a local Marcellus gas producer, and supported by the Tioga County Conservation District.

The evening events at this year’s conference included the annual dinner banquet with the award ceremony as well as an evening dinner cruise on the West Branch Susquehanna. Both events, allowed for plenty of networking and of course allowed NASLR during the award ceremony to highlight outstanding reclamation completed by mine operators in the coal and non-coal category and recognize individuals that have demonstrated their commitment to mined land reclamation.

What a success this year’s conference was!! The immense success of this year’s conference would not have been possible without the tremendous work done by PA DEP. A special thank you to all of you!

A special thank you to the exhibitors and sponsors that helped to make this year’s conference successful.

To those that missed an incredible conference, please join us next time in Williamsburg, VA.

2017 Conference Photos



1. PA DEP Deputy Secretary John Stefanko tours Fisher Mining with NASLR
2. NASLR field trip participants get close up with a dragline on the Fisher Mining Thomas Mine
3. NASLR field trip participants view reclamation at Fisher Thomas Mine, winner of the 2011 NASLR coal reclamation award. The reclamation was designed to restore wildlife habitat on PA State Game Lands No. 75.
4. Blue flagstone is a popular product shipped throughout North America which is quarried only in northern PA and southern NY.
5. John DeMichele demonstrates splitting bluestone.
6. Lunch at PA Grand Canyon
8. Dinner cruise on the Susquehanna River at the conference site in Williamsport PA.
9. Sunset from the cruise.

From The President

“Branding”

By Ed Coleman

Montana Department of Environmental Quality

During the course of regular business, I am invited to meetings with reclamation professionals from across the nation. One of the questions that I typically receive in regard to Montana’s membership in the National Association of State Land Reclamationists (NASLR) is – “What is NASLR all about?” Having been involved with NASLR for several years, attended several conferences, met many fantastic and brilliant reclamationists, and now being NASLR’s President, I have a clear answer as how to brand this group. We are a group of reclamation professionals looking for scientific, and preferably tested, solutions to “on the ground” challenges associated with mining and reclamation. The conference attendees typically consist of managers, lead workers, up-and-comers, and top-notch technical people looking to present their work and/or learn from their peers. NASLR is an outstanding organization for government reclamation professionals as well as industry associates including mine operators and consultants that are interested in reclamation issues at a national scale.

So, what does this involvement mean? For those who attend the annual conference, it means an opportunity for educational growth in cutting edge technologies, tried-and-true reclamation practices, and experimental processes. It is a thought provoking forum for discussing current problems and issues among like-minded professionals who

can share a wide range of knowledge garnered from other parts of the country. Participants learn about state-of-the-art land reclamation and matters affecting surface mining and reclamation. Geologists and engineers can earn professional development hours for attendance. Organized field trips provide a firsthand experience of locally implemented mining and reclamation techniques. They also offer an outstanding opportunity to showcase what public, private, and industry partnerships can accomplish. The social gatherings afford an opportunity to network with peers from a variety of states. The annual awards banquet provides recognition of accomplishments, such as the Reclamationist of the Year, the NASLR Outreach and Reclamation Awards, as well as the Scholarship winner. If you would like to submit a nomination for any of these prestigious awards, please go to NASLR’s website www.naslr.org and look under the awards tab.

For those that are officers or part of the Executive Committee or the Public Relations and Education Committee, NASLR provides an opportunity for professional growth and the honing of leadership skills. It also offers the ability to make contacts in other states and become friends with those reclamation professionals.

Speaking of leadership, I would like to offer a big NASLR thanks to Janet Yates who is the outgoing President. Janet carried the weight of organizing the 2015 NASLR Conference in Wise, Virginia and was the Vice President in 2016.

If you were unable to attend the 2017 Conference in Williamsport, Pennsylvania, you really missed out. The conference was a tremendous success with thoughtful and well executed presentations, exceptional field tours that showed state-of-the-art water treatment facilities, and social gatherings that provided plenty of networking opportunities. There are some photos on the NASLR website of the 2017 and previous conferences: <http://naslr.org/galleries/>. The conference’s success was a direct result of a lot of hard work put in by the staff of the Pennsylvania Department of Environmental Protection. A big NASLR thanks goes out to the PA DEP as well.

The 2018 Conference will once again be held jointly with the National Association of Abandoned Mine Land Programs. Mark your calendar for September 9th through the 12th and make arrangements to travel to beautiful Williamsburg, Virginia. The 2018 Conference will provide robust technical discussions, historic and technical tours, as well as networking events. Please visit the NASLR website for membership and conference information www.naslr.org, or you can visit Virginia's website at <https://www.dmme.virginia.gov/dmlr/AMLConference/AMLindex.shtml>. On behalf of NASLR, I sure hope you can make it!

2017-2018 NASLR OFFICERS



NASLR welcomes new officers Danielle Duhé Vice President (LA), Jeff Meitrott Secretary/Treasurer (PA), Simone Rodriguez Executive Committee (NY), Halina Duda Executive Committee (NY), Ed Colman President (MT)

Using Lidar to Locate Abandoned Mines in Colorado

By Erica S. Crosby

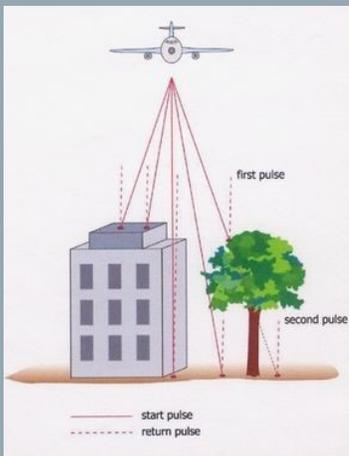
Senior Environmental Protection Specialist

Colorado Division of Reclamation, Mining and Safety: Inactive Mined Land Reclamation

Historical mining in Colorado has resulted in a significant number of abandoned coal and hardrock mines throughout the State. Of the estimated 23,000 abandoned mines, approximately 10,000 have been safeguarded by the Division of Reclamation, Mining and Safety (DRMS). As recreationalists move into remote areas of the State, the need to locate and ultimately safeguard dangerous mine openings continues to increase. At the same time, funding is decreasing warranting more efficient use of staff resources.

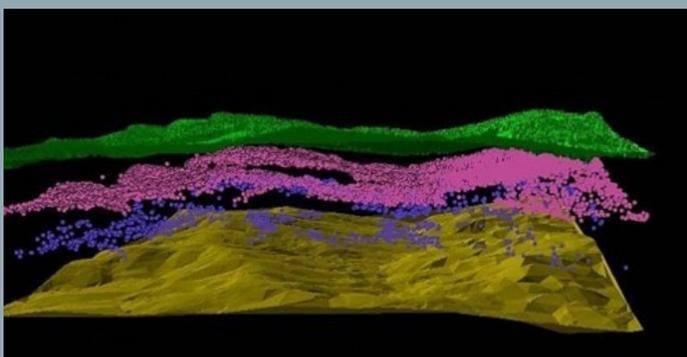
sensor representing various features such as the tops of trees, structures and the ground surface. A huge point cloud file is generated from the multiple returns, and can be converted into layers like Digital Elevation Models (DEM), Triangulated Irregular Networks (TIN) and contour lines to help depict the earth's surface in GIS applications.

In historically mined areas west of Boulder, Colorado that were hit with recent wildfires and catastrophic floods, Lidar surveys were completed by Federal Emergency Management Agency (FEMA) to assist communities in the planning and rebuilding process. Those recently collected Lidar datasets can be converted to bare earth digital elevation models (DEM's), turning the landscape into what looks like the surface of the moon. Filtering out timber and vegetation on the landscape allows GIS users to depict



Light Detection and Ranging (Lidar) remote sensing is a vital tool used to locate abandoned mines in remote and tree covered areas of Colorado. Lidar is a type of remote sensing system used to collect topographic data. A

laser scanner, a Global Positioning System (GPS) and an internal navigation system are fixed on an aircraft that is capable of recording elevation measurements at a rate of 2000-5000 pulses per second. Multiple pulses are reflected back to the





Lidar technology can also be expanded for assessing historic coal mine subsidence that might present future hazards and damage to property and infrastructures. Development of geologic fractures associated with propagation of coal mine fires might also be detected with Lidar. Colorado DRMS has just started to explore use of Lidar with planning and assessment of historic abandoned mines in the State.



Lidar is a tremendous pre-planning tool that reveals the location of potential dangerous mines. The technology assists Project Managers in pre-planning and closure of dangerous mine openings that were never included in the original Colorado State Inventory of Abandoned Mines.



historic mining features such as mine shafts, mine dumps and old, often abandoned mining roads. Because Lidar picks up the nuance of old mine roads, it helps Project Managers find reliable, safe and more efficient ways to access the site. Once a site is located, the condition of the mine is assessed for future closure. Lidar images also depict mine dumps, defined as large mounds or hills of mining waste at the surface of a mine. Depending on the size of the dump these images can give Project Managers an indication of how deep and complex the mine might be. The less obvious advantage of Lidar is what it doesn't show. If depressions, mine dumps or old roads are not observed on the Lidar image, it likely means that the areas were not disturbed by mining, thus allowing Project Managers to avoid these areas all together.

Notes From the Field

A Tale of Two Companies

By Dean Spindler

Illinois Office of Mines & Minerals

A fundamental outcome resulting from the administration and enforcement of environmental laws is that the cost of environmental controls, such as mining reclamation, is internalized within the cost of the mineral being mined. This way, the consumer of the mined mineral ultimately pays for the reclamation and the impacts to the local environment are minimized. This cost is internalized within all companies in the mining industry resulting in no financial advantage in business models between companies.

All business models consider the costs of land, equipment, labor, mineral rights, and reclamation, when making the decision to buy or mine a reserve. Companies also assess legacy (including reclamation) costs when doing due diligence before buying an existing mine with unmined reserves. Mine closure costs should be internally funded during mining or factored into the purchase price of an existing mine. Profits are made and lost based on marketing, mining conditions, efficiency, mineral valuation, and innovation. Unfortunately, even when companies set up an internal reclamation funding mechanism, those funds are occasionally raided during poor financial times. In such times, how companies rise to meet their reclamation obligations can vary.

Over the years, I have heard dozens of reasons why reclamation could not be accomplished or at least completed within the time frames envisioned under the regulations. All reclamation laws have provisions for delaying reclamation for legitimate purposes, such as active mining conflicts where reclamation would either hinder future mining or where costs would be excessive as the material may have to be re-handled. Agencies make reasoned decisions on requests for time extensions as a normal part of their business. I have yet to experience where an agency would not grant a rationally explained request or would not understand it takes several years to close out a large mining operation.

Some of the outlandish reasons for not doing reclamation (which I have heard one or more times) include that reclamation couldn't be accomplished after mining had ceased was that no money was coming in and the operator couldn't afford to do reclamation.

Contemporaneous reclamation is a good hedge against this. Another example is that an existing closed mine in reclamation status was purchased and permits transferred as part of a package deal with other mines, then it was argued that reclamation shouldn't be expected in any reasonable time as they did not mine it. A classic argument for delays is waiting until a few days before the deadline to bring in workers and equipment and then it rains or the equipment breaks down.

In these cases, the company failed to follow their business model which factored reclamation as an internal business cost. Each excuse essentially asked the agency to help the operator save, delay a cost, or, in other words, give them a break on failing to follow a good business model. The fact that this also gives them a financial edge on their competitors is never mentioned. There are the occasional cases where an agency must weigh giving a delay to avoid pushing a company into bankruptcy or under undermining (no pun intended) a bankruptcy under Chapter 11 by setting deadlines too short for them to emerge. An agency will understand that rapid changing market conditions can create significant financial challenges to even a well-managed company.

When a company is experiencing a hardship for whatever reason, a reasonable agency will give the company at least one opportunity for a time extension to make progress in reclamation. Selling the mine is sometimes an option, but, in our experience, this action many times, only delays the inevitable bond forfeiture, as there was not a viable business model for the remaining mineral reserve. Forfeiture of bonds is considered by agencies only as the last resort to get reclamation accomplished.

The economic value of mineral commodities and the fuel used to mine it can be highly variable over the life of a mine compared to the cost of equipment.

In the last two years, we have seen significant financial challenges in the coal mining world. The following is a look at how two companies handled the crisis. In addressing the challenge, one company looked at its outstanding reclamation for both active and closed mines and made a conscious decision that reducing reclamation liability was in its best interest toward securing long term business sustainability. Reclamation was accelerated at a phenomenal pace to clean up closed sites, and they even accelerated reclamation that was not yet due by allocating manpower that was not needed due to slowed mining. I am sure this was an expensive gamble with the costs of reclamation, but such actions would be more attractive to investors due to less liability, reduced reclamation bond premiums, and securing a better position for themselves if market conditions picked up. History has shown that the most successful businesses think long term.

On the other hand, another company looked at the reclamation liability differently. This company looked at how it could minimize the reclamation at closed sites or inactive portions of active mines to delay the costs and buy time. In my career, the cost of reclamation has never gone down, but rather increased significantly. The delays in reclamation also increase corporate costs in personnel costs for site maintenance for sedimentation control, water treatment and environmental monitoring and reporting.

The next five to ten years will show the financial wisdom of these two divergent business decisions.



46th Annual NASLR Conference

September 9-12, 2018

This year's conference will be held jointly with the National Association of Abandoned Mine Land Programs (NAAML) We are pleased to announce that the Conference Hotel for the 2018 Conference will be the [Kingsmill on the James](#) located at 1010 Kingsmill Road, Williamsburg, VA 23185.

This conference has a lot to offer with options for both technical track sessions and field trips. Arrive a couple days early or stay late to make the most of your trip to Virginia! Check the NAAML and NASLR websites for updates and registration information. <http://naamlp.net/> and <http://naslr.org/conference/>

RATES AND REGISTRATION

Kingsmill is a place steeped in a tradition of gracious Southern hospitality. When the first English foot was placed in Virginia, it was here on these grounds that once served as a central part of the area's plantation life in the 1600s through 1800s.

Today, Kingsmill retains those magnificent traits inherent in Kingsmill's early life with grand accommodations, gracious hospitality and stately service. We are pleased to have the Kingsmill on the James as our Conference Hotel. Please note that Kingsmill is a gated community.

[Click here to reserve your hotel room at the conference rate](#)

KINGSMILL AMENITIES

For thrills, tee it up on one of two 18-hole championship golf courses, serve an ace on one of the 15 clay and hard-surface tennis courts, or make a big splash at the mammoth outdoor pool. You can also find a little bliss with more tranquil pursuits on peaceful Wareham's Pond or even a relaxing visit to the world-class spa, there's truly something for everyone.

Kingsmill also provides a complimentary shuttle for guests while on the property, offering transportation between guestrooms, the Sports Club, the Resort Center and the Golf Club House.





If you are not already a member or know someone interested in becoming involved with a group of reclamation professionals promoting excellence in reclamation please contact us or forward this newsletter to them. You are cordially invited to join NASLR, a group of member state reclamation agencies throughout the United States, as well as government reclamation professionals and industry associates that seek to develop resources and strive to restore mined lands to productive uses.

The four categories of membership are *State, Individual, Associate and Corporate Sponsor.*

To join, see conference information or request additional information, please visit our website at: www.naslr.org

**NASLR NEWLETTER
Fall/Winter 2017**

naslr.org



To submit material for future newsletters please contact Jeff Meitrott jmeitrott@pa.gov.

Please use a [NASLR Newsletter Submission Form](#)

Editor: Jeff Meitrott PA DEP

Layout and Design: Lesa Baker VA DMME