



2018 West Virginia Mine Drainage Task Force Symposium



# OSMRE UPDATE ON MINING, RECLAMATION, AND AMD

Thomas D. Shope

Regional Director

Appalachian Region, OSMRE

# Secretary's Priorities



1. Create a conservation stewardship legacy second only to Teddy Roosevelt.
2. Sustainably develop our energy and natural resources.
3. Restore trust and be a good neighbor.
4. Ensure tribal sovereignty means something.
5. Increase revenues to support the Department and national interests.
6. Protect our people and the border.
7. Strike a regulatory balance.
8. Modernize our infrastructure.
9. Reorganize the Department for the next 100 years.
10. Achieve our goals and lead our team forward.

# OSMRE's Mission Priorities



**Regulatory Stability.**

**Supporting the Reclamation of Abandoned Mine Lands.**

**Technical Development and Technical Transfer.**

# Regulatory Stability

- **Coal permitting efficiencies** - NEPA enhancements.
- **Oversight Steering Committee**
- **Work with Tennessee on Efforts to Obtain Primacy.**

# Supporting the Reclamation of Abandoned Mine Lands

- **AML Steering Committee**
- **Improving and enhancing eAMLIS.**
- **AML pilot program.**
- **Watershed cooperative agreements**

# AML Pilot Program

AML Pilot Funds are to be Used **“For the Reclamation of Abandoned Mine Lands in Conjunction with Economic and Community Development and Re-Use Goals”**

- During FY 2016
  - Kentucky, Pennsylvania, and West Virginia were each Awarded \$30 Million For a Total of \$90 Million
    - 21 Authorizations to Proceed (ATP) have been Issued for \$ 61.8 Million in the Region
    - 11 Projects have been Conceptually Approved for \$28.2 Million

# AML Pilot Program

- During FY 2017
  - Kentucky, Pennsylvania, and West Virginia were each Eligible to Receive \$25 Million for a total of \$75 Million
  - Alabama, Ohio, and Virginia were each Eligible to Receive \$10 Million for a total of \$30 Million
    - 1 ATP has been Issued for \$ 700,000 in the Region
    - 24 Projects have been Conceptually Approved for \$53.4 Million
    - States are Currently Refining Submissions for \$50.9 Million

# Watershed Cooperative Agreement Program (WCAP)

The WCAP Program was Designed by OSMRE to Assist Coalfield Citizens in Completing Projects that are Cleaning Streams Affected by Mine Drainage by Making Funds Available Directly to Non-Profit Organizations

Watershed Organizations Make Use of Many Resources, with Assistance being Provided by States, Industry, the Public, and the Federal Government

- Direct Contributions – Funds, Equipment, Land for Facilities
- Foundation and Trust Grants
- Fund Raisers (Cheat Fest)
- Volunteers – Labor and Monitoring
- State Grants
- OSMRE WCAP Program



# Watershed Cooperative Agreement Program (WCAP)



- Beginning in FY 2007, 117 Projects have been Funded, Totaling \$8,551,380
- In FY 2016, 11 Projects were Funded, Totaling \$672,176
- In FY 2017 One Project was Funded at \$100,000



Photos Courtesy of Friends of the Cheat

# Technical Development and Technical Transfer

- **NTTP/TIPS Training Revitalization**
- **TIPS Hardware, Software & Geospatial Activities.**
- **Develop UAS Aviation Program**
- **ARRI**
- **Technical Enhancements to the Applicant Violator System**
- **Coal Information Management System (CIMS)**
- **National Mine Map Repository Enhancements**
- **Field Technical Assistance Activities**

# UAS Aviation Program



# Applicant Violator System (AVS)

In FY 2017:

- The AVS Office collected \$1,143,531.66 in payments received to resolve violations
- AML program administrators used AVS to evaluate 162 bidders prior to award of AML contracts
- The AVS team performed 558 updates for interstate mining businesses with applications or permits to ensure accurate eligibility information for permit decision makers
- The AVS team provided 618 narrative explanations for violation status to State Regulatory Authorities
- The AVS automated 15,510 evaluations for State, Federal, Business and the public inquiries
- 1,144 new violations were entered into the system and 946 existing violations were resolved

# Coal Information Management System (CIMS)

- OSMRE – Montana DEQ Partnership
- E-permitting
  - Enable Operators to Interactively Plan, Submit, and Monitor Applications and Permits
  - Enable Regulatory Authorities to Interactively Receive, Process, and Monitor Applications and Permits
- Release One is Planned to Occur within FY 2018
- When Complete, the System will be Made Available to States and Tribes

# Appalachian Regional Reforestation Initiative (ARRI)

- Continues to Prove Itself as a Viable Concept
- In FY 2017, OSMRE Organized 1,800 Volunteers
- Planted Approximately 217,300 Trees on Post-Bond Released Sites
- Twenty-Eight Tree Planting Events Scheduled for 2018
- OSMRE Continues to Educate the Public about the Forestry Reclamation Approach (FRA) and its Positive Environmental and Economic Impacts



Students Planting American Chestnuts on Site Prepared in Accordance with FRA

# National Mine Map Repository (NMMR)

- Approximately 200,000 Mines on over 146,000 Maps
- NMMR Assists 300-400 Public Customers Annually
- Customers Include:
  - OSMRE
  - States
  - Industry
  - Non-Profit Organizations
  - Private Citizens



60 by 90 Inch Map Scanner

# National Mine Map Repository (NMMR)

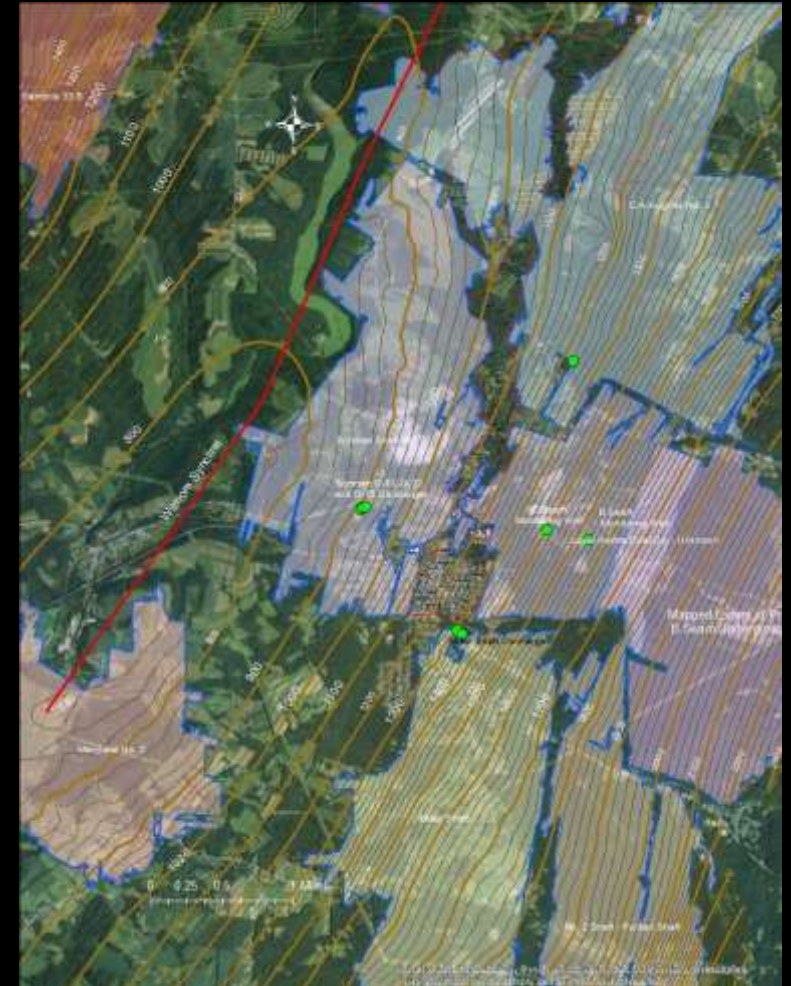
Recently Completed Database Re-Write – Migrated Data to Dynamic, Spatially-Supported SQL Virtual Server

- Allows Collection of More Data
- Information can be Viewed in Online GIS Platform
- Public can Conduct Text and Spatial Searches



# Field Technical Assistance Activities

- On the ground needs drive the process. Catalyst could be from SRA, AML, Watershed Organizations, Industry or OSMRE.
- NMMR Provides Mine Maps Identifying Source(s) of Problems (Mine Workings)
- OSMRE Technical Support Division (TSD) Provides Technical Assistance – Obtaining, Assembling, and Interpreting Information



# Field Technical Assistance Activities

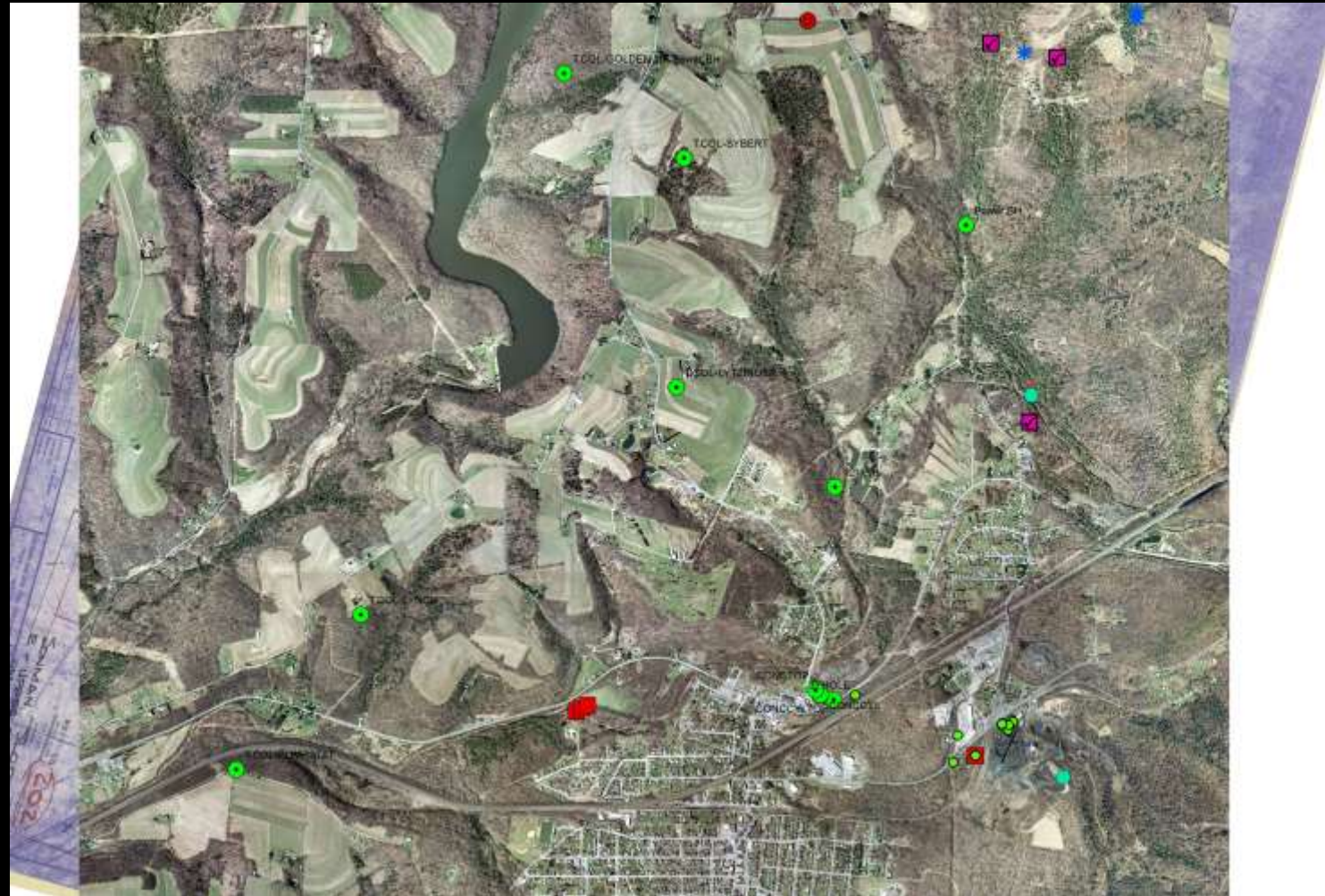
- **The Process:**

- NMMR Provides Mine Maps of Area of Interest to the Watershed Organizations
- TSD Georeferences Maps, Superimposes Borehole Information, and Defines Points with Known Elevations (Red Points).



# Field Technical Assistance Activities

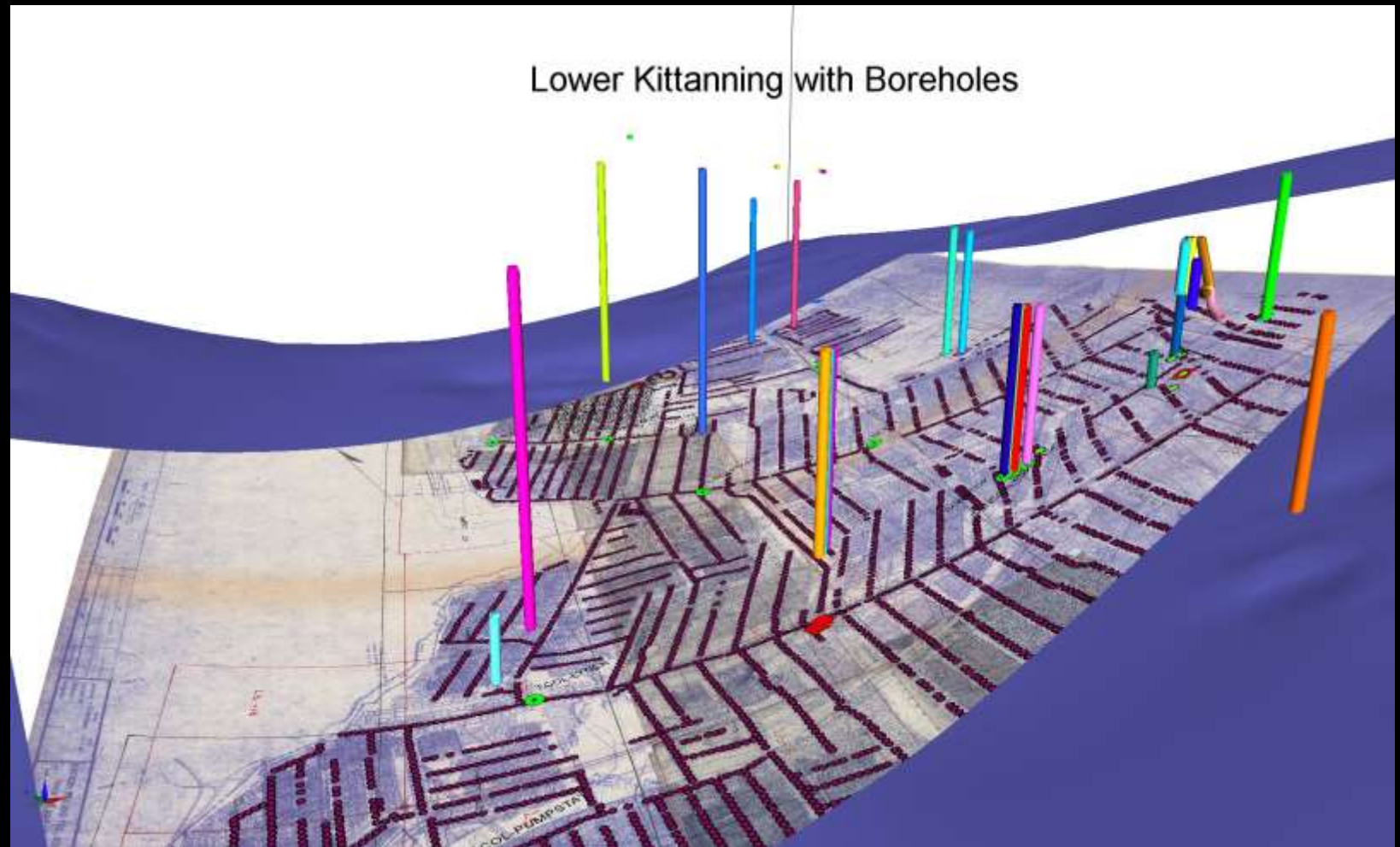
- TSD Provides Georeferenced Aerial Photographic Imagery and LIDAR Models, Superimposed over the Mine Maps, Processing the Data into Spatially Accurate Three Dimensional Models



# Field Technical Assistance Activities

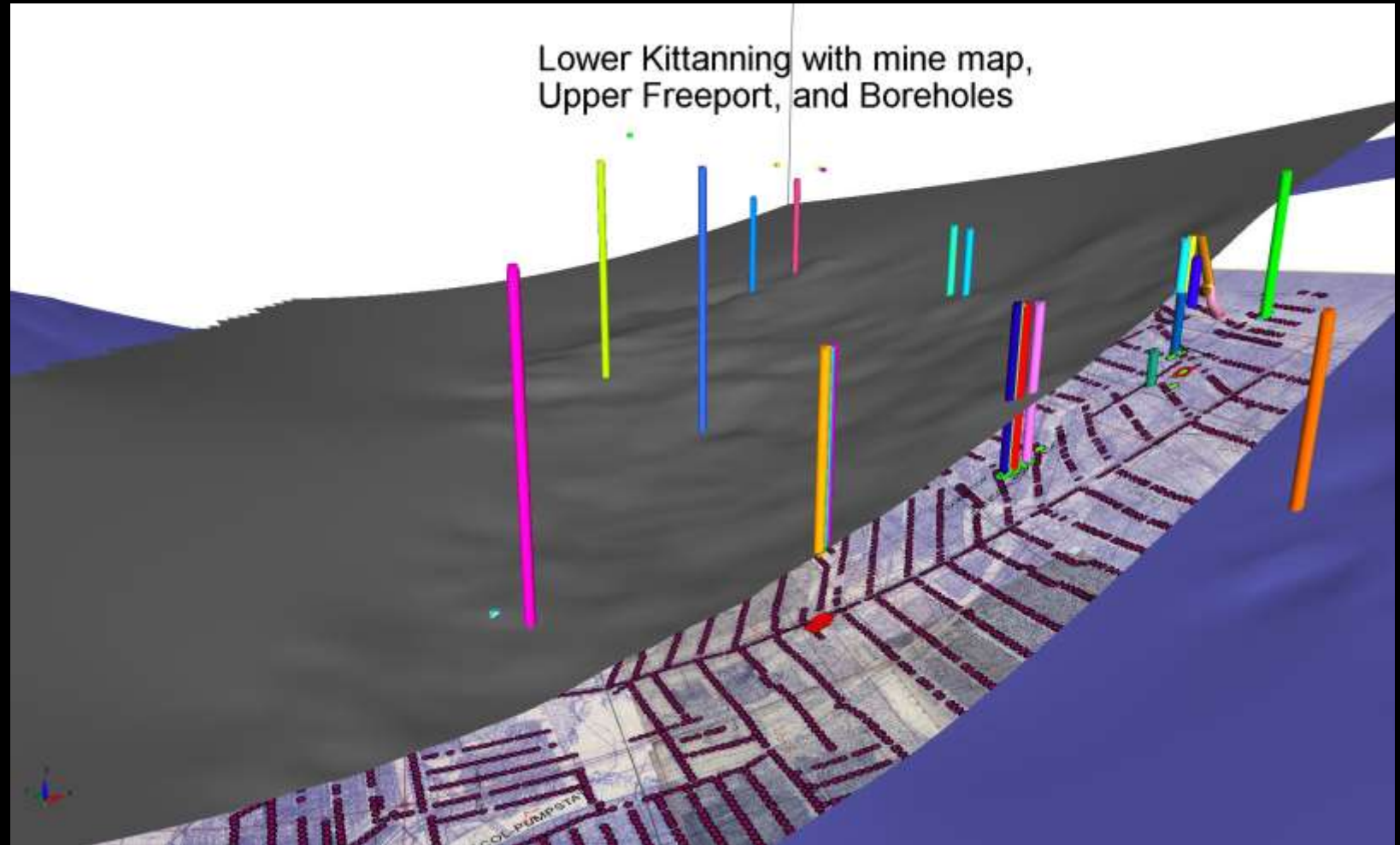
## EXAMPLE

- Georeferenced Mine Map Incorporated into a 3 Dimensional Model, Constructed using Locations and Elevations from this, and other Mine Maps and Boring Logs (Vertically Exaggerated)



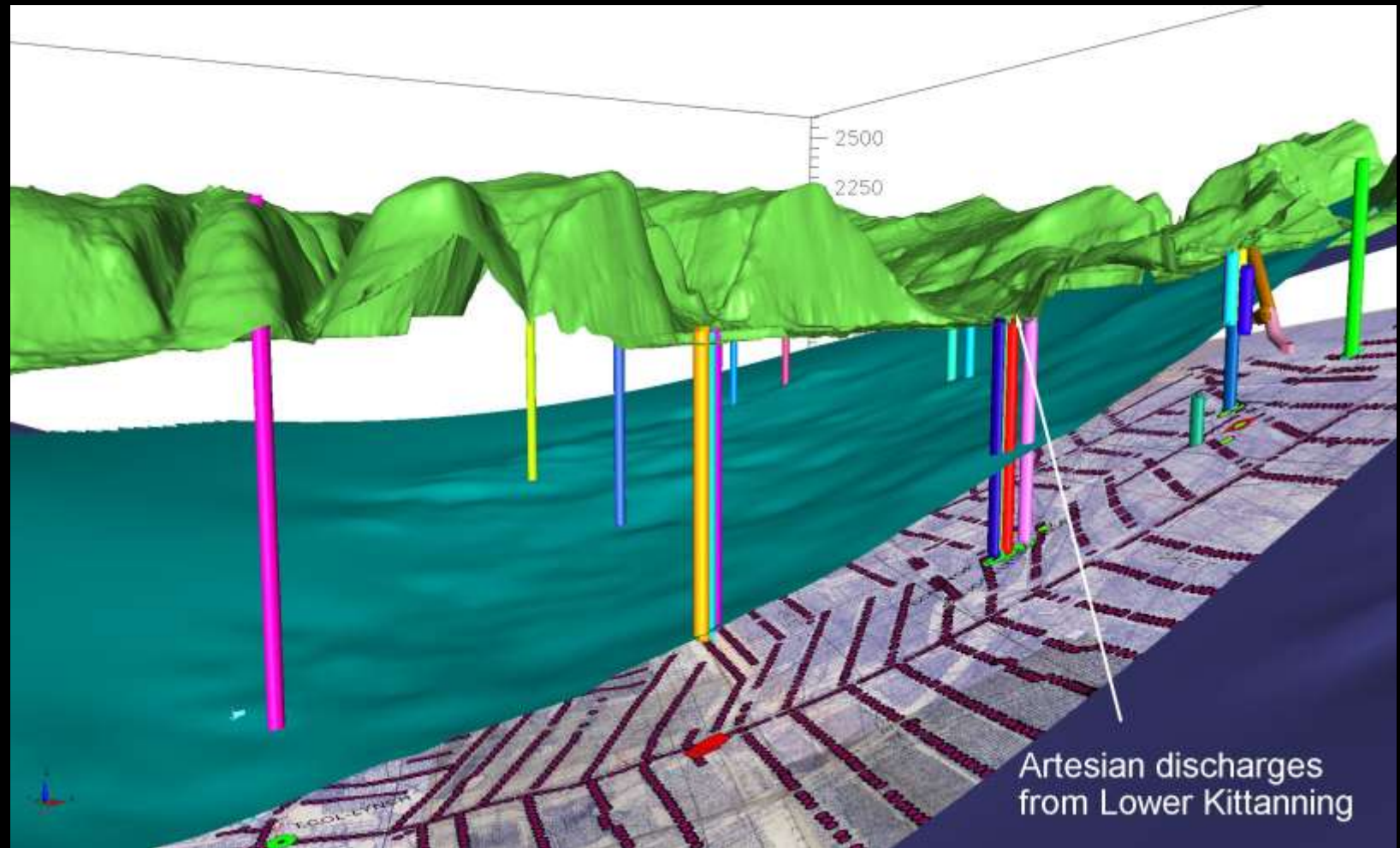
# Field Technical Assistance Activities

- The Same Model, with a Second Seam Superimposed Over the First



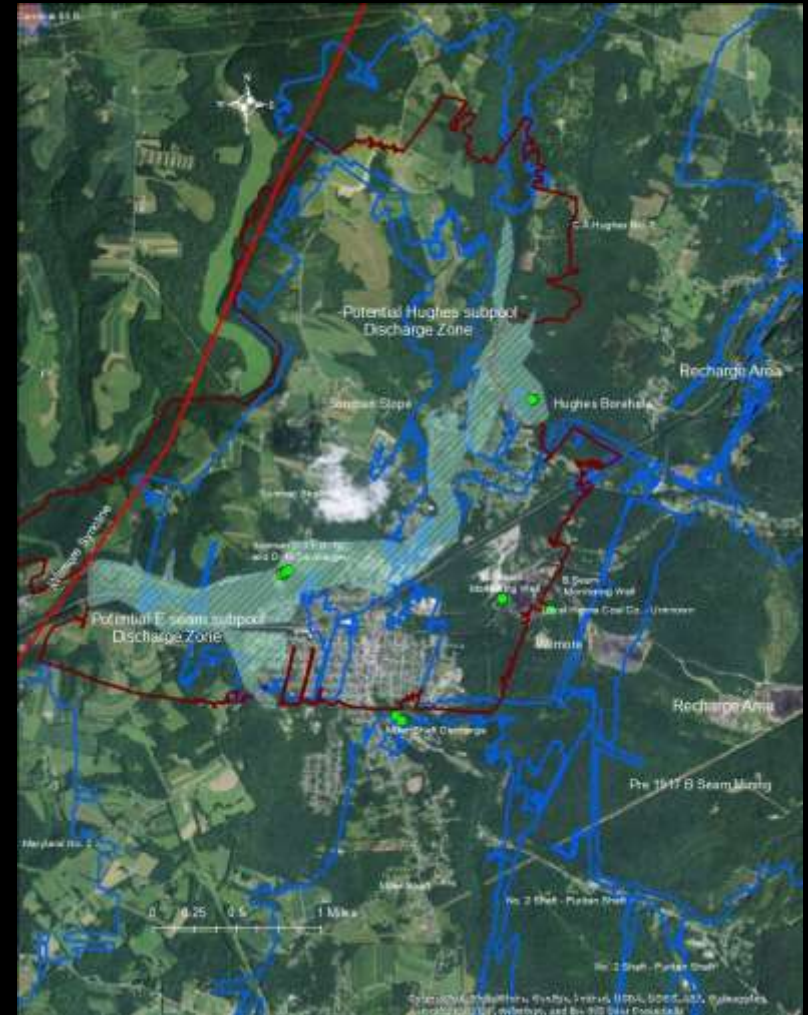
# Field Technical Assistance Activities

- The Same Model, with Both Seams, Boreholes, and Ground Topography (Vertically Exaggerated)
- Models such as this, Along with Measurements of Observed Surface Discharges, Aid Hydrologists in Drawing Conclusions Regarding Where and How to Address Mine Drainage



# Field Technical Assistance Activities

- TSD Identifies Nexus Points, or zones, where Mine Pools do, or may Impact Surface Waters (Cross-Hatched Area).
- OSMRE, States, Watershed Organizations, Industry, and Volunteers Work Together, Using the Results to Address Mine Drainage Issues
- This Work Contributes Significantly to our Understanding of Mine Pool Related Issues, particularly as Mining is Completed and Pumping Ceases
- In Some Cases, Mine Pools can be Assets – The State of Virginia is Investigating the Possible use of Mine Pools as Reservoirs in Pump-Storage Facilities



# Applied Science Program

Fund Projects Investigating Issues of Importance to OSMRE and States' Implementation of SMCRA

## Example

Quantifying the success and long-term ecological and socioeconomic benefits of watershed-scale AMD remediation efforts within West Virginia (FY 2016)





# Applied Science Program

- Project Topics can Include:
  - Issues Identified during the Course of Activities of State and Tribal Programs
  - National or Regional Needs
  - Issues Related to Responsible Mining or Reclamation Practices

All Funded Applied Science Proposals Include Technology Transfer Plans – to Disseminate Findings to Stakeholders



# Applied Science Program

- Projects

- Since 2005, OSMRE Funded 144 Projects Totaling \$11,571,696
- Twenty Two Currently Active Projects
- Seven Projects Totaling \$1,310,034 were Funded in FY 2015
- Twelve Projects Totaling \$2,274,672 were Funded in FY 2016



# Applied Science Program

What are Some Topics You would like to see Investigated from a Pragmatic, Application of Science Perspective?

Direct any Potential Topics to Michael Richmond  
412-937-2850  
mrichmond@osmre.gov



**Questions ?**