

WVDEP AML AMD Treatment System Updates

Jon Knight, Planning Administrator

WVDEP Office of Abandoned Mine Lands

WVDEP AML funding for AMD Treatment

- Infrastructure Investment and Jobs Act (IIJA), passed in November, 2021, provides ~\$140 million per year over 15 years to address AML hazards.
- New to IIJA – Priority 3 features (such as acid mine drainage) can be abated using IIJA funds. O&M can also be funded with IIJA, provided that the project was completed using IIJA funds
- Additionally, STREAM Act allows states to transfer up to 30% of IIJA funds to a separate account for future AMD Treatment.

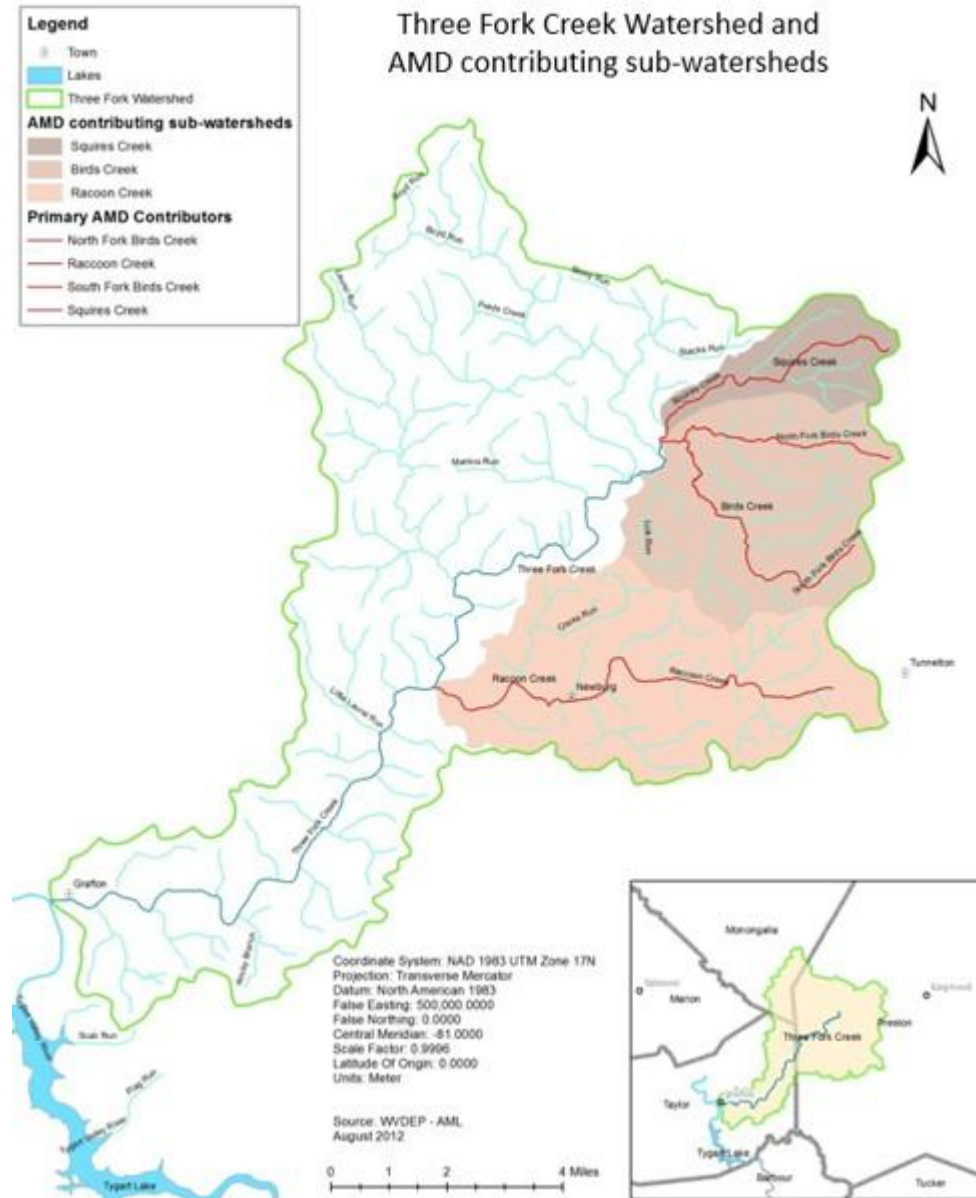
Existing AMD Treatment Systems

- Three Fork Watershed Restoration, WV-2844.
- Abram Creek AMD Treatment, WV-6262.
- Laurel Run Mine Shaft (aka Crellin doser), WV-5128
- Blackwater River/Beaver Creek Neutralization, WV-3925
- Richard AMD Treatment, WV-6900

Three Fork Creek

- Existing dosers were constructed in 2010-11
- Consists of four (4) individual treatment systems on tributaries of Three Fork Creek
 - Squires Creek
 - North Fork of Birds Creek
 - South Fork of Birds Creek
 - Raccoon Creek
- All were originally water driven systems

Three Fork Creek



Three Fork Creek



Three Fork Creek

Three Fork Creek is stocked by Taylor Co. Commission and a local non-profit group



Three Fork Creek

- Currently under contract with Tetrattech to replace all systems with fully automated, hydrated lime dosers.
- Construction recently completed on a replacement doser on North Fork of Birds Creek. In operation since October 2025.
- Dry feed system to discharges the lime directly into the stream

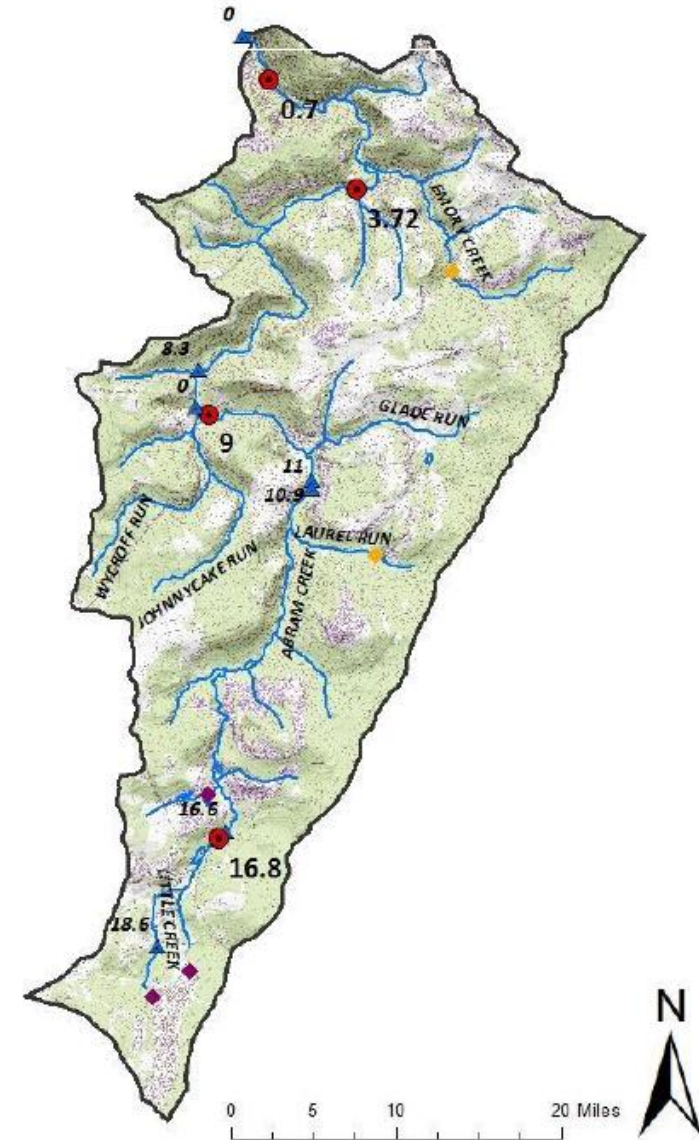
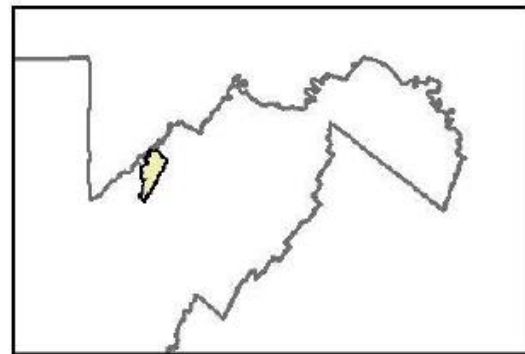
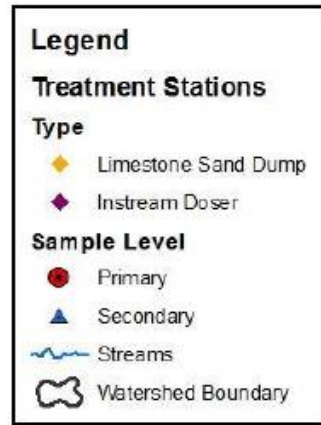


Abram Creek

- Constructed in 2010-11
- Consists of three (3) individual treatment systems
 - Abram Creek
 - Little Creek
 - Morgan 46 - Unnamed Tributary
 - Two systems are water driven, one was converted to solar several years ago.

Abram Creek

Abram Creek Watershed WVDEP Abram Creek Restoration Project



Abram Creek



Abram Creek



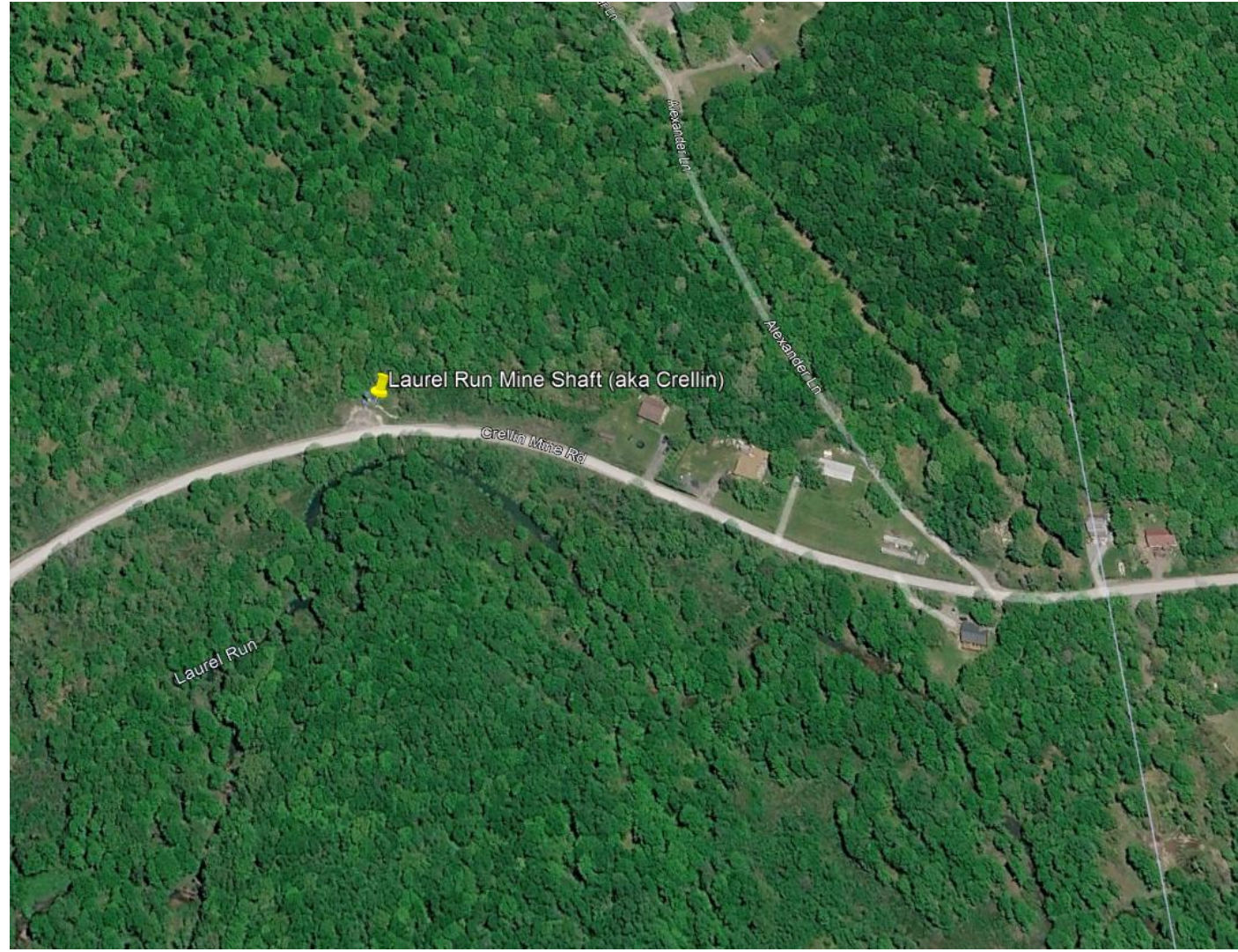
Abram Creek

- Tetrattech currently designing replacement treatment systems for all three dosers.
- New systems will utilize sodium hydroxide instead of pelletized lime due to the low amount of material needed to treat the streams
- Municipal water to be extended to each of the treatment sites.

Laurel Run Mine Shaft, aka Crellin doser

- Operated in conjunction with MD AML program
- Currently, working to replace this system using the Design Build process.
- Working with the landowner, project has not been put out for bid yet.

Laurel Run Mine Shaft, aka Crellin doser



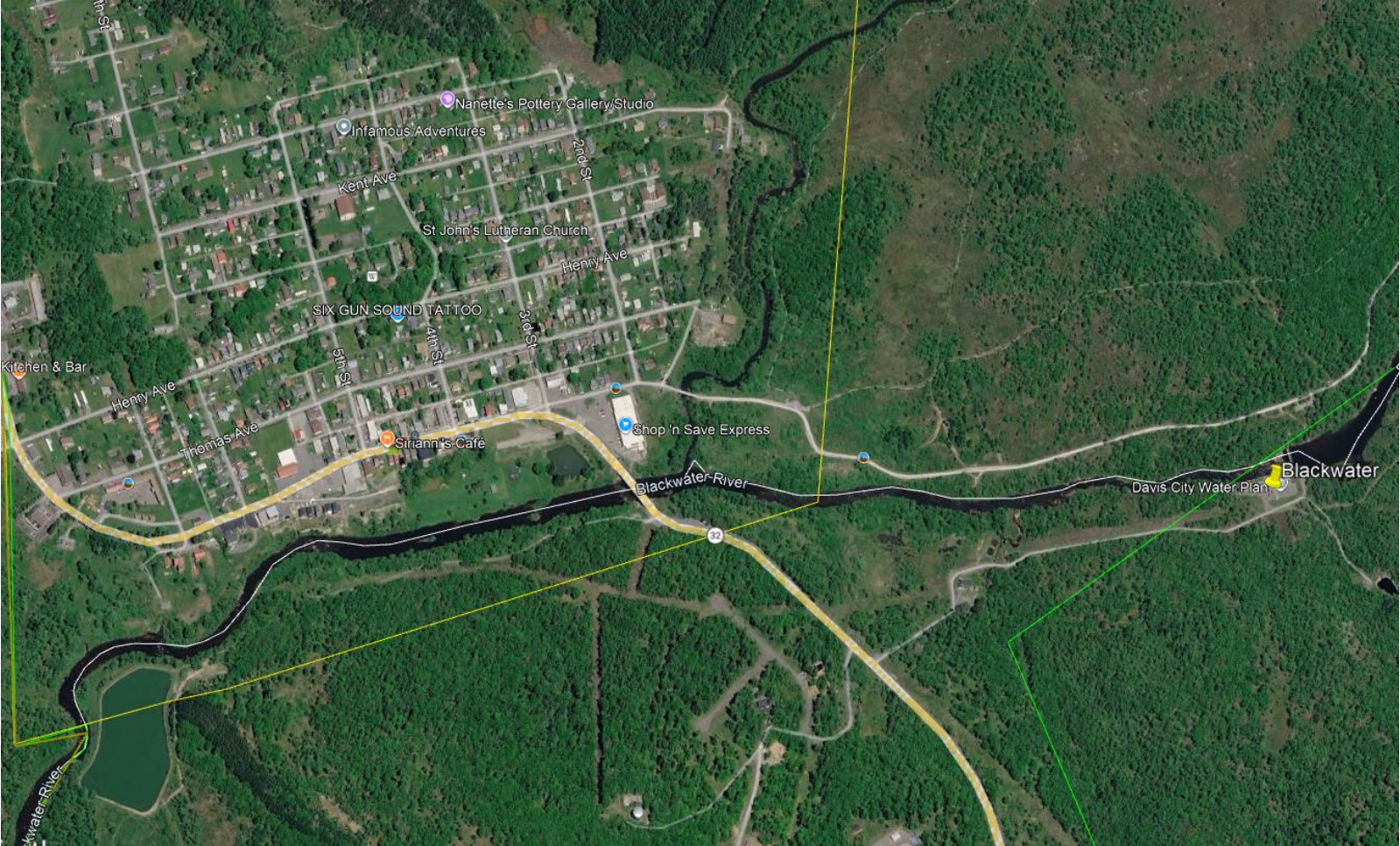
Laurel Run
Mine Shaft,
aka Crellin
doser



Blackwater

- Originally constructed in mid 1990s by WVDEP AML and WVDNR to combat the AMD entering the Blackwater from Beaver Creek in Davis.
- Operated by DNR until 2010's, when the drum station was decommissioned. New doser constructed in 2015 by AML.
- Due to improved water quality in Beaver Creek due to the construction of Corridor H and the installation of limestone sand dump sites in Beaver Creek watershed, the new doser has not been operated since 2018.
- Currently under contract with Tetrattech to demolish the old doser. Drum station will be left for the Town of Davis to utilize. New doser will be deconstructed and donated to Maryland AML program.

Blackwater



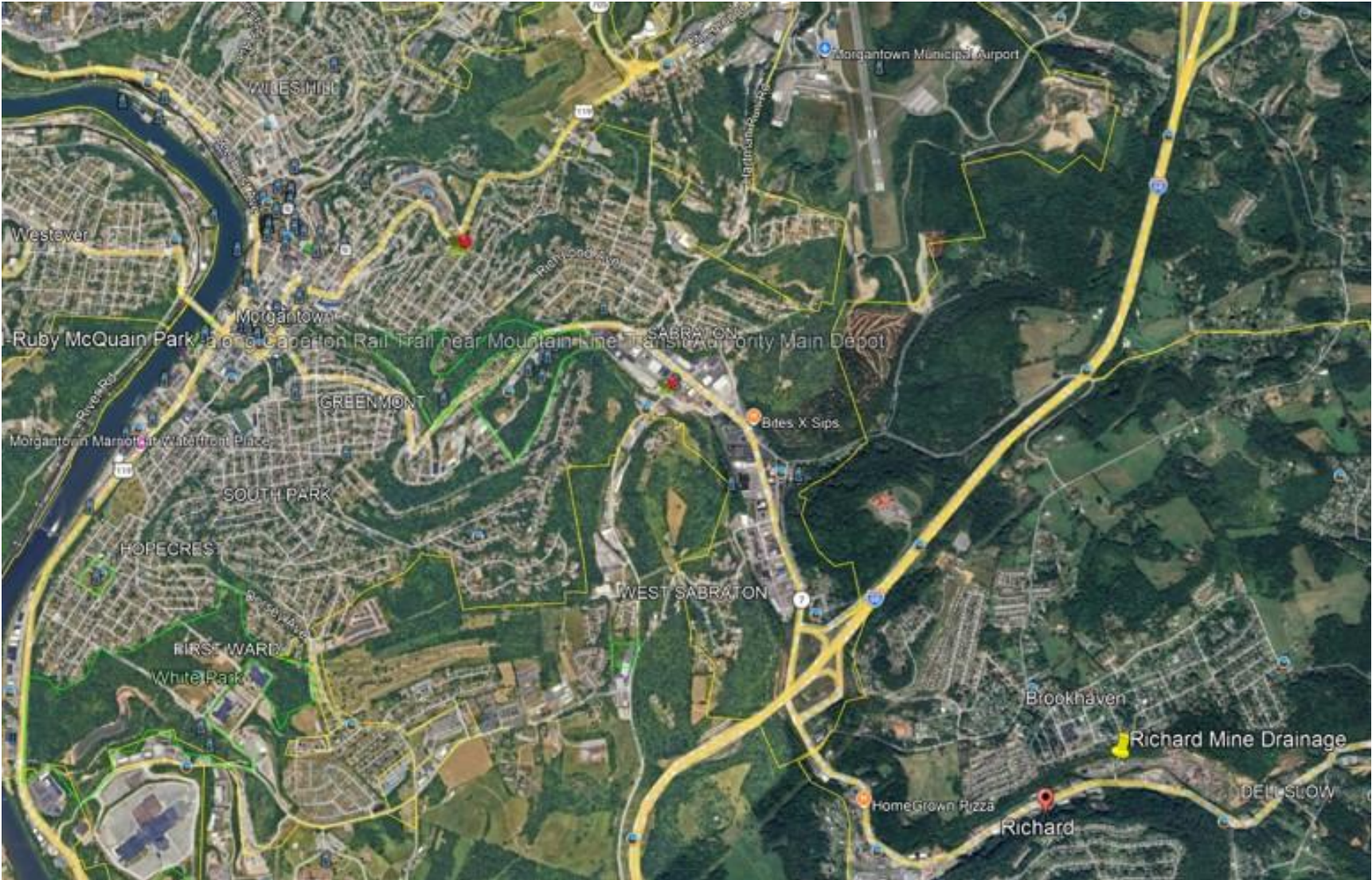
Blackwater



Richard AMD Treatment

- Originating in Preston County, Deckers Creek flows through Morgantown, where it enters the Monongahela River. The lower five (5) miles has been severely impacted by AMD from the Richard Mine for generations.
- AML constructed a new treatment system that started treating mine drainage from the Richard Mine in spring 2024.
- Partnered with NRCS for funding of the project. OSR engineers designed the system for us.

Richard AMD Treatment



Richard AMD Treatment



Richard AMD Treatment



Richard AMD Treatment

Deckers Creek Fish Community Comparison Pre (2010 & 2021) and Post (2025) AMD Treatment						
Survey Location	Mile Point 2.5 Downstream Richard Mine			Mile Point 5.9 Upstream Richard Mine		
	2010	2021	2025	2010	2021	2025
Central Stoneroller	25	32	45	Not Sampled	3	
Fantail Darter	2	13	140		129	70
Smallmouth Bass	2	4	82		7	10
Yellow Bullhead	1		3			1
Northern Hogsucker	2	6	35		18	25
Spotted Bass	2		1			
Rockbass						1
Green Sunfish x Bluegill Hybrid	9					
Creek Chub	87	28	6		14	2
Western Blacknose Dace	6	4	6		21	7
Green Sunfish	31		2		8	7
Bluntnose Minnow		1				
Silver Shiner			6			
Bluegill			2		3	7
Largemouth Bass					1	
Rainbow Trout			1			
Greenside Darter			2			
Johnny Darter			6			
Total Species	10	7	14	N/A	9	9
Total Count	167	88	337	N/A	204	130
Fish/meter	0.52	0.28	1.05	N/A	1.02	0.65

Richard AMD Treatment

- Due to the Richard AMD Treatment facility, AML is also working on two other projects in the immediate area.
- Richard (Shaver) Drainage – capture mine water from the Rock Forge mine (south of WV-7), and pump it to Richard facility for treatment.
- Deckers Creek Stream Restoration – Design Build project with All Star Ecology to construct habitat in the section of the stream downstream of the treatment system.
- Additional project in the works to upgrade the Richard facility

Richard AMD Treatment

Richard (Shaver) Drainage

- Currently working to capture AMD from the Rock Forge Mine, located on the opposite side of Deckers Creek.
- Mine has no discharge point, so AMD seeps through the ground. Homeowners constantly deal with AMD in basements, popping up into the road.



Richard AMD Treatment

Deckers Creek Stream Restoration

- From historic mapping, it appears that the stream was relocated to make room for the mining facilities and company housing in the community of Richard
- Project will install in stream structures downstream of the Richard facility for habitat for fish and benthic species. Several sections of stream are wide and shallow



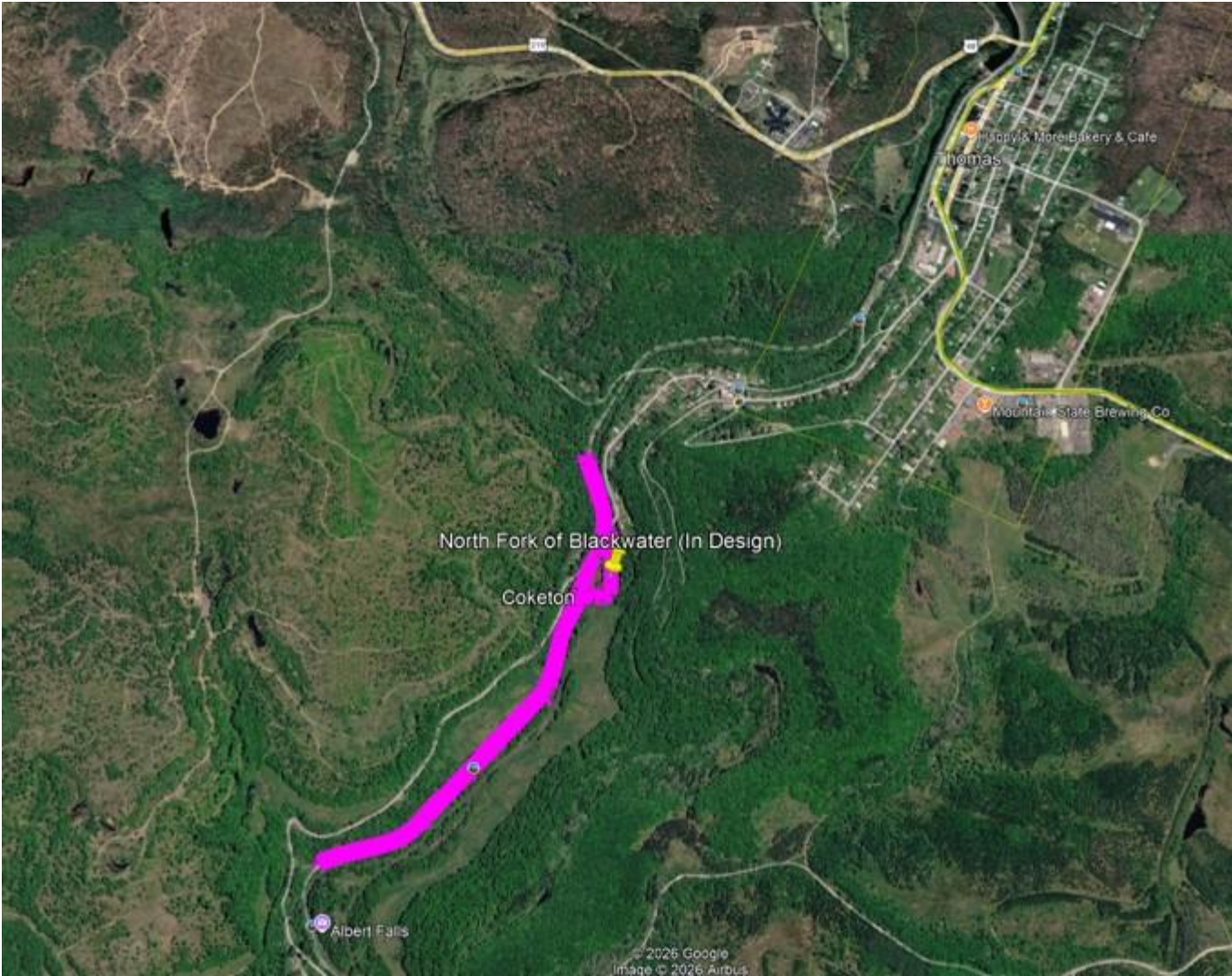
What's Next?

- North Fork of Blackwater AMD Treatment – Tucker County
- Left Fork of Little Sandy – Preston County
- Weaver AMD – Randolph, Barbour County
- Partnership with WVU Watershed Research Institute
 - Greens Run – Preston County
 - Robinson Run – Monongalia County
 - Middle Cheat – Preston County
 - Upper Deckers Creek – Preston County

NF Blackwater

- Mining in the Upper Freeport Coal seam has severely impacted the lower stretches of the North Fork of the Blackwater River and Long Run
- Full AMD Treatment system in design by Biomost (90%)
- Will collect AMD from sources along the NF Blackwater, “Burns Blowout” and “MP 29”, and numerous discharges from a previously discharged AML site on the south side of Long Run
- Will remove the “WALD” system, and multiple passive treatment systems on previously reclaimed Albert Highwall project along Long Run
- Working with the US Forest Service on a Special Use application

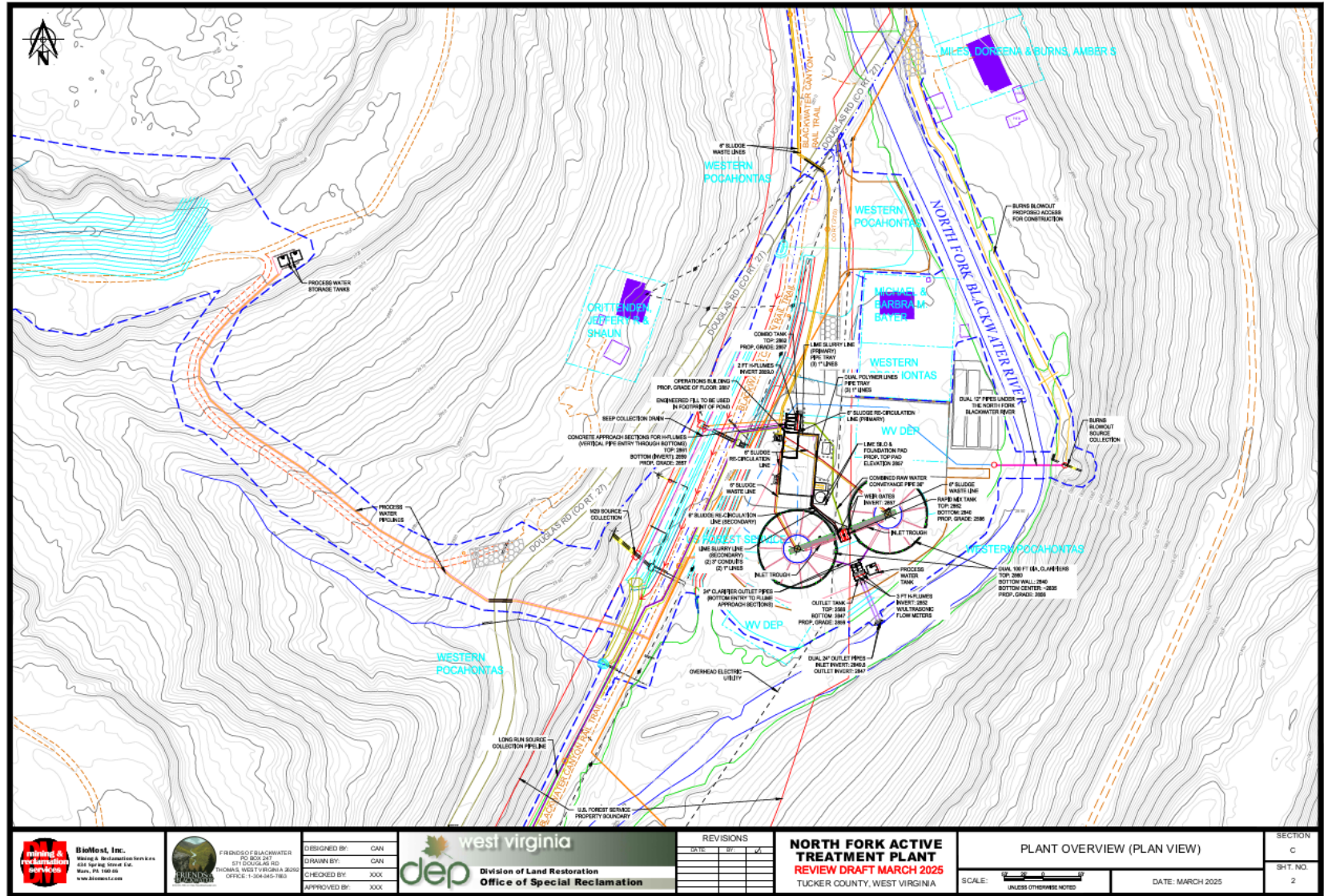
NF Blackwater



NF Blackwater



NF Blackwater



BioMest, Inc.
 1000 S. 10th Street, Suite 100
 Charleston, WV 25301
 Phone: 304.746.0000
 www.biomest.com

FRIENDS OF BLACKWATER
 1000 S. 10th Street, Suite 100
 Charleston, WV 25301
 Phone: 304.746.0000

DESIGNED BY:	CAN
DRAWN BY:	CAN
CHECKED BY:	XXX
APPROVED BY:	XXX

west virginia
dep
 Division of Land Restoration
 Office of Special Reclamation

REVISIONS		
DATE	BY	DESCRIPTION

NORTH FORK ACTIVE TREATMENT PLANT
REVIEW DRAFT MARCH 2025
 TUCKER COUNTY, WEST VIRGINIA

SCALE:

PLANT OVERVIEW (PLAN VIEW)
 DATE: MARCH 2025

SECTION	C
SHT. NO.	2

LF Little Sandy

- Tributary of Sandy Creek, which dumps into Tygart Lake near Grafton
- Proposed doser location situated between Tunnelton and Fellowsville in Preston County
- OSR constructed an in-stream active treatment system on LF Little Sandy, but a large AML discharge downstream of the site negates a lot of the treatment
- OSR designing this in-stream treatment system. Plans are complete, but right now we are evaluating options before moving forward.

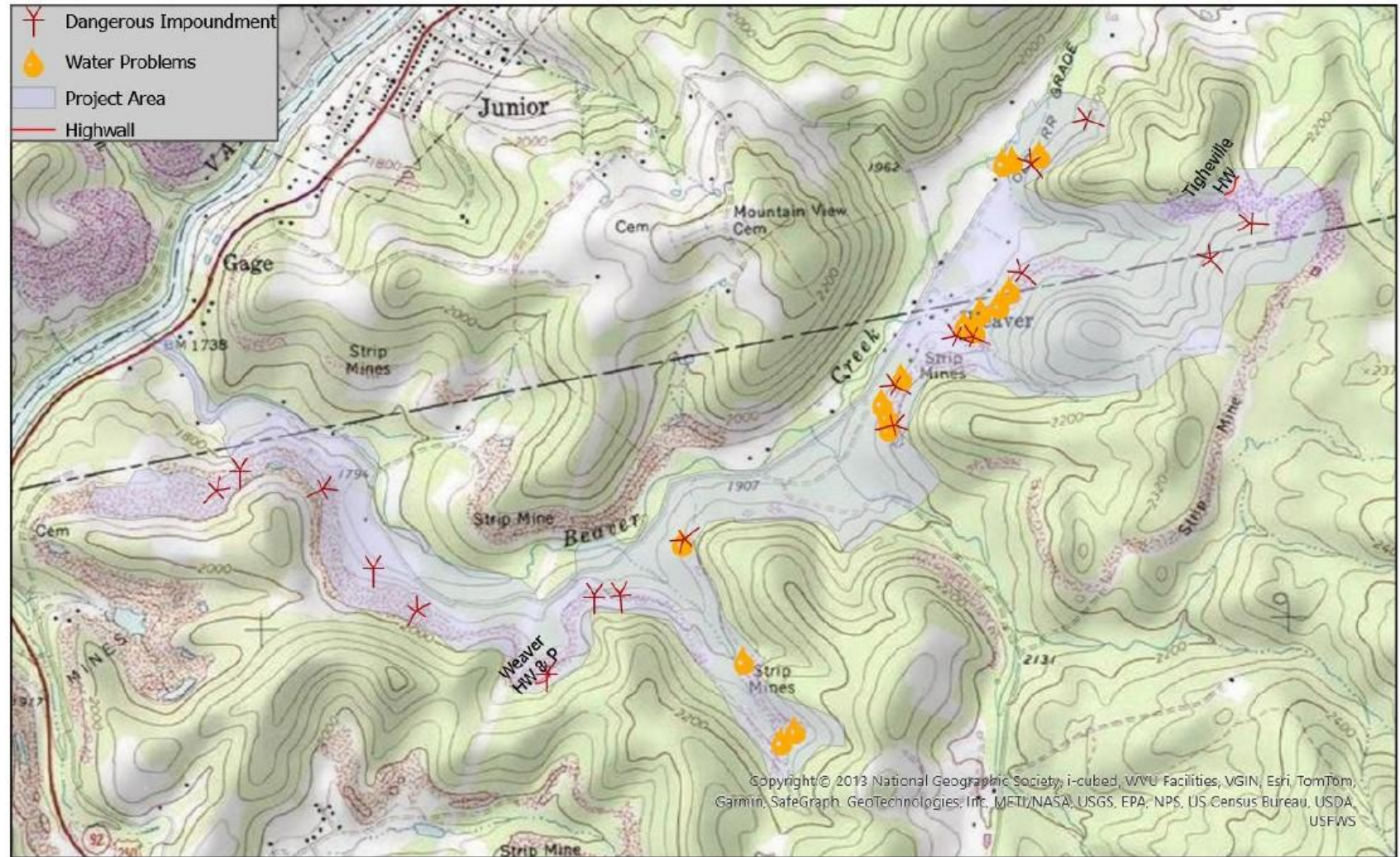
LF Little Sandy



Weaver AMD

- Will treat AMD affecting Beaver Creek, a tributary of the Tygart River. Situated south of Junior, in Barbour/Randolph Counties
- Was previously submitted as a project to refurbish existing passive treatment systems. Feasibility study completed by Kleinfelder.
- Six (6) individual systems constructed in mid 2000's, but no longer provide effective, year-round treatment.
- Resubmitted and will secure consultant to do a design to incorporate all of the AMD in the watershed. May be active, passive, or combination.

Weaver AMD



WVU WRI projects

- Agreement with WVU Watershed Research Institute for the development of watershed scale treatment systems.
 - Greens Run – Preston County, north of Kingwood
 - Robinson Run – Monongalia County, northwest of Morgantown
 - Middle Cheat watershed – Preston County, south of Kingwood
 - Upper Deckers Creek – Preston County, east of Reedsville
- This agreement includes preliminary plans and EROE work.

WRI – Greens Run

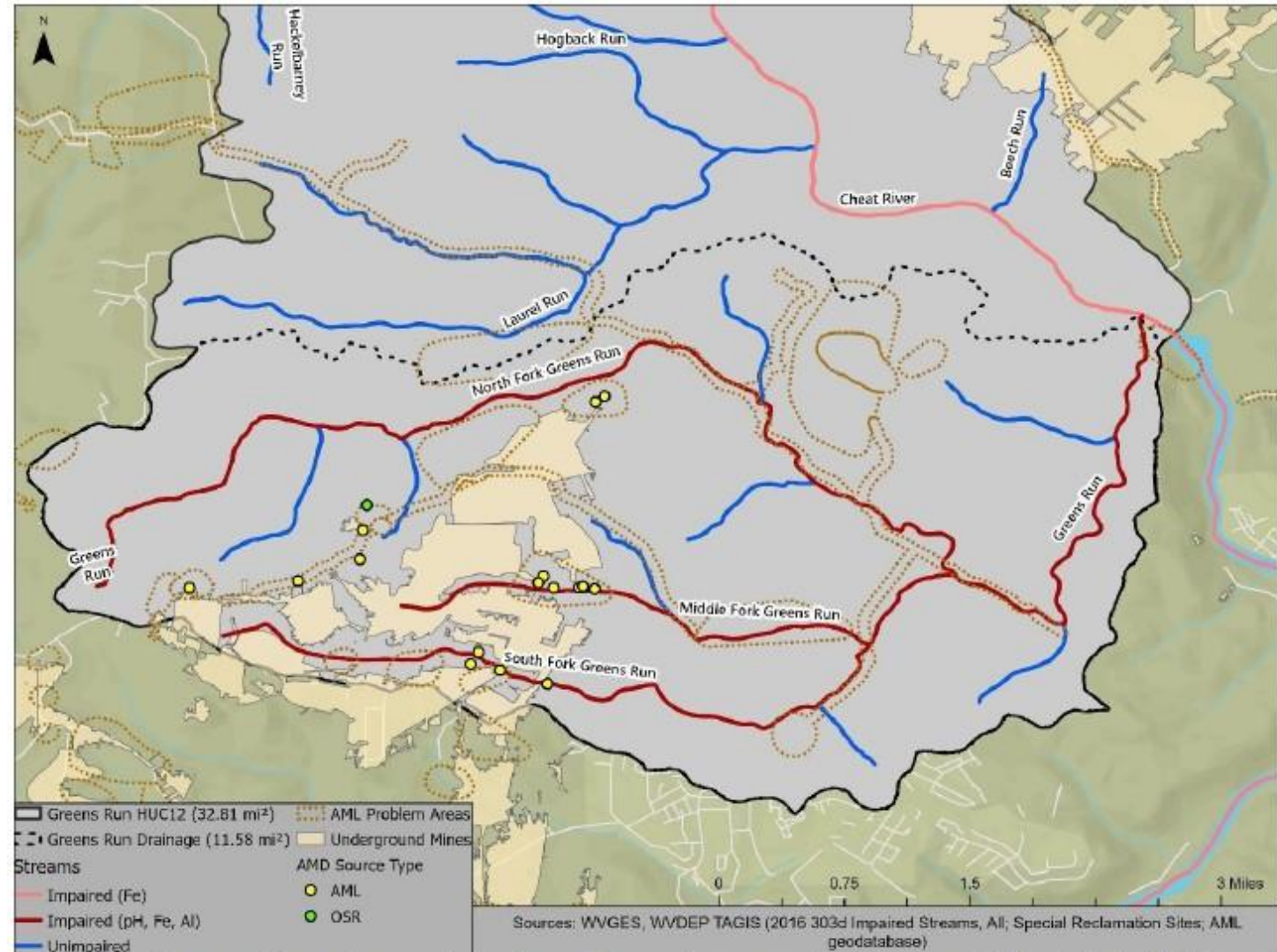


Figure 2. Greens Run stream impairments, underground mining, and identified AMD sources.

WRI – Robinson Run

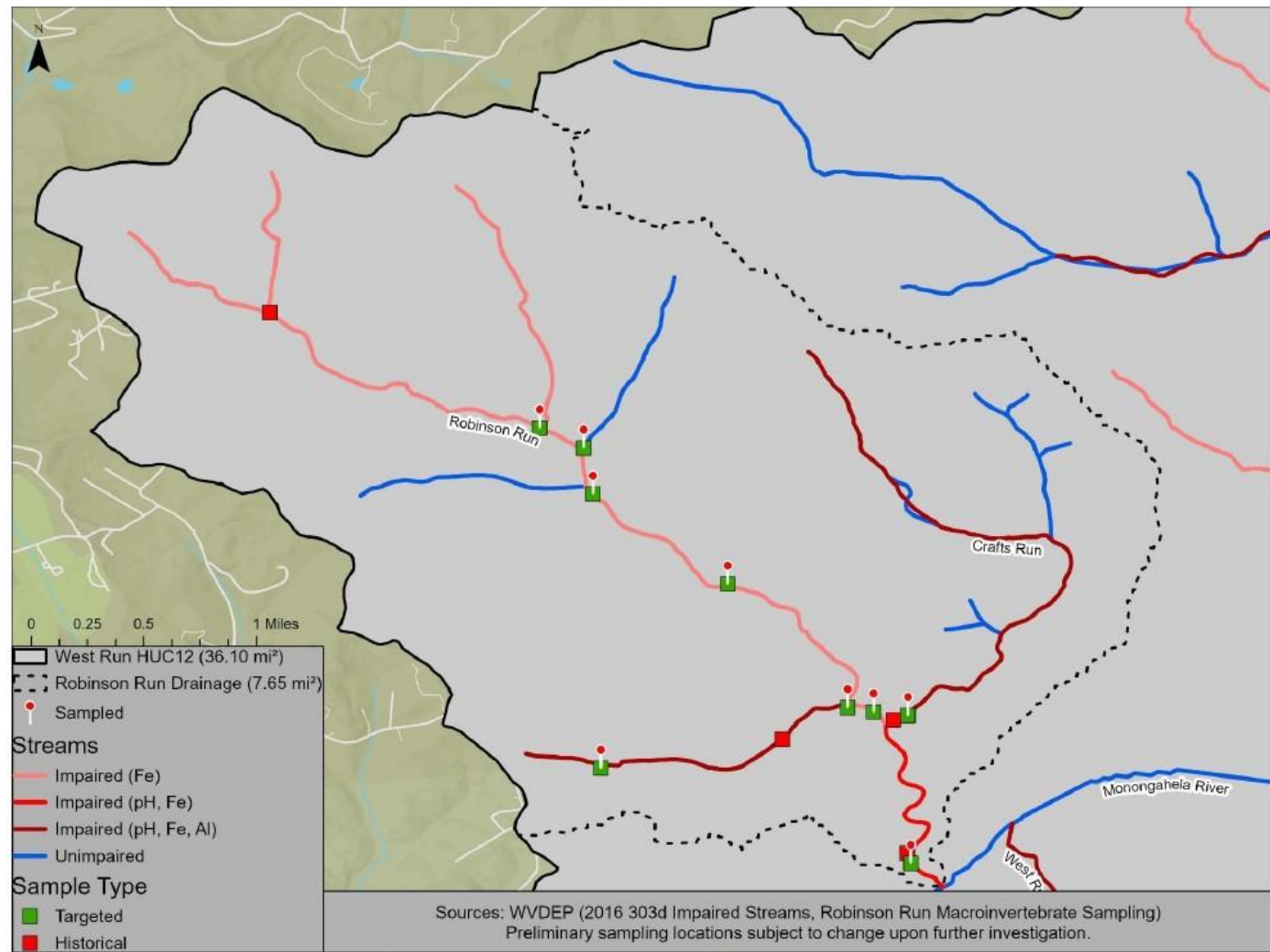


Figure 10. Robinson Run biological sampling progress through 12/31/2025.

WRI – Middle Cheat

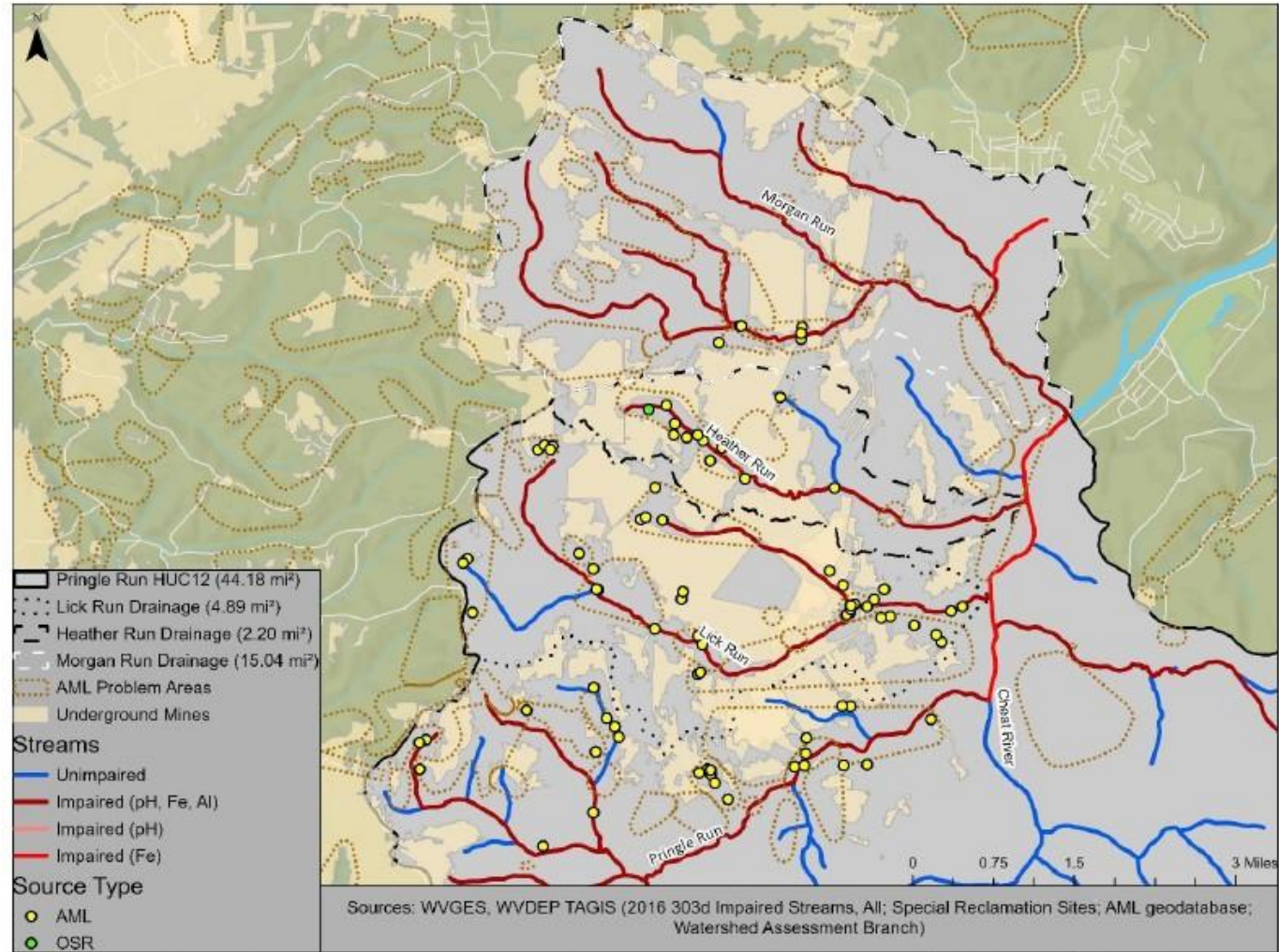


Figure 2. Middle Cheat stream impairments, underground mining, and identified AMD sources.

WRI – Upper Deckers Creek

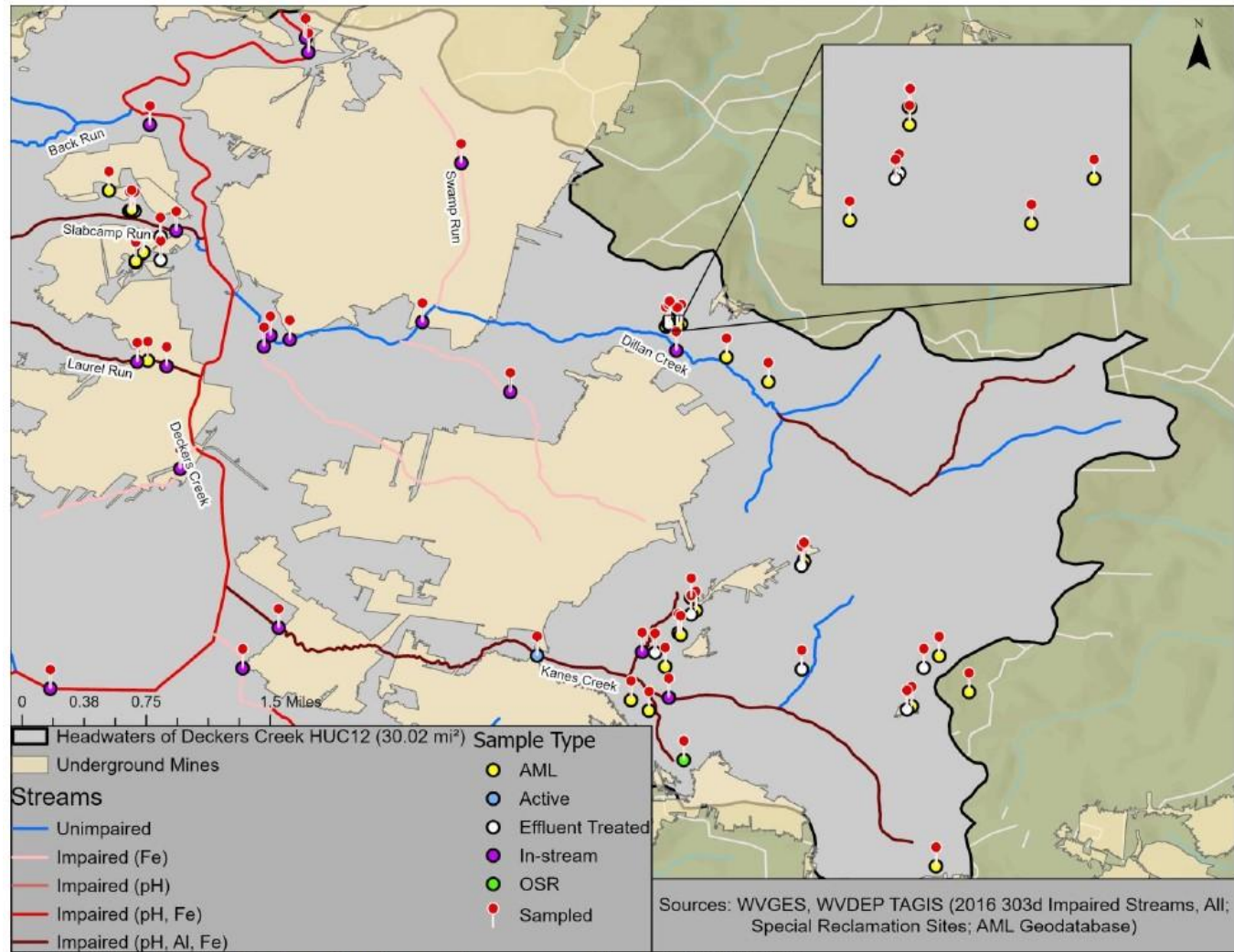


Figure 4. Headwaters Deckers Creek sampling progress through 12/31/2025.

Questions??

