

Large Scale Treatment Plants Abandoned & Bond Forfeiture Sites

Division of Land Restoration

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&

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Abandoned Mine Lands

Richard Mine Drainage Project – Monongalia County

- Affecting the lowest five miles of Decker's Creek, upstream is alive!
- Real Estate acquired, and partnered with NRCS for Water Treatment
- Bridge project completed in 2021 for access to plant site
- New Water Treatment Facility under construction May 2022
- Costs to date: Real Estate \$1,175,000; Bridge Design \$148,270
Bridge Construction \$981,113; Water Treatment Plant \$5,649,325
NRCS will pay up to \$3.125M for Plant, Northeast Natural Energy
agreed to partner with DEP for O&M cost for 3 years \$200k per year
- Average flow rate 425 gpm, annual O&M est. \$146,000
- Raw water 4.2 pH, Hot Acidity 486, T- Fe 123 mg/l, T-Al 55 mg/l









Abandoned Mine Lands

Left Fork Little Sandy Project – Preston County

- First phase is a hydrated lime slurry and silo for instream treatment completed May 2019
- Second phase to clean up Sandy Creek (tributary of Tygart River)
- Realty lease obtained, and design of clarifier by OSR Engineers
- An 80 feet diameter clarifier in design to treat up to 3000 gpm to remove excessive precipitated iron







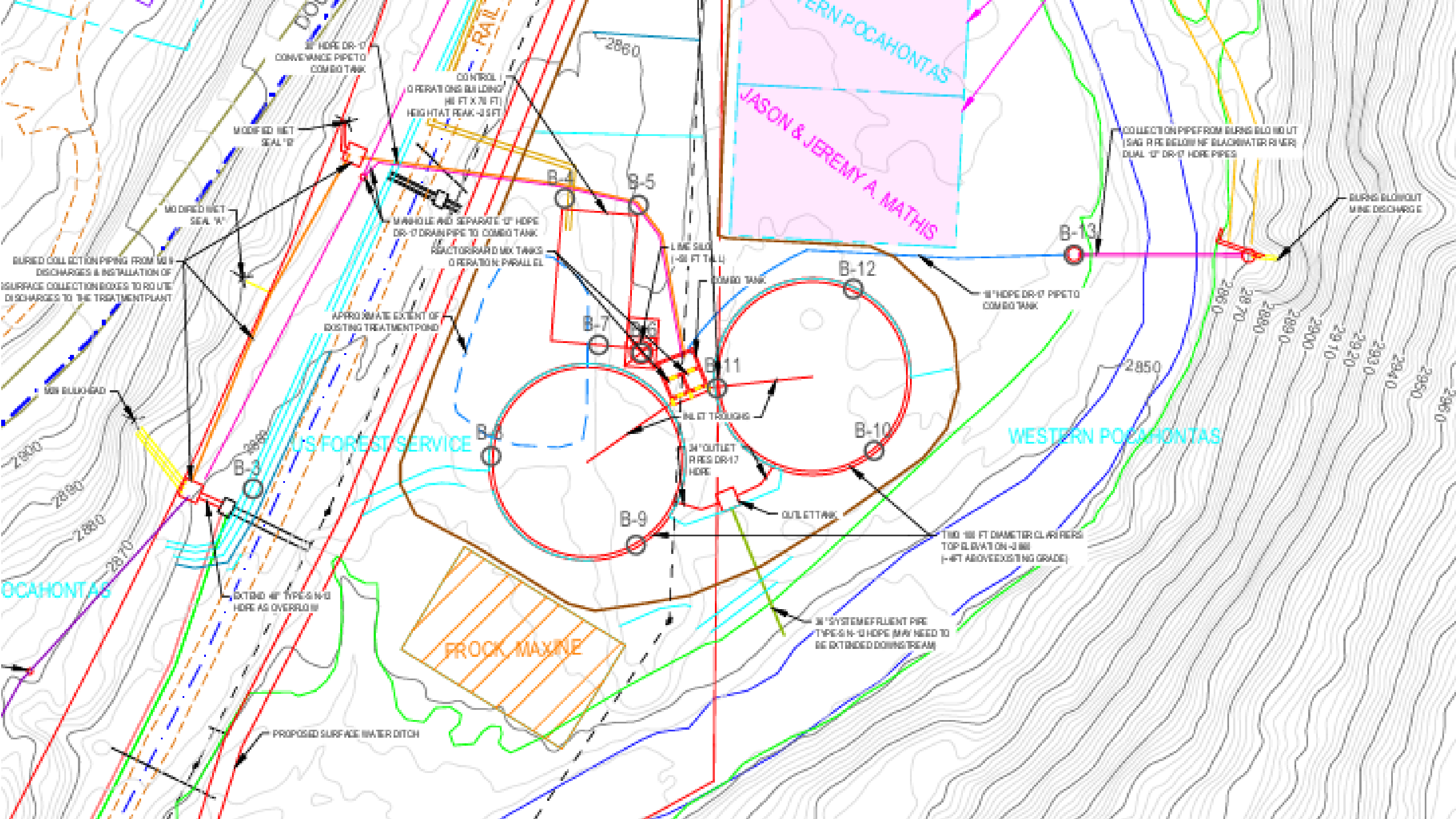
FUTURE
CLARIFIER

Abandoned Mine Lands

North Fork of Blackwater Project – Tucker County

- New Water Treatment Facility under design
- Three main raw water sources: “M29” deep mine discharge
“Burns Blowout” deep mine discharge, and “Long Run” discharge
Combined Design Flow: ave. 3,622 gpm, max. 7,758 gpm
Two Each 100 feet diameter clarifiers
- Comb. Raw water 3.3 pH, Hot Acidity 113 mg/l, T- Fe 4.4 mg/l,
T-Al 12.4 mg/l, Mn 3.0 mg/l, Sulfate 317 mg/l





Bond Forfeiture (Office of Special Reclamation)

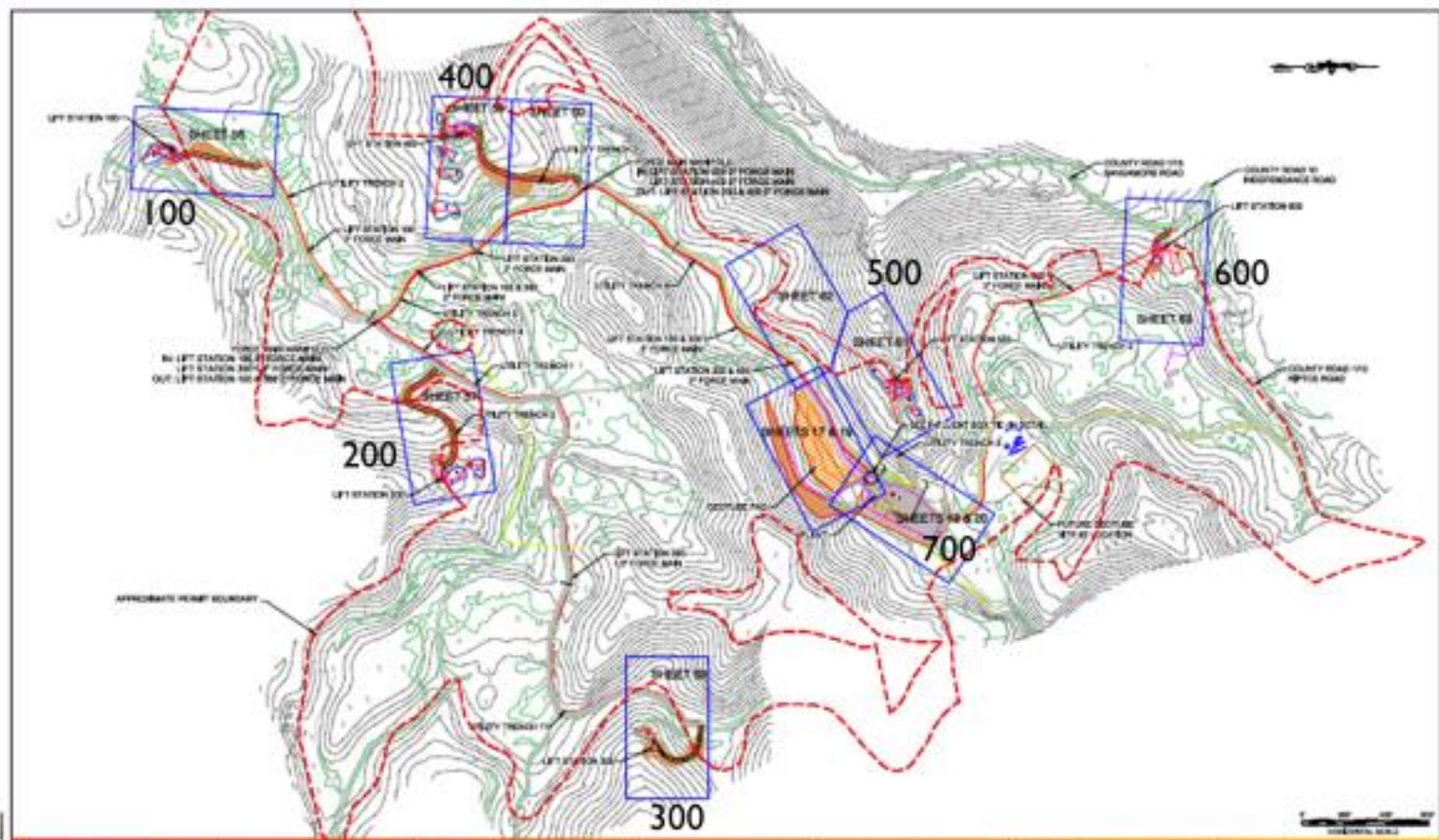
Greendale Coals Project– Clay County

- Article 3 Permit S-75-83, combined 7 outlets to one central plant
- Constructed August 2018 ~ November 2019
- Costs to date: Water Treatment Plant and Electric to site \$9,200,809
- Average flow rate 80 gpm
- Raw water 2.8 pH, ave. T- Fe 30 mg/l, T-Al 30 mg/l

Problems with Pumping Raw Water

- ❖ Ferrous Iron dropping out in lift stations, requires vac truck and jetting
- ❖ Take Away.... Pre Treat wherever possible, prior to pumping!





1" = 100'	1" = 200'	1" = 300'	1" = 400'	1" = 500'	1" = 600'	1" = 700'	1" = 800'	1" = 900'	1" = 1000'
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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 DEWISLEY COAL INC.
 WATER RECLAMATION PROJECT

DESIGN/CONSTRUCTION LAYOUT		
Project No.	Scale	
01-2000-01	1" = 100'	
Sheet No.	Sheet	Sheet
01-2000-01	01-2000-01	01-2000-01
8 of 88 0		





01/31/2020



01/31/2020

Bond Forfeiture (Office of Special Reclamation)

Buffalo Coal A34 Site – Grant County

- Article 3 Permit S-2003-88, revoked in 2006
- Constructed November 2020 ~ September 2022
- Costs to date: \$9,174,885
- Average flow rate 600 gpm, Max. Design Rate 1000 gpm
- Raw water 2.9 pH, ave. T- Fe 100 mg/l, T-Al 50 mg/l

Partnered with WVU/Water Research Institute on REE

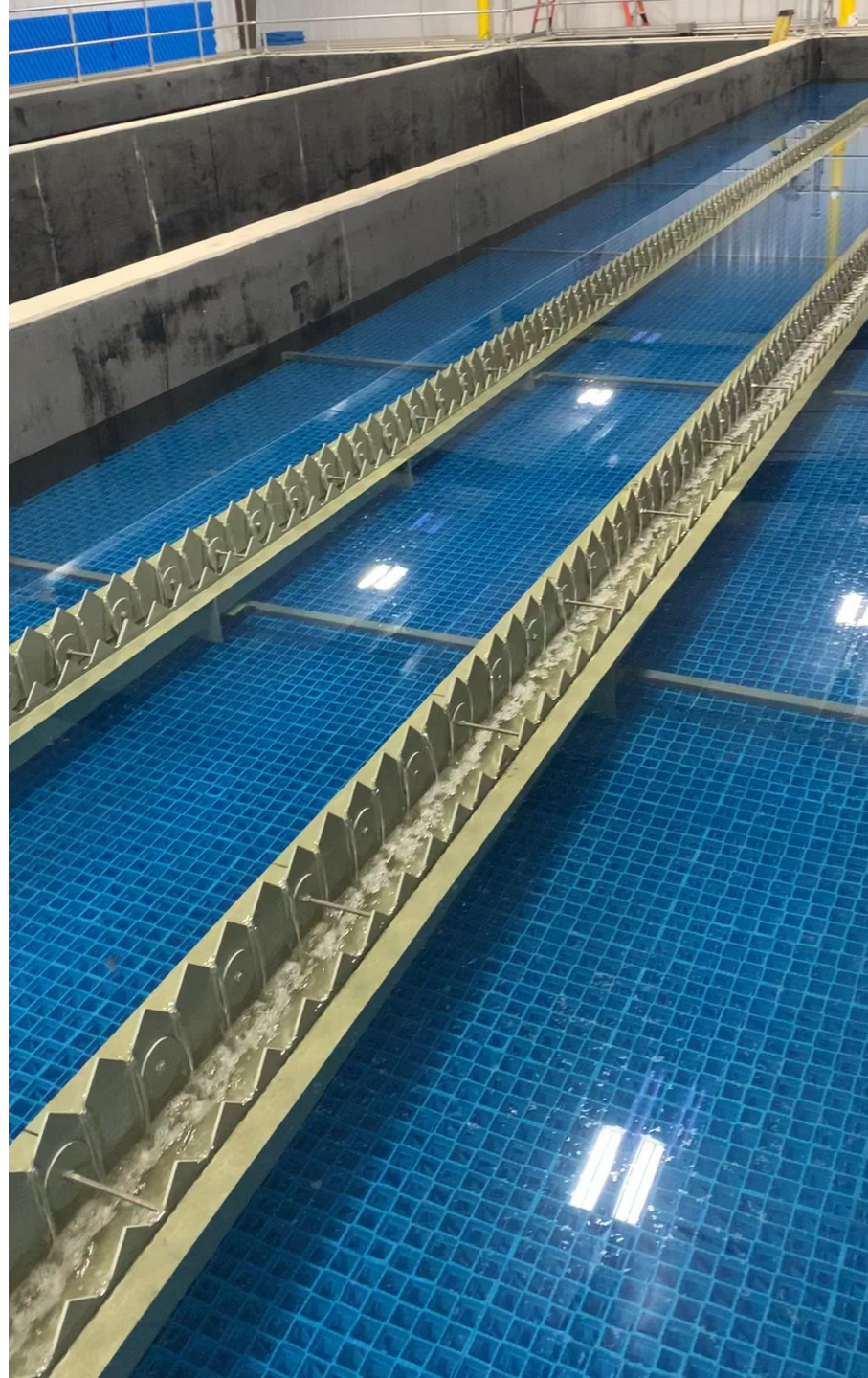
- ❖ Potential for long-term partial O&M reimbursement
- ❖ Provide for US based source of Critical Minerals Elements











Bond Forfeiture (Office of Special Reclamation)

Buffalo Coal C1 Site – Grant County

- Four Article 3 Permits, revoked in 2006, combined treatment one point
 - Under Construction December 2021 ~ October 2023
 - Costs to date: \$10,956,990 w/ 3 Change Orders \$11,791,440
 - Average flow rate 400 gpm, Max. Design Rate 1100 gpm
 - Raw water 2.9 pH, ave. T- Fe 30 mg/l, T-Al 50 mg/l
 - One centralized treatment plant, 7 lift stations 50,000 feet force main
- ❖ First plant built with precast concrete versus cast in place







