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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Oil and Gas Management



# **Infrastructure Investment and Jobs Act (IIJA) Update and Well Plugging Program Opportunities**

**Air Quality Technical Advisory Committee  
May 4, 2023**

Josh Shapiro, Governor

Richard Negrin, Acting Secretary

# Abandoned Well Plugging

1. A Pennsylvania Legacy
2. Federal Legislation Implementation
3. Developing Solutions



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# A Pennsylvania Legacy

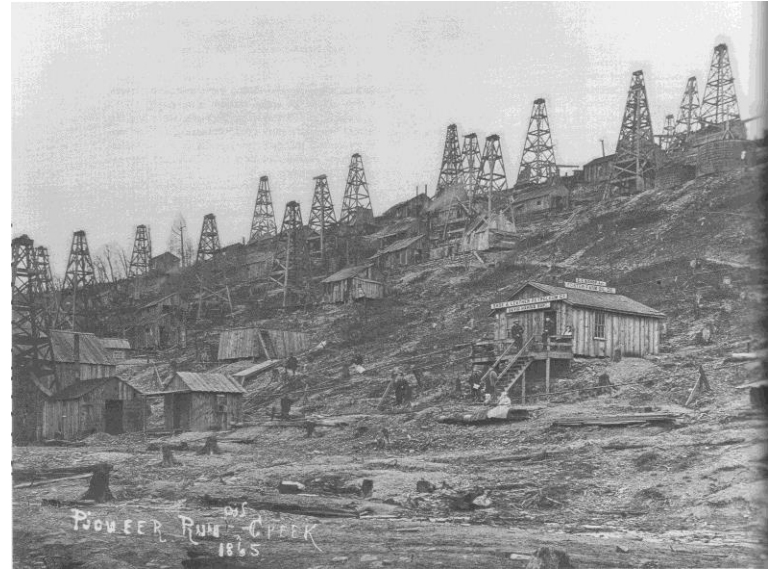
# A Pennsylvania Legacy

27,726 abandoned/orphan wells in known inventory – potentially hundreds of thousands that remain uncharted and mass abandonment a growing reality

Many documented cases of water supply impacts and public safety threats

Wells are dynamic and so is the environment around them

Well site access is challenging in the Appalachian basin for many reasons



# A Pennsylvania Legacy

## Emergencies and Public Safety



# A Pennsylvania Legacy

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# A Pennsylvania Legacy

## - Environmental Impact and Access Challenges



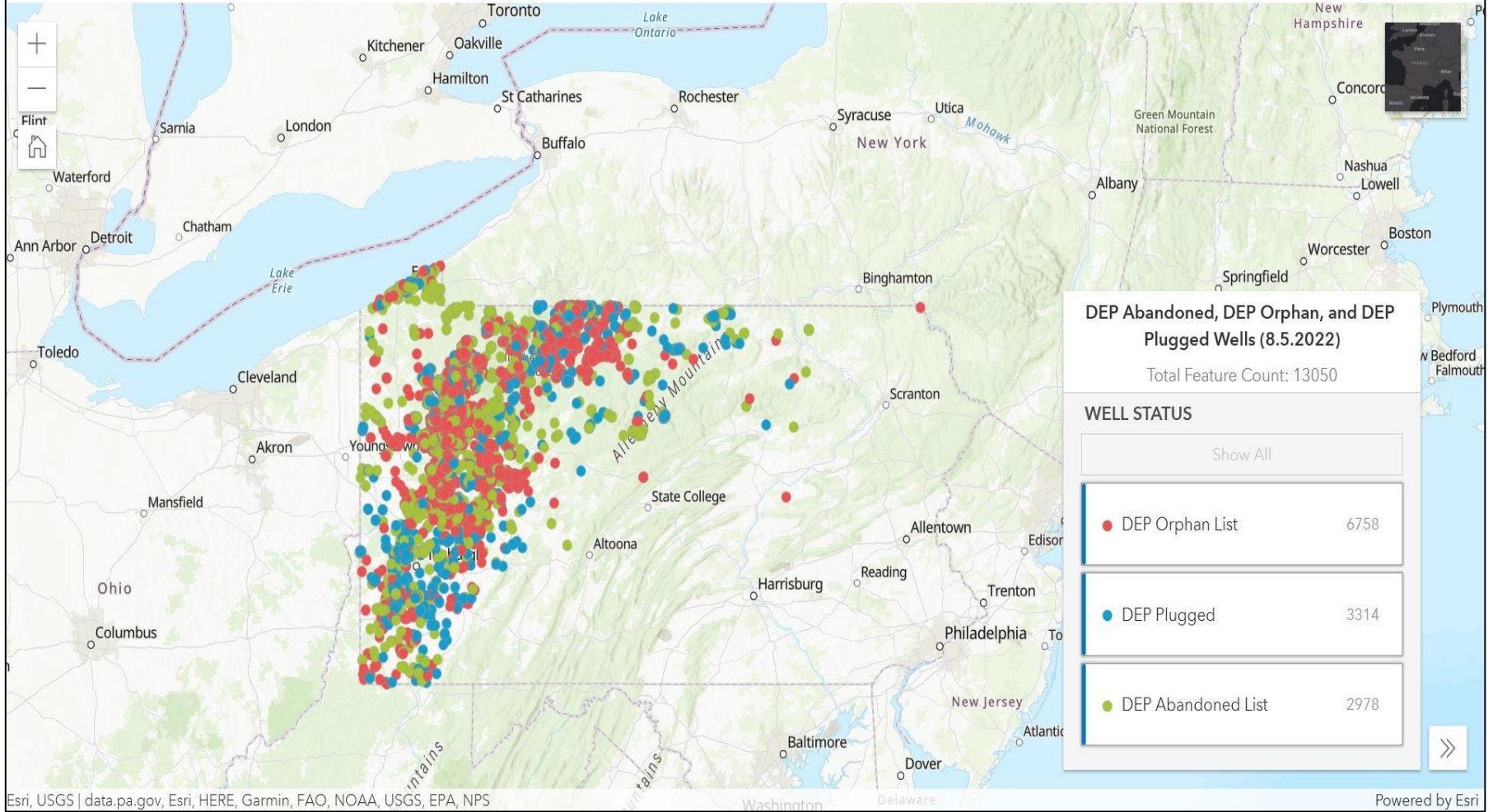


# A Pennsylvania Legacy



# A Pennsylvania Legacy

DEP Abandoned, DEP Orphan, DEP Plugged Wells (8.5.2022)



# Hazardous Air Pollutants Study

- DEP and PSE Healthy Energy have partnered identify of HAPs emitted from abandoned wells
- 100+ wells were screened and 40+ wells were sampled for HAPS
- Data analysis will be used to understand HAPs emitted from abandoned wells and to inform public-facing reports

# Methane Emission Quantification

- Emissions Equipment Research, November 14-17, 2023
- Collaborative Emissions Equipment Observation/Review effort with US DOE/NETL, Oil and Gas representatives from PA, WV, OH, and NY.
- Semtech High Flow 2 Sampler, Gas Flow Meter 2.0, EyeCSite 2.0, and the RMLD-CS
- Selected wells were visited multiple times and had previous concentration and volume measurement for comparison
- Alicats for initial volume and Bascom Turners for initial concentration prior to the use of the other devices

# A Pennsylvania Legacy

- **Limited Financial Assurance**

- No bonds for any well drilled prior to April 18, 1985
- Bonds for wells drilled after April 18, 1985, are inadequate to cover cost to Pennsylvania to plug abandoned well or to incentivize proper abandonment

- **Growing Inventory and Financial Liability**

- Improperly abandoned wells added to database annually
- Lack of production reporting means many more may already be abandoned
- Increased per-well plugged costs



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# Federal Legislation Implementation

# Federal Legislation Implementation

## IIJA

- On Monday, November 15, 2021, President Biden signed the federal Infrastructure Investment and Jobs Act (IIJA) into law.
- Legislation has the potential to provide \$400 million to Pennsylvania to plug abandoned and orphan (AO) oil and gas wells across the Commonwealth through 2030
- On August 25, 2022, the Department of the Interior (Interior) awarded an Initial Grant to the Commonwealth totaling \$25 million for “well plugging, remediation, and reclamation work.”

# Federal Legislation Implementation

## Initial IJA Grants

- \$25 million awarded August 25, 2022
- 14 “Request for Bid” Plugging Contracts
- 235 abandoned wells
- Highest Priority Wells (see AO Desk Reference)
- Close Proximity Wells added to maximize per-well cost efficiency (mobilize and address 10-20 wells)
- Projects in all 3 Oil and Gas Districts
- 45% in Justice40 Tracts



# Federal Legislation Implementation

## Oil & Gas Infrastructure Investment and Jobs Act (IIJA) Project Tracker

IIJA Contracts Overview

IIJA Plugging Impacts

IIJA Contracts - Proposed & I...

### Dashboard Overview of IIJA-Funded Well Plugging PA DEP Contracts

County(ies)  
Click to select County

Contracted Amount  
Click to input a range

- Allegheny Co. 003-00891
- Allegheny Co. 003-01085
- Allegheny Co. 003-01086
- Allegheny Co. 003-01098
- Allegheny Co. 003-01198
- Allegheny Co. 003-01267
- Allegheny Co. 003-22594
- Allegheny Co. 003-22595

#### Total IIJA Wells by Land Type



#### IIJA Wells with Environmental Impacts



#### IIJA Wells with Human Impacts



Wells Plugged

7

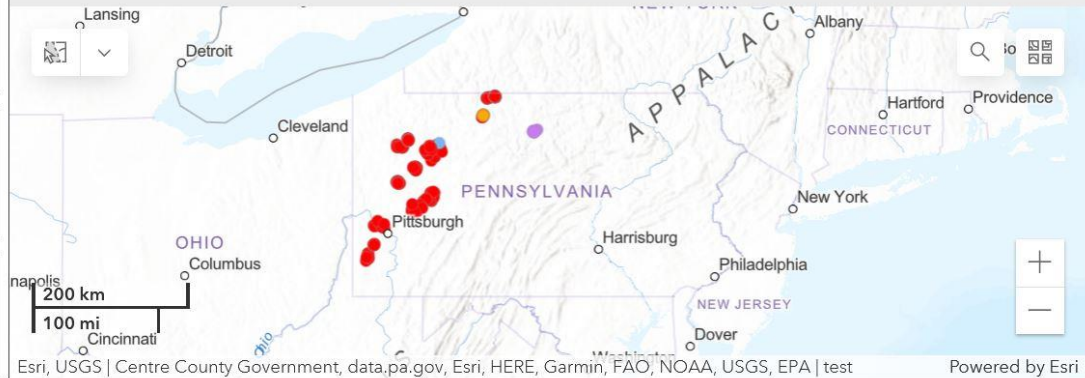
Wells In Progress

217

Wells in Environmental Justice Areas

106

#### IIJA Plugging Wells



- [DEP IIJA Dashboard](#)

# Federal Legislation Implementation

## Pennsylvania Adding Staff to Implement IJA

- OOGM adding 42 staff positions to develop the well plugging program, put together contracts, and conduct field oversight of plugging projects
- 30 field staff, with a focus on the Northwest District Office:
  - Oil and Gas Inspectors
  - Water Quality Specialists
  - Compliance Specialists
  - Hydrogeologists
  - Attorney
- 12 Central Office staff, primarily Well Plugging Section

# Federal Legislation Implementation

## IIJA Formula Grants

- Final application guidance pending
- Formula = Documented Orphan Wells/Cost to Plug/Job Losses in Industry Sector (3/1/20 – 11/15/21)
- Estimated award may be \$316 million over 4 years; phase one award of \$79,178,000 expected in 2023
- Five-year obligation window
- 10% to cover administrative costs (primarily staff)
- 20% to the Orphan Well Plugging Grant Program
  - 12-month application window
  - Follows federal requirements
  - “Qualified well plugger”
  - Limited to cost to plug or a cost cap
  - “Orphan” wells only

# Federal Legislation Implementation

## IJA Formula Grants

- Balance used for Project costs:
  - Well plugging contracts, to include
    - Methane emission quantification,
    - Site preparation and permitting,
    - Well plugging,
    - Site remediation and reclamation,
    - Waste management,
    - Identification and addressing any disproportionate burden of adverse human health or environmental effects on communities of color, low-income communities, and Tribal and indigenous communities.
  - Documenting undocumented orphan wells,
  - Responsible party investigations,
  - Information technology development and deployment
  - Workforce Development

# Federal Legislation Implementation

## Performance Grants – Regulatory Improvement

## Performance Grants – Matching Grants

Pennsylvania is still awaiting guidance from Interior on how states can qualify for these grants but intends to access all available funding



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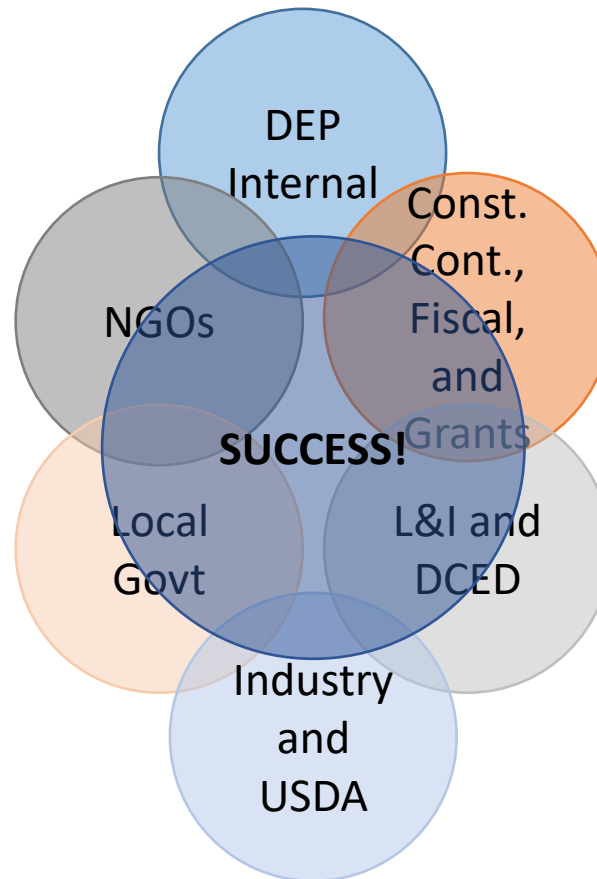


# Developing Solutions

# Developing Solutions

## Multi-stakeholder Coordination and Cooperation

- DEP OOGM, Policy, OCC, HR, other programs
- Fiscal and Grants Center
- Construction Contracts
- Industry
- Labor & Industry
- DCED
- USDA Forest Service
- Labor and Environmental NGOs
- Local Government



# Developing Solutions

- Work with our contractors to identify pinch points in our processes. Consider options for waiving performance bonds and allow wells to be added to contracts through change orders
- Assess feasibility of new, expedited contract model similar to HSCA/pre-approved contractors
- Assess the potential for use of the “Invitation to Qualify” contracting process
- Continue registering all available and interested contractors



# Developing Solutions

- Update Pennsylvania's prioritization rankings to account for high-emitter abandoned wells and disadvantaged communities
- Work with sister agencies to identify and address abandoned wells on state-owned or managed lands
- Engage Appalachian Basin state partners for planning purposes
- Engage U.S. Forest Service for potential plugging in ANF
  - Identification of additional orphan wells in ANF
  - Good Neighbor agreement as model for possible pass-through of federal plugging money to DEP
- Engage national and state partners to determine the most efficient and effective methodology for methane emission quantification – carbon credits?

# Developing Solutions

- Continue field verifying potential project wells and characterize accessibility, well conditions, and emission rates for leaking wells, i.e., prep “shovel-ready” projects
- Continue building “projects” for additional well plugging contracts to maintain momentum once Formula Grant funds are awarded
- Continue gathering information on equipment availability and coverage areas, job losses between March 2020 and November 2021 as well as job creation potential
- Consider internal resources available for well ownership due diligence investigations or consider contracting that work out

# Developing Solutions

- Work with US DOE, particularly NETL in Pittsburgh, to determine best approach/methodology to area wide surveys to find abandoned wells
- Capital investments in equipment (electronics, vehicles, meters, downhole cameras, methane emission quantification, etc.)
- Development of Legislation
  - “Abandoned well” definition and production reporting
  - Resolving conflicting requirements in coal areas
  - Increased state funding to qualify for the Matching Grant
  - Other items?



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# Thanks! Questions?

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**[Rewriting Pennsylvania's Legacy \(dep.pa.gov/legacywells\)](http://dep.pa.gov/legacywells)**