Red Hills CO_2 Storage Hub
Choctaw County, Mississippi

DE-FE0032446

U.S. Department of Energy
Fossil Energy & Carbon Management / National Energy Technology Laboratory
Carbon Management Research Project Review Meeting
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Trifecta Renewable Solutions

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RENEWABLE SOLUTIONS

Red Hills CO_2 Storage Hub
Choctaw County, Mississippi

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all Objectives, Locations, Participants, Approach, Scope, Community Benefits, etc. are merely <u>proposed</u> and are still being negotiated with DOE

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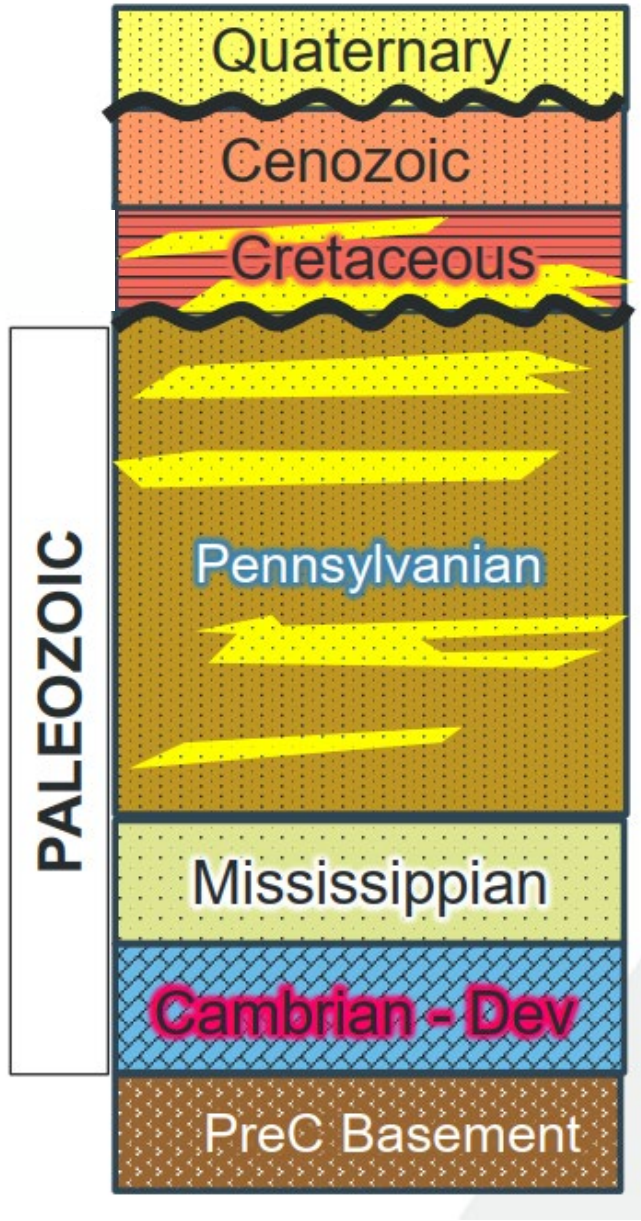
Project Summary

- 2-year project
- Investigate the feasibility of developing a commercial-scale CO_2 geologic storage hub in Choctaw County, Mississippi
- Take CO_2 captured and aggregated from multiple co-located EGUs
- Stacked storage approach



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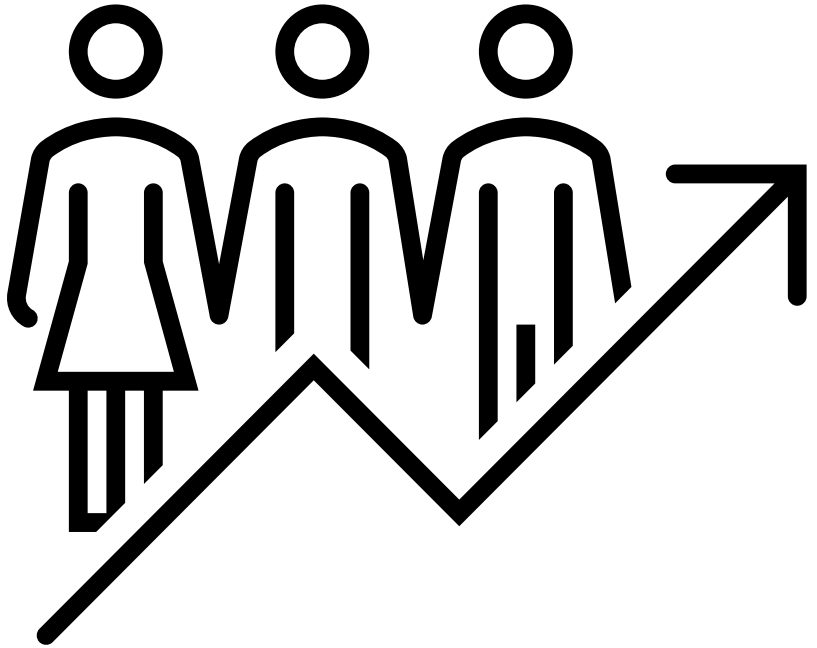
Project Partners

Lead Organization

- Trifecta Renewable Solutions

Project Partners

- Energy & Environmental Research Center (EERC)
- Mississippi State University's National Strategic Planning and Analysis Research Center (NSPARC)



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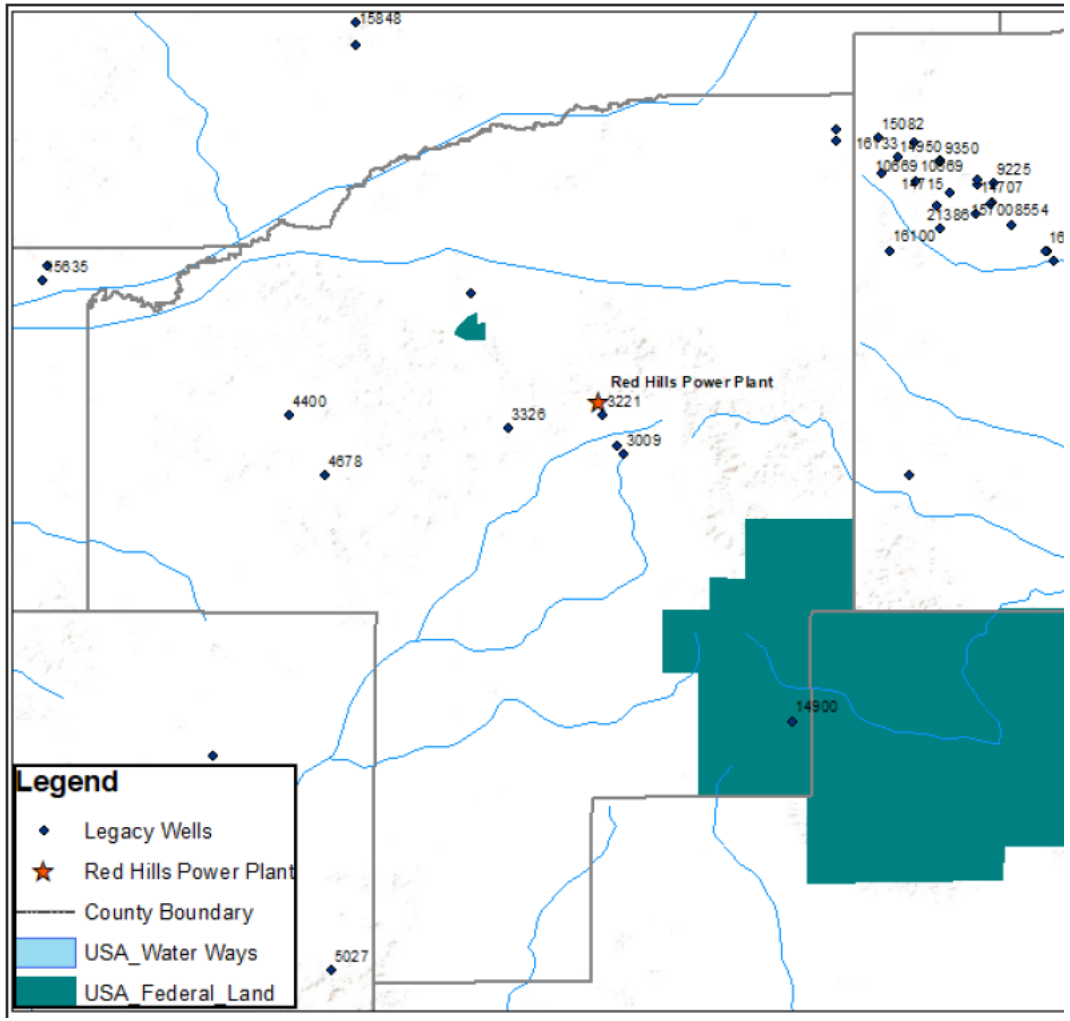
Existing Wells



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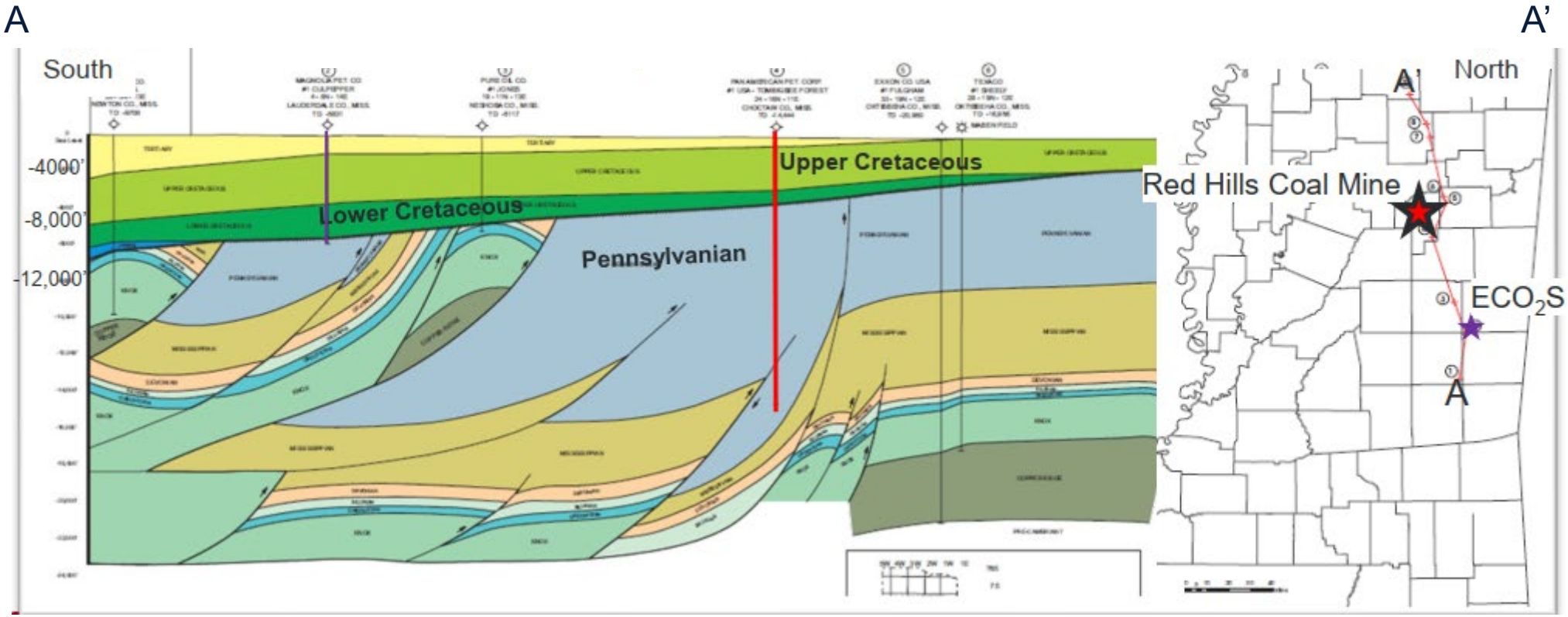
Project Location



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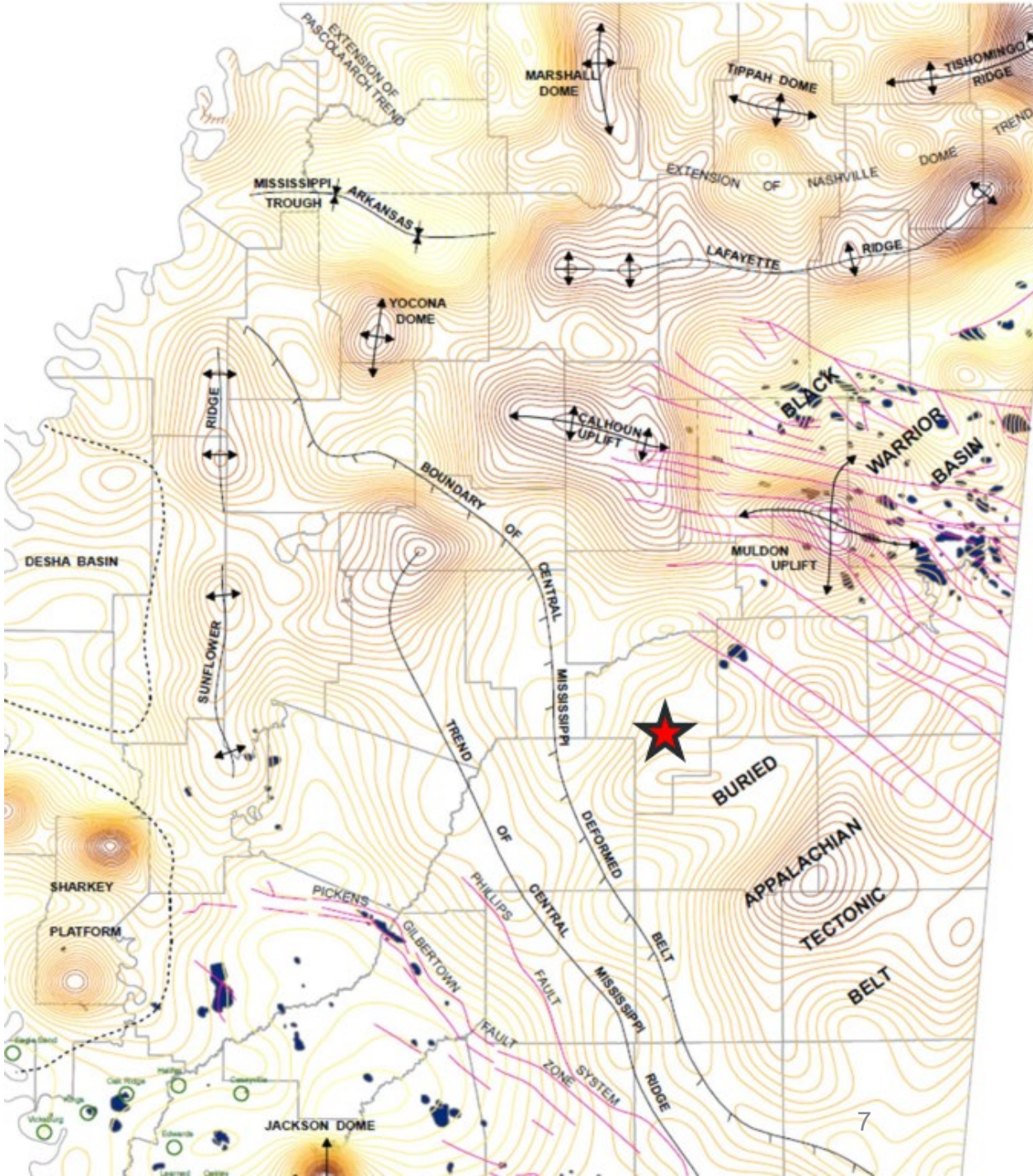
Project Summary

Regional Scale Geology:

- Regional faulting primarily confined to Paleozoic-age rocks
- Absence of regional-scale deformation structures
- Shallow dip of <1° at and above Paleozoic unconformity



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Project Summary

Lower Cretaceous Formations and basal Upper Cretaceous Formation in Choctaw County

Lower Tuscaloosa Formation

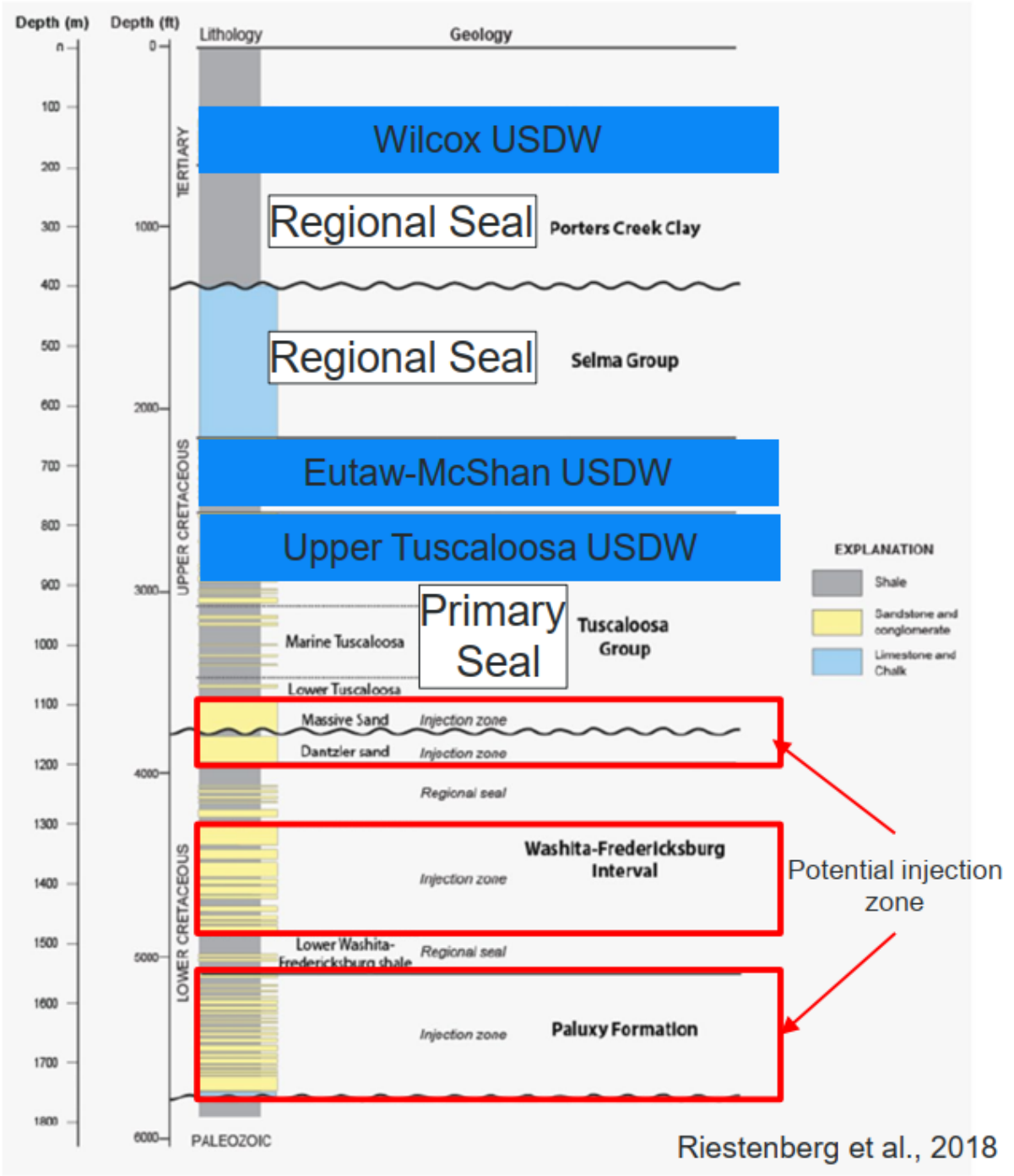
~300’ thick at a depth of 3100’

Washita-Fredericksburg Interval

~600’ thick at a depth of 3400’

Paluxy Formation

+4000’ depth if present



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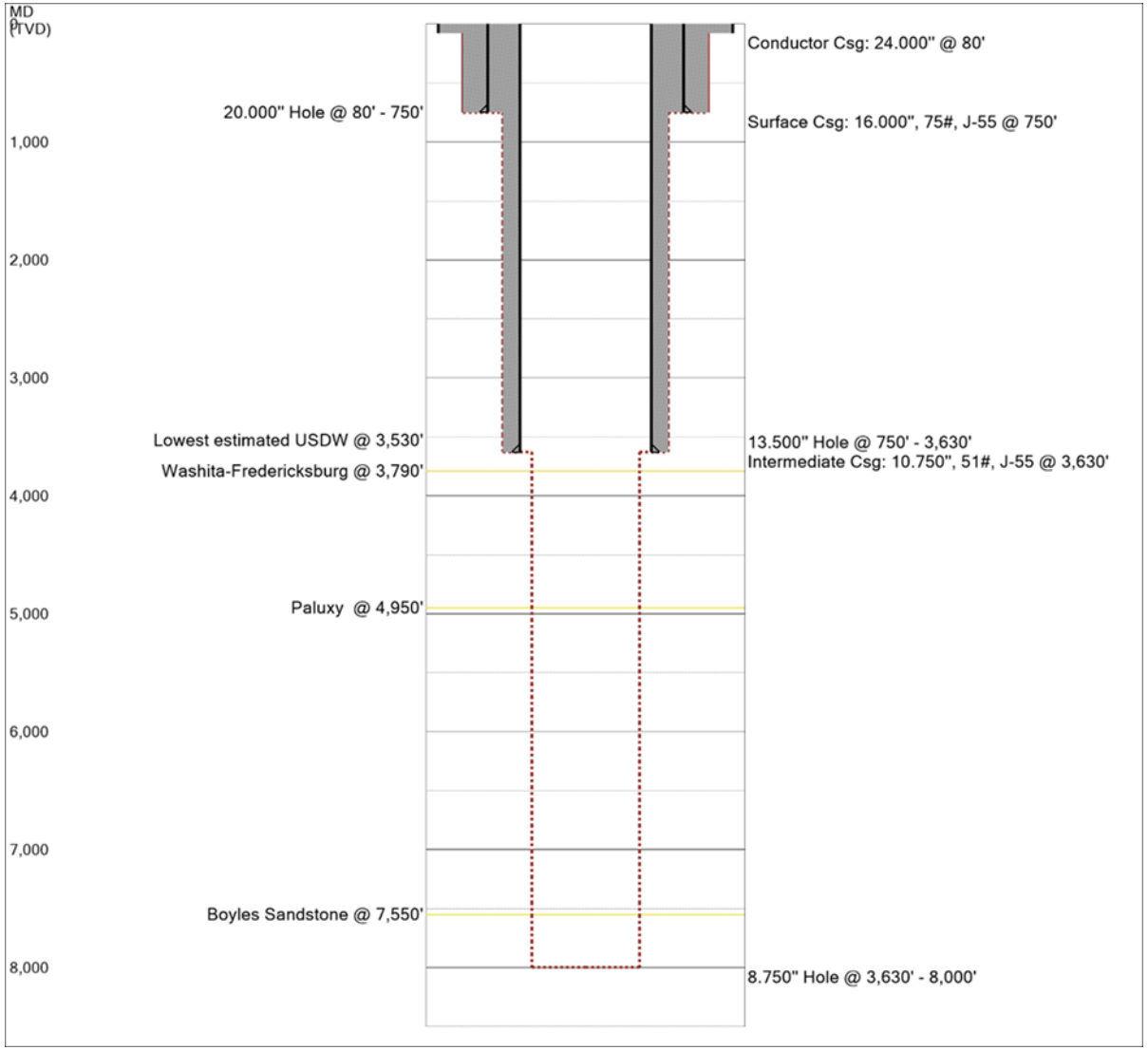
Project Goals

- Assess the depth, thickness, and composition of the Washita-Fredericksburg, Paluxy Sandstone (if present), and Boyles Sandstone intervals and the sealing potential of their adjacent formations.
- Collect data and samples, including whole core, reservoir fluid samples, and downhole geophysical logging and formation testing.
- Plug and abandon the well after data collection



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Community Benefit Plan

- Develop a flexibly-deployable survey instrument to identify Stakeholder's beliefs about:
  - Potential societal risks
  - Mitigation strategies
  - Level of support
- Complete a workforce needs and partnership profile
  - Analyze the region's population including demographics, education, skills, income, employment status and disadvantaged communities
  - Analyze the region's workforce including occupational breakdown and supply and demand for employment in related industry occupations
  - Identify long-term workforce needs
  - Propose potential collaboration opportunities with workforce agencies and training entities

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Community Benefit Plan – Justice 40 Initiative

- Develop an Economic Input-Output Model Capable of:
  - Simulating energy cost reduction scenarios for the region and forecast the associated economic benefits
  - Simulating scenarios where resident's healthcare costs are reduced as a result of decreased environmental exposure and burdens and forecast the associated economic benefits
  - Simulating employment scenarios in which new clean energy jobs are created in the region and forecast the associated economic benefits
  - Simulating enterprise-creation scenarios in which new employers are created or attracted to the region and forecast the associated economic benefits

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Where We Are Today

- Proceeding through contract negotiations with DOE
- Hope to complete negotiations in August 2024
- Plan to start drilling Q4 2024 or Q1 2025

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