

# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

Unconsolidated Surface

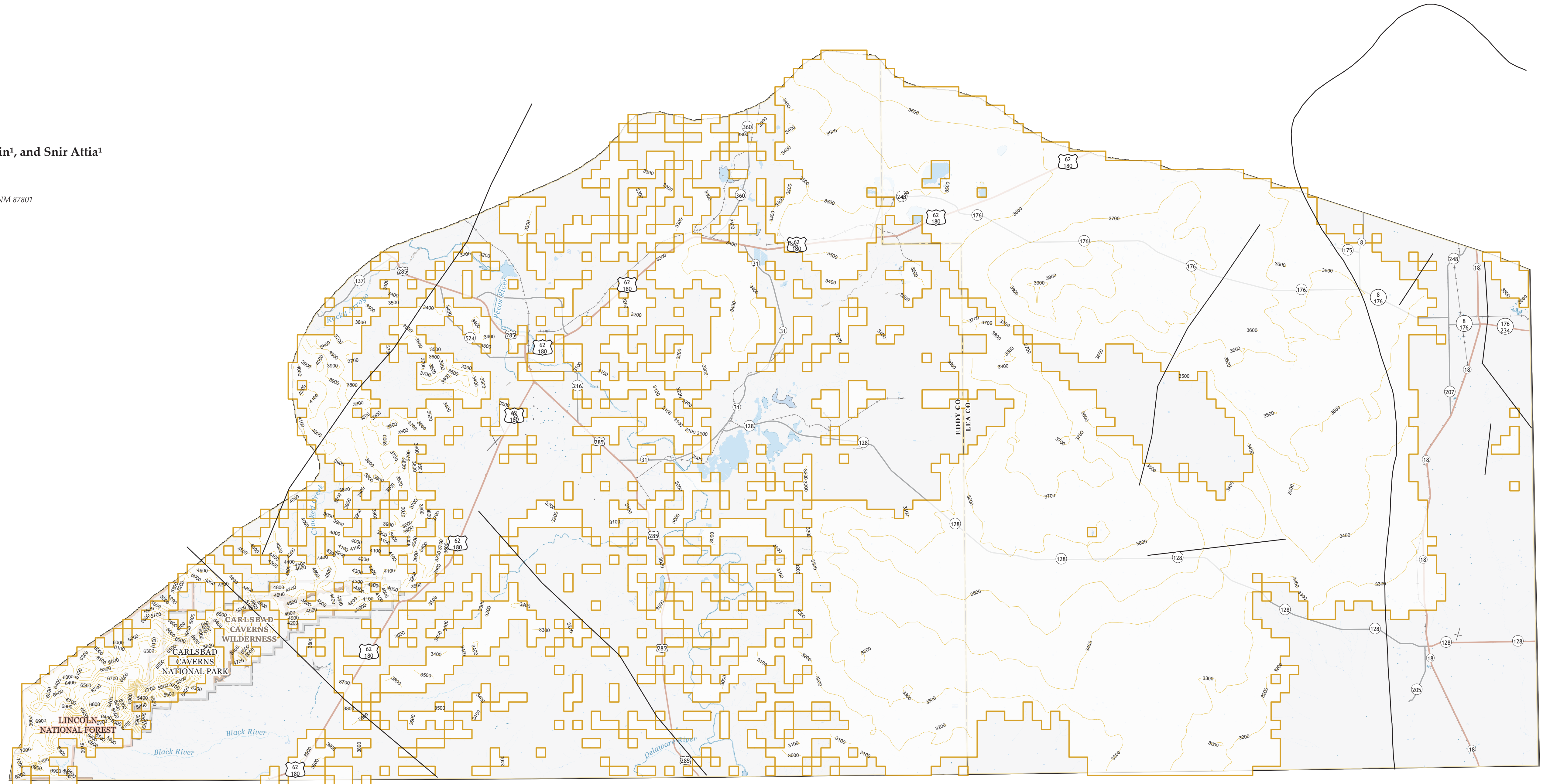
September 2024

by  
Dan Lavery<sup>1</sup>, Martin Reyes Correa<sup>1</sup>, Alyssa Baca<sup>1</sup>, Luke Martin<sup>1</sup>, and Snir Attia<sup>1</sup>

<sup>1</sup>New Mexico Bureau of Geology and Mineral Resources, 801 Leroy Pl., Socorro, NM 87801



Base map from U.S. Geological Survey 2021, North American Datum of 1983 (NAD83)  
Universal Transverse Mercator, Zone 13S  
Roads: U.S. Census Bureau, 2015–2016  
Names: GNIS, 2018  
Hydrography: National Hydrography Dataset, 2019  
Contours: IFSAR 4.5-m Digital Terrain Model, 2008  
Wetlands: FWS National Wetlands Inventory 1977–2018



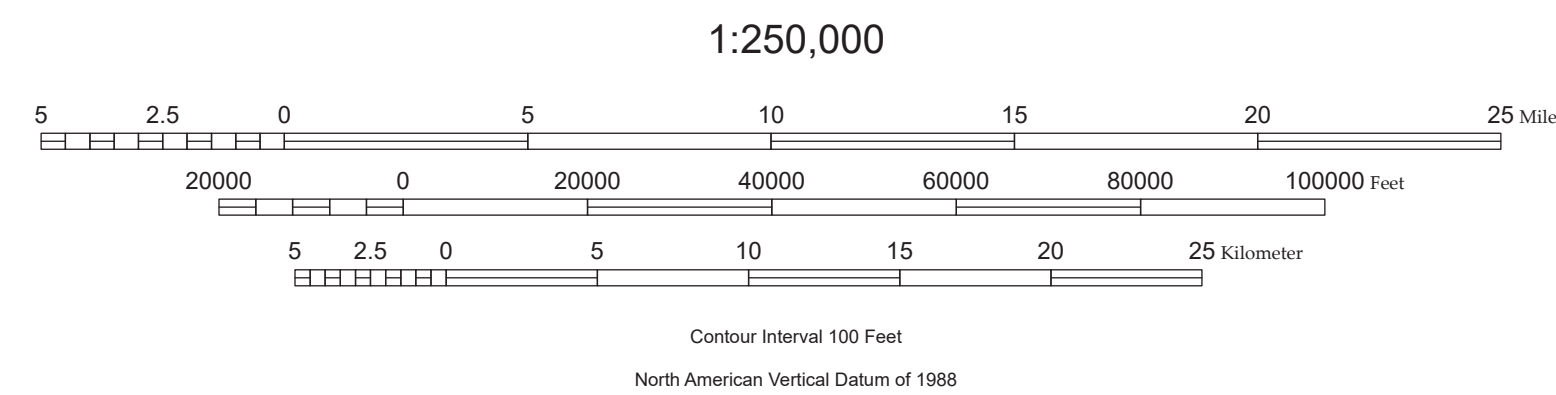
### Project Area Location

New Mexico Bureau of Geology and Mineral Resources  
New Mexico Tech  
801 Leroy Place  
Socorro, New Mexico  
87801-4796

[575] 835-5490

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<https://geoinfo.nmt.edu>  
<https://doi.org/10.58799/OF-GM-318>



### Explanation of Map Symbols

- Fault
- Surface Contour
- Surface Extent

### Comments to Map Users

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### New Mexico Bureau of Geology and Mineral Resources Open-File Geologic Map 318

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## Bedrock Surface

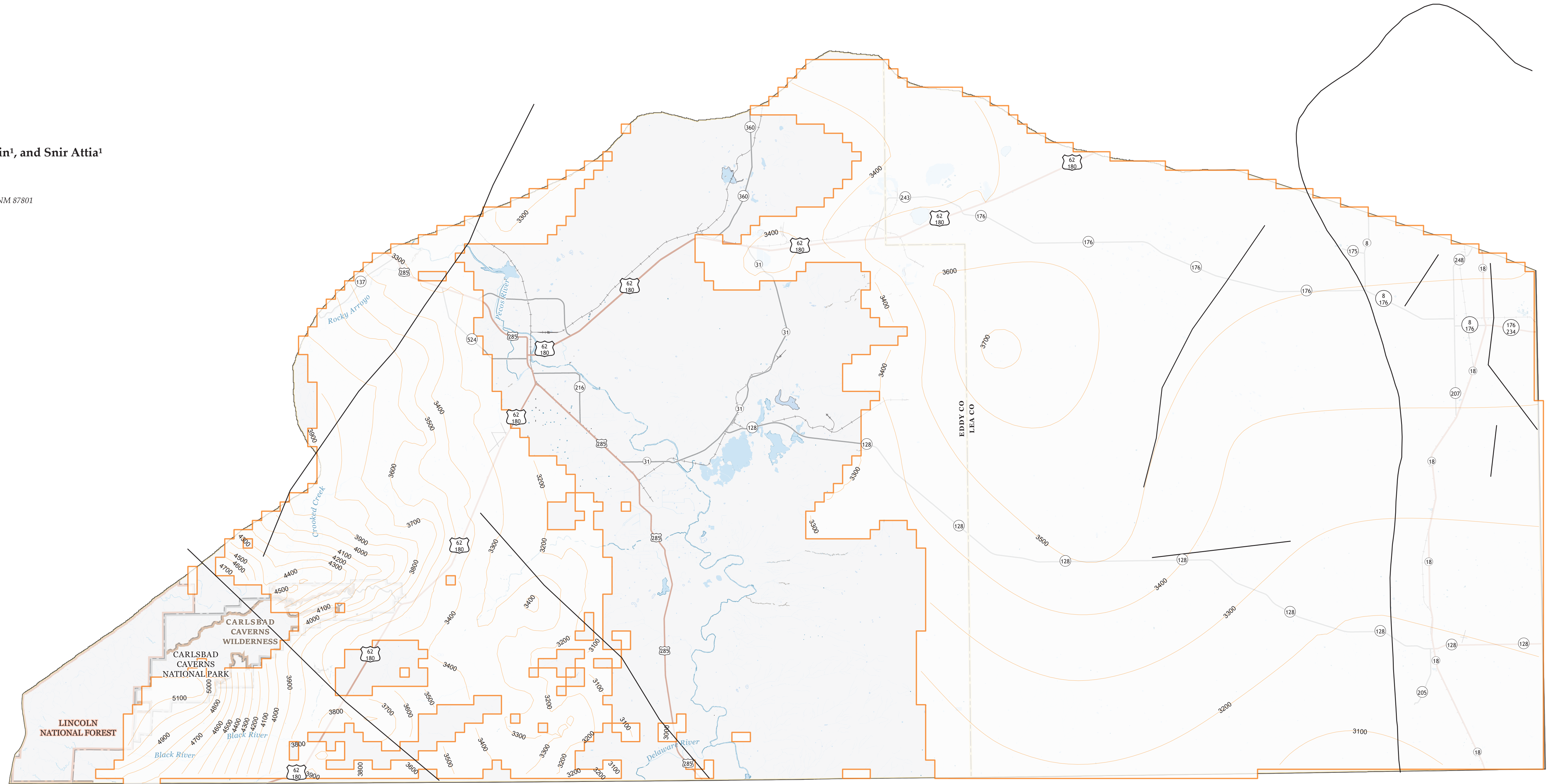
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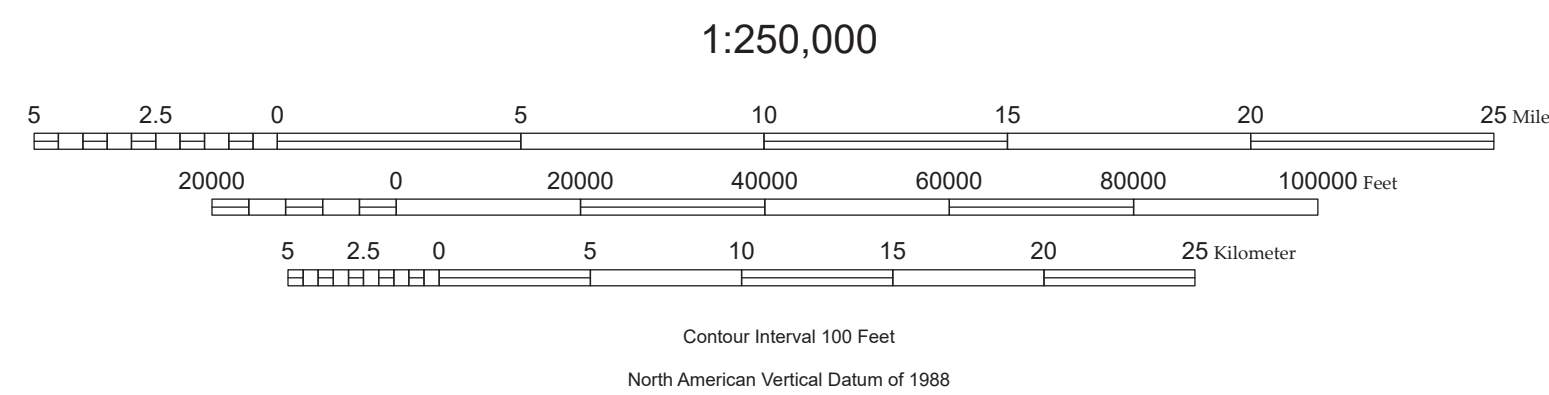
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## Lower Dockum Surface

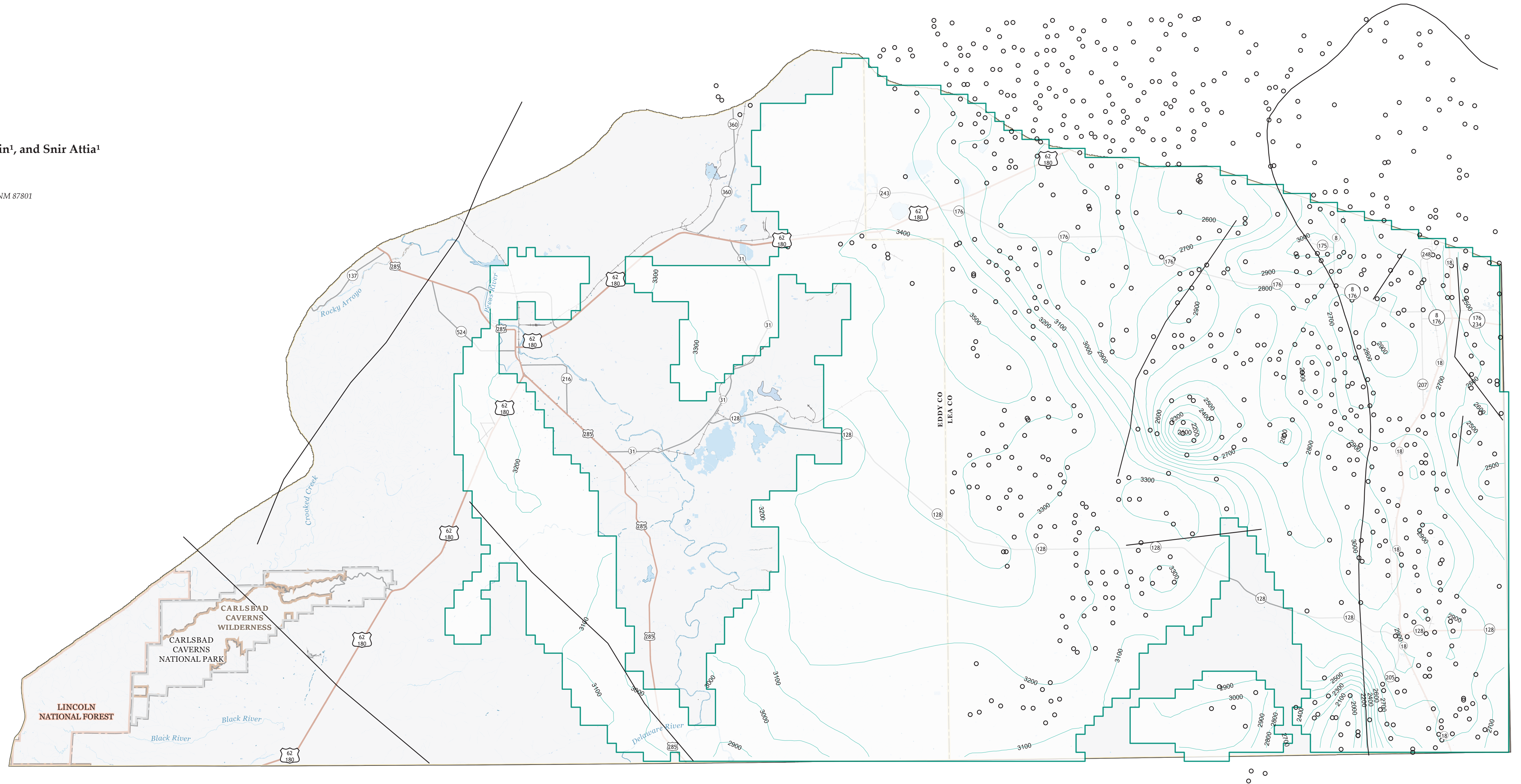
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Magnetic Declination  
September 2024  
6° 20' East  
At Map Center

Base map from U.S. Geological Survey 2021, North American Datum of 1983 (NAD83)  
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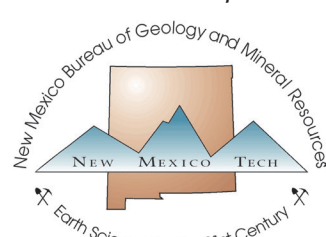
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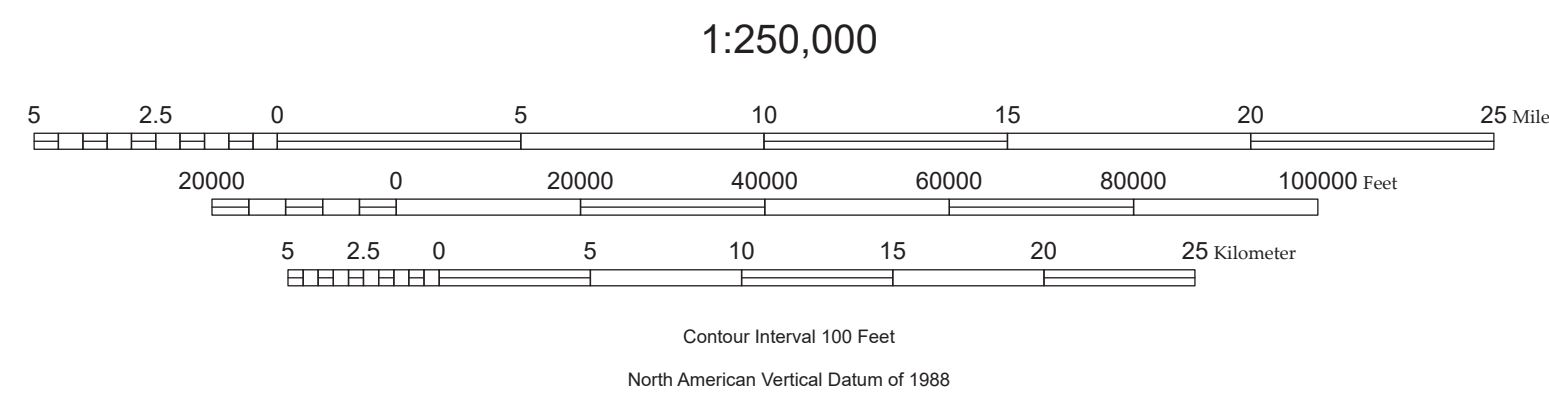
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## Dewey Lake Surface

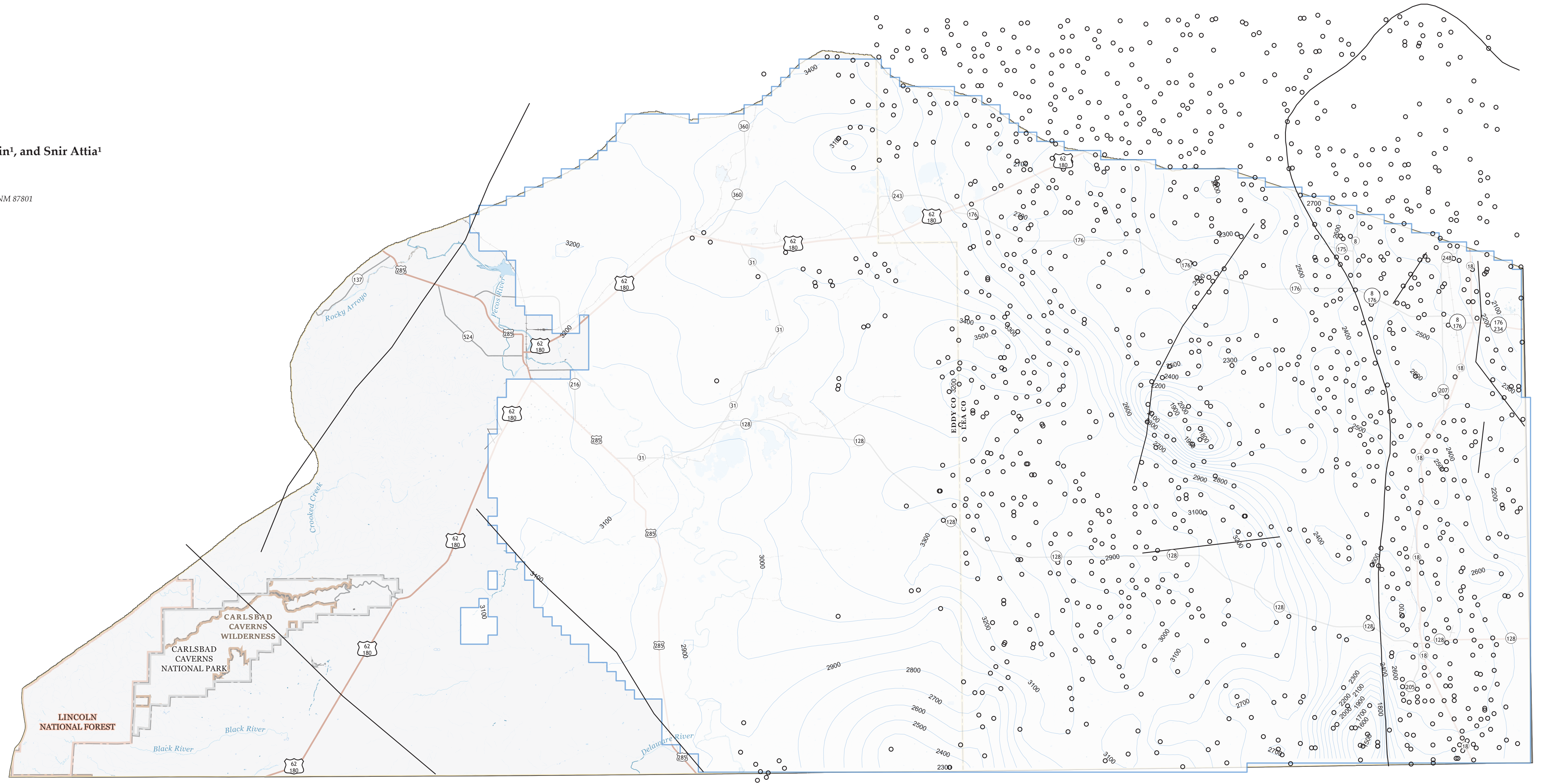
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Magnetic Declination  
September 2024  
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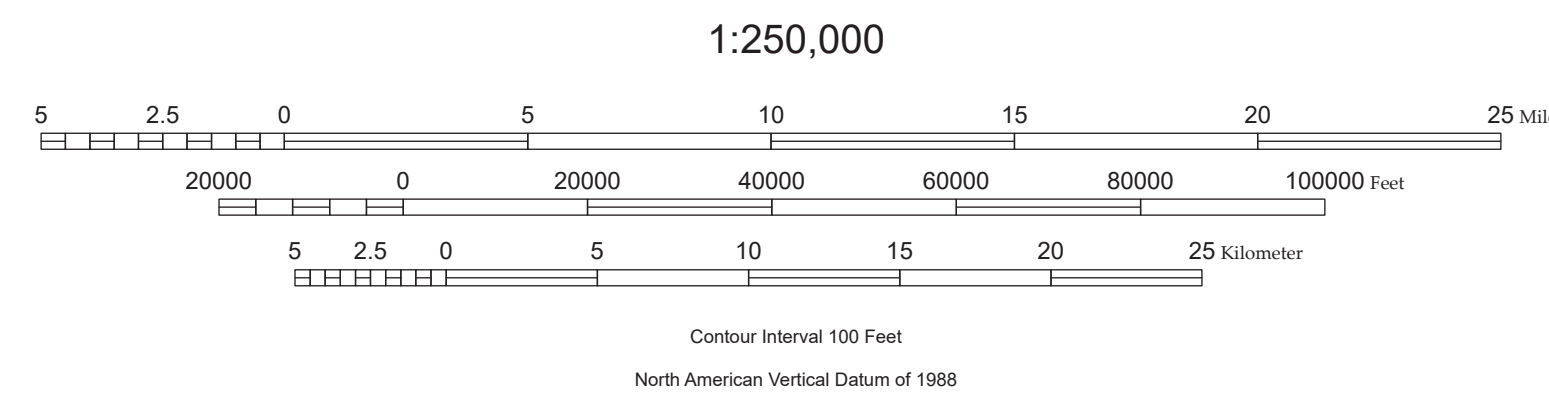
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Rustler Surface

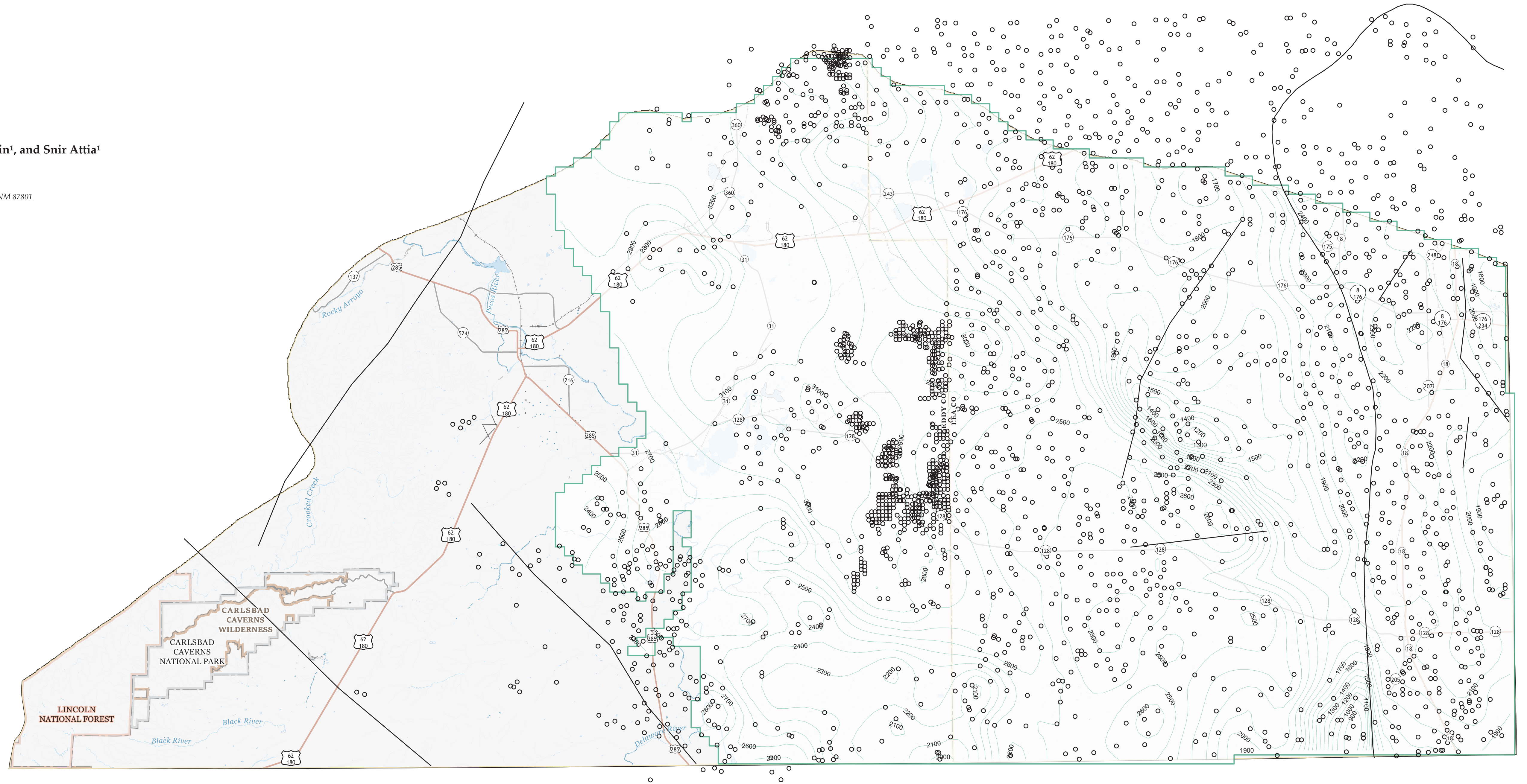
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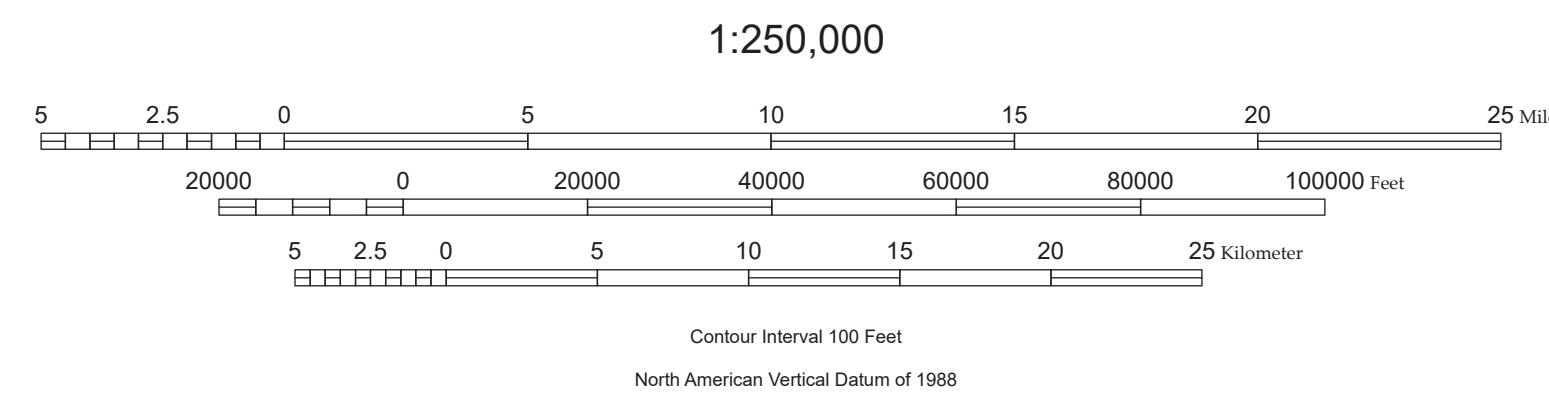
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Castile Salado Surface

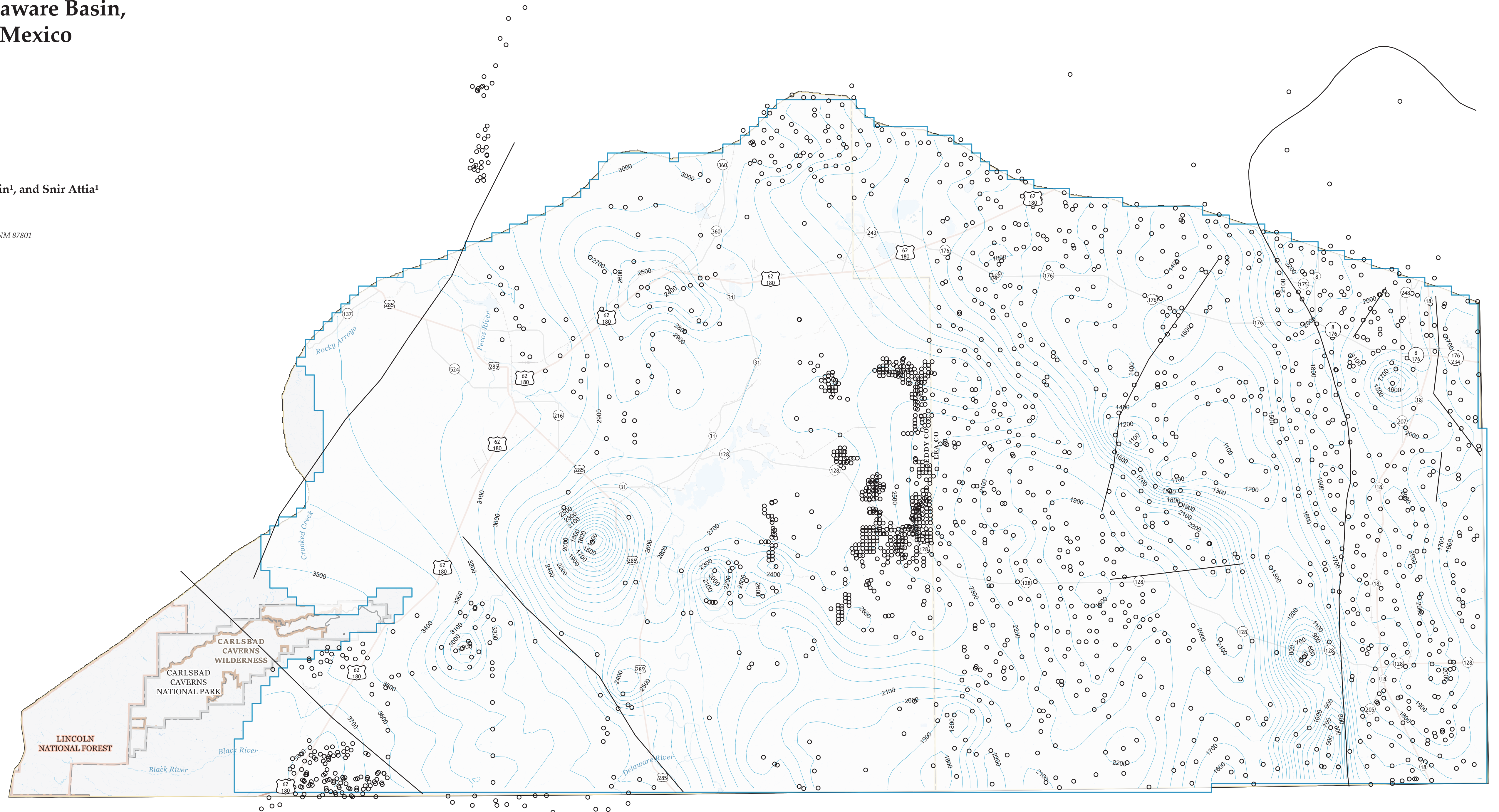
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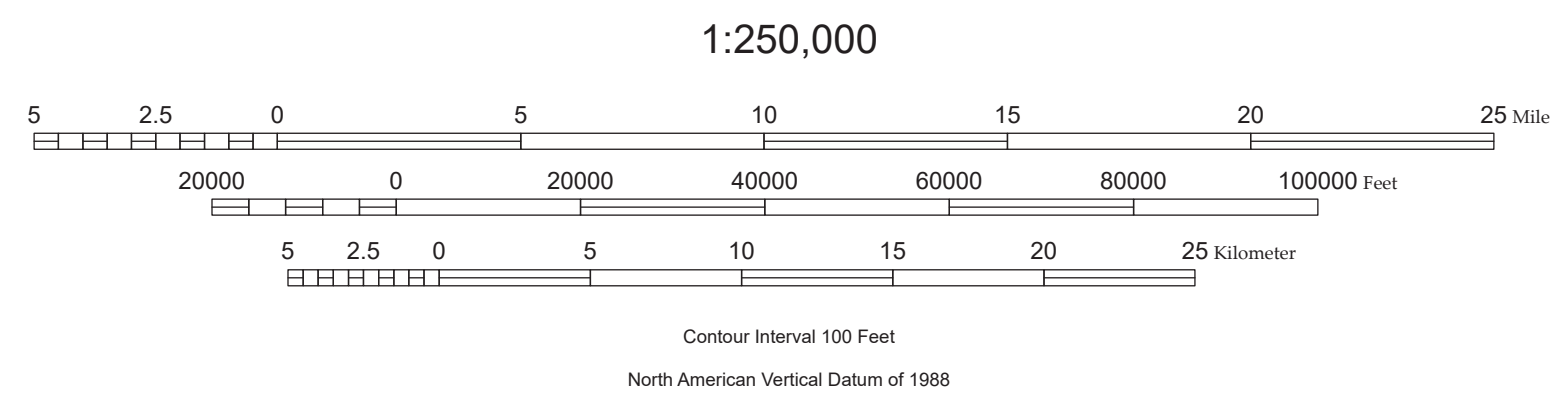
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## Guadalupean Surface

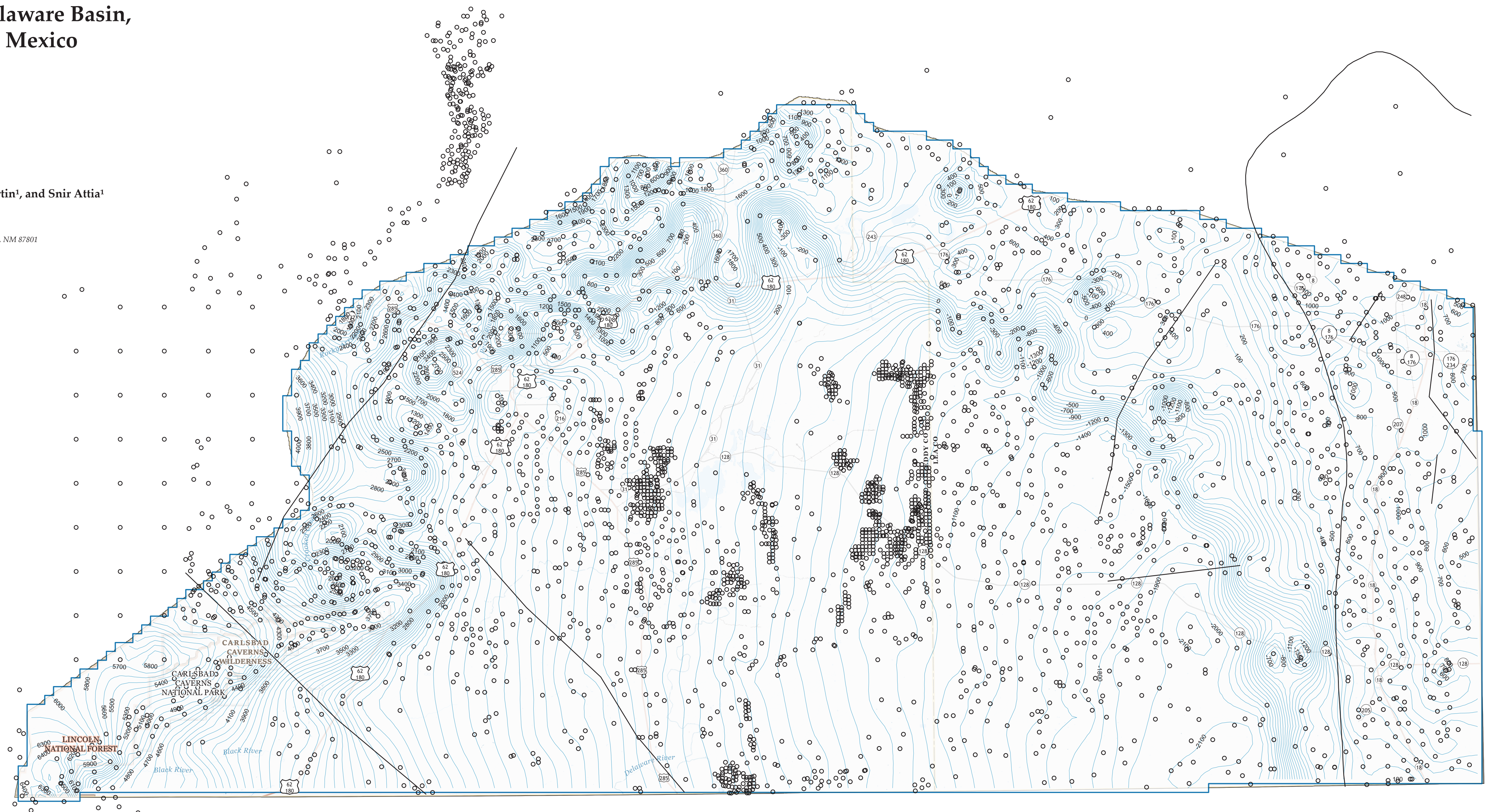
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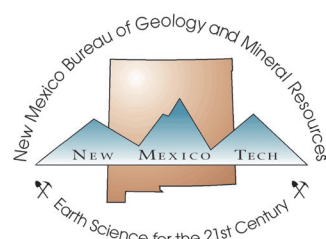
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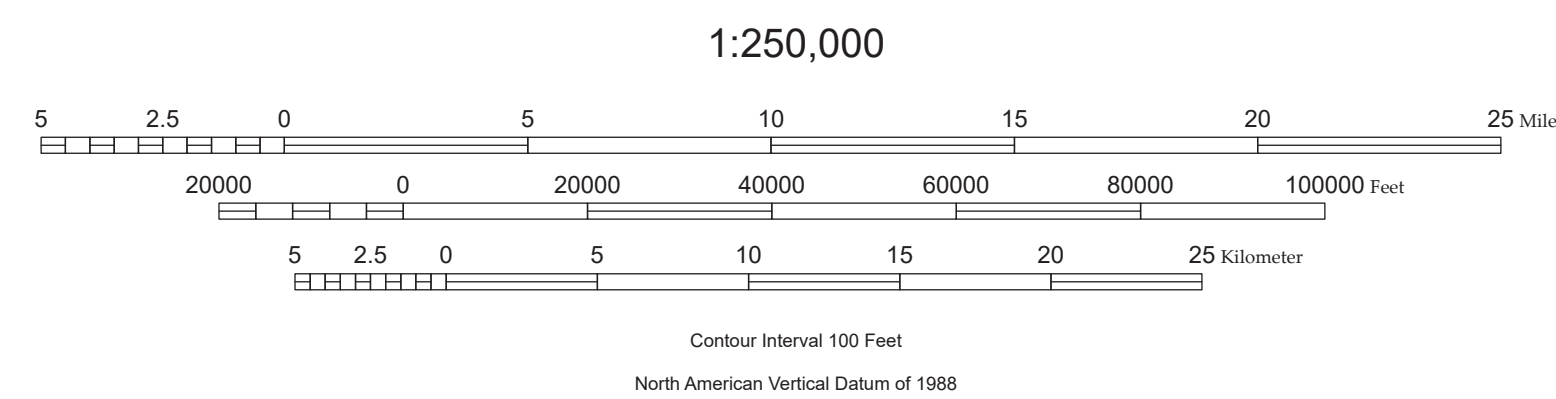
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Bone Spring Surface

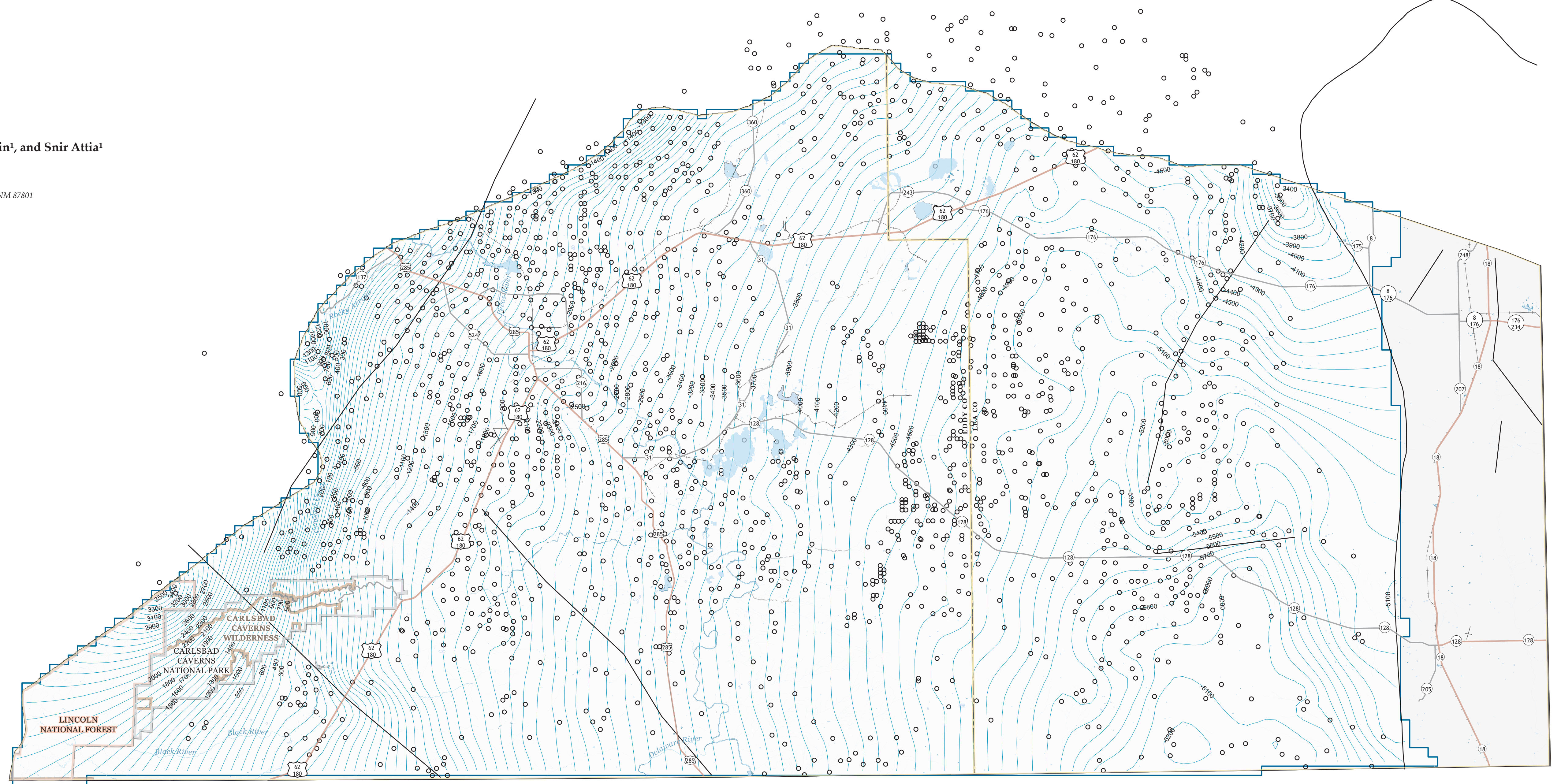
September 2024

by  
Dan Lavery<sup>1</sup>, Martin Reyes Correa<sup>1</sup>, Alyssa Baca<sup>1</sup>, Luke Martin<sup>1</sup>, and Snir Attia<sup>1</sup>

<sup>1</sup>New Mexico Bureau of Geology and Mineral Resources, 801 Leroy Pl., Socorro, NM 87801



Base map from U.S. Geological Survey 2021, North American Datum of 1983 (NAD83)  
Universal Transverse Mercator, Zone 13S  
Roads: U.S. Census Bureau, 2015–2016  
Names: GNIS, 2018  
Hydrography: National Hydrography Dataset, 2019  
Contours: JRSAR 4.5-m Digital Terrain Model, 2008  
Wetlands: FWS National Wetlands Inventory 1977–2018



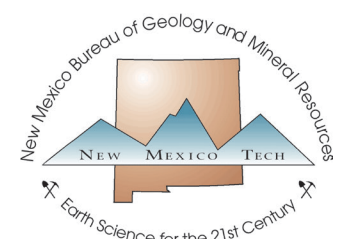
### Project Area Location

New Mexico Bureau of Geology and Mineral Resources  
New Mexico Tech  
801 Leroy Place  
Socorro, New Mexico  
87801-4796

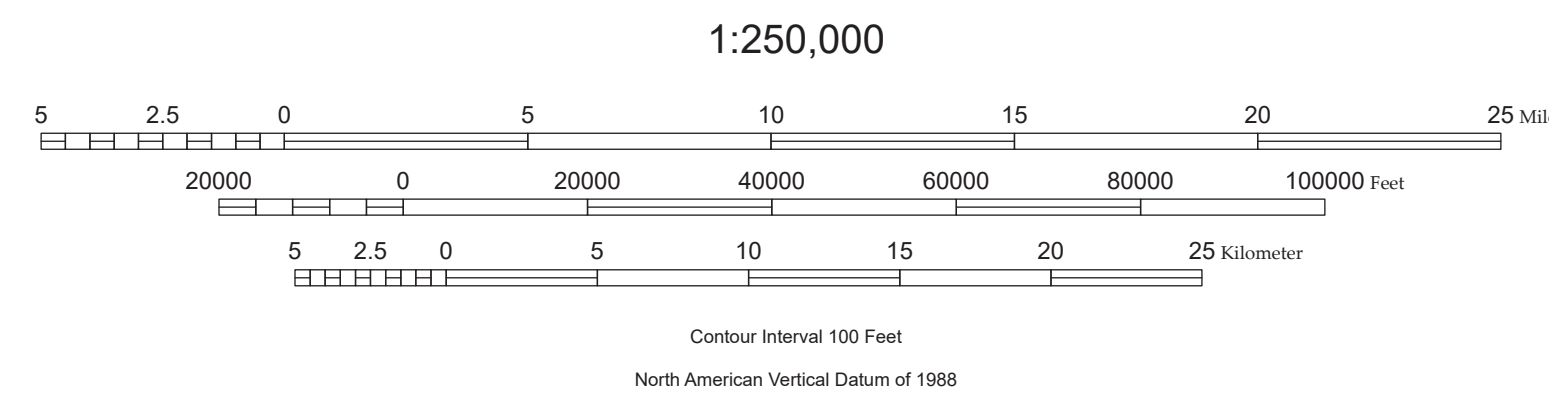
[575] 835-5490

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Digital layout and cartography by the NMBGMR Map Production Group:  
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- Fault
- Surface Contour
- Surface Extent
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Wolfcamp Surface

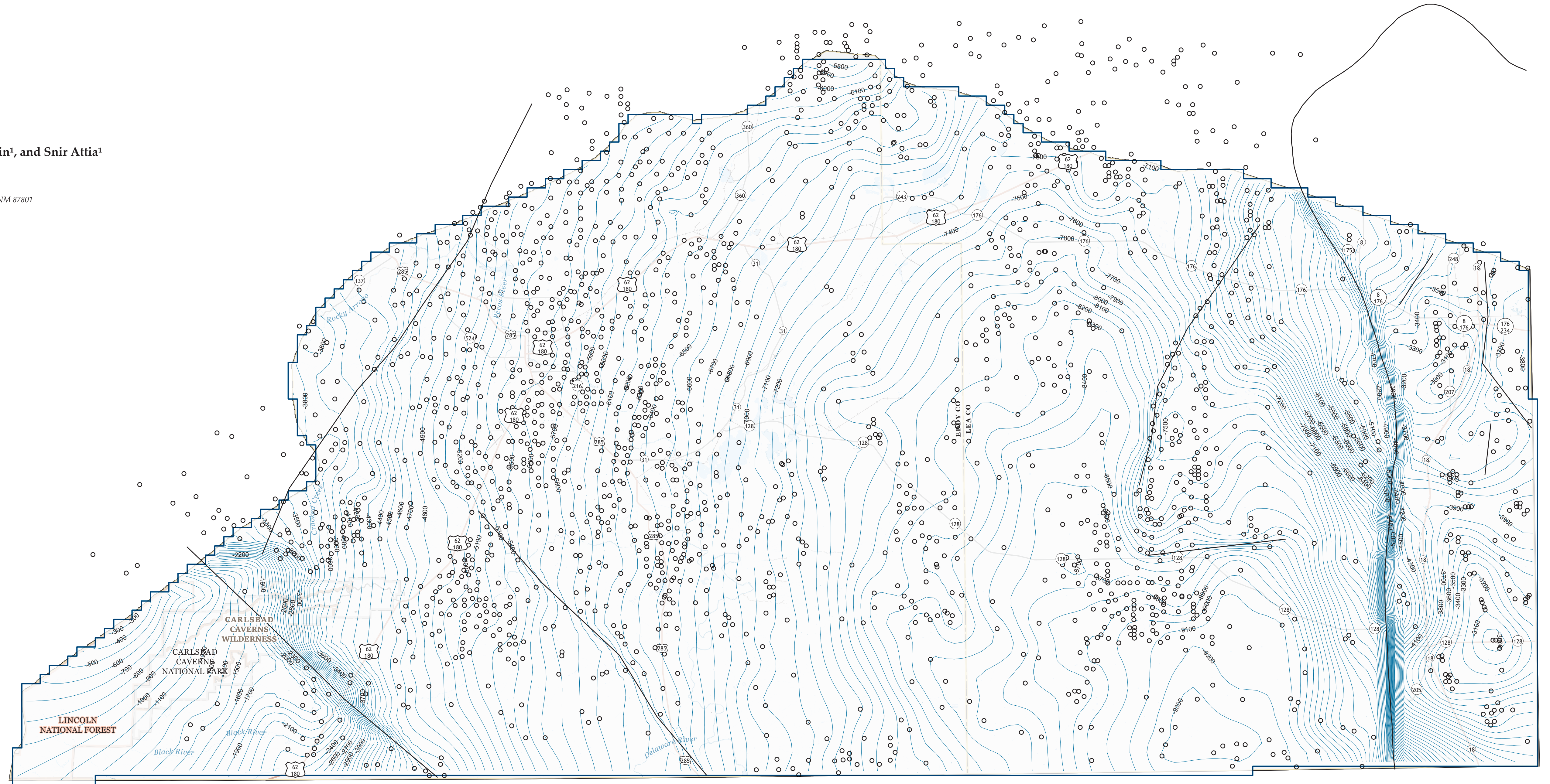
September 2024

by  
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801 Leroy Place  
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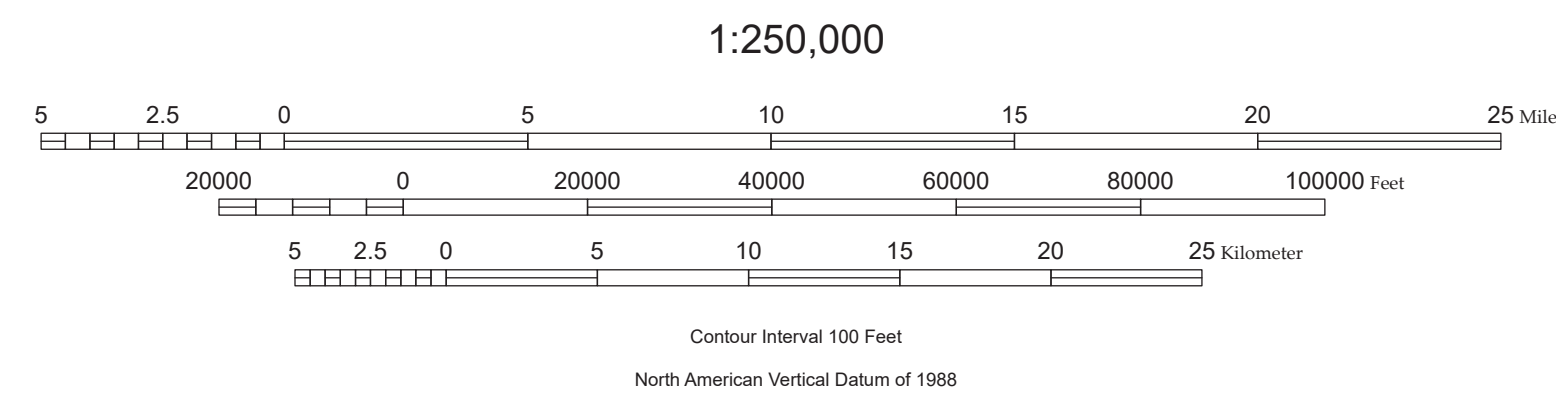
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

Cisco Surface

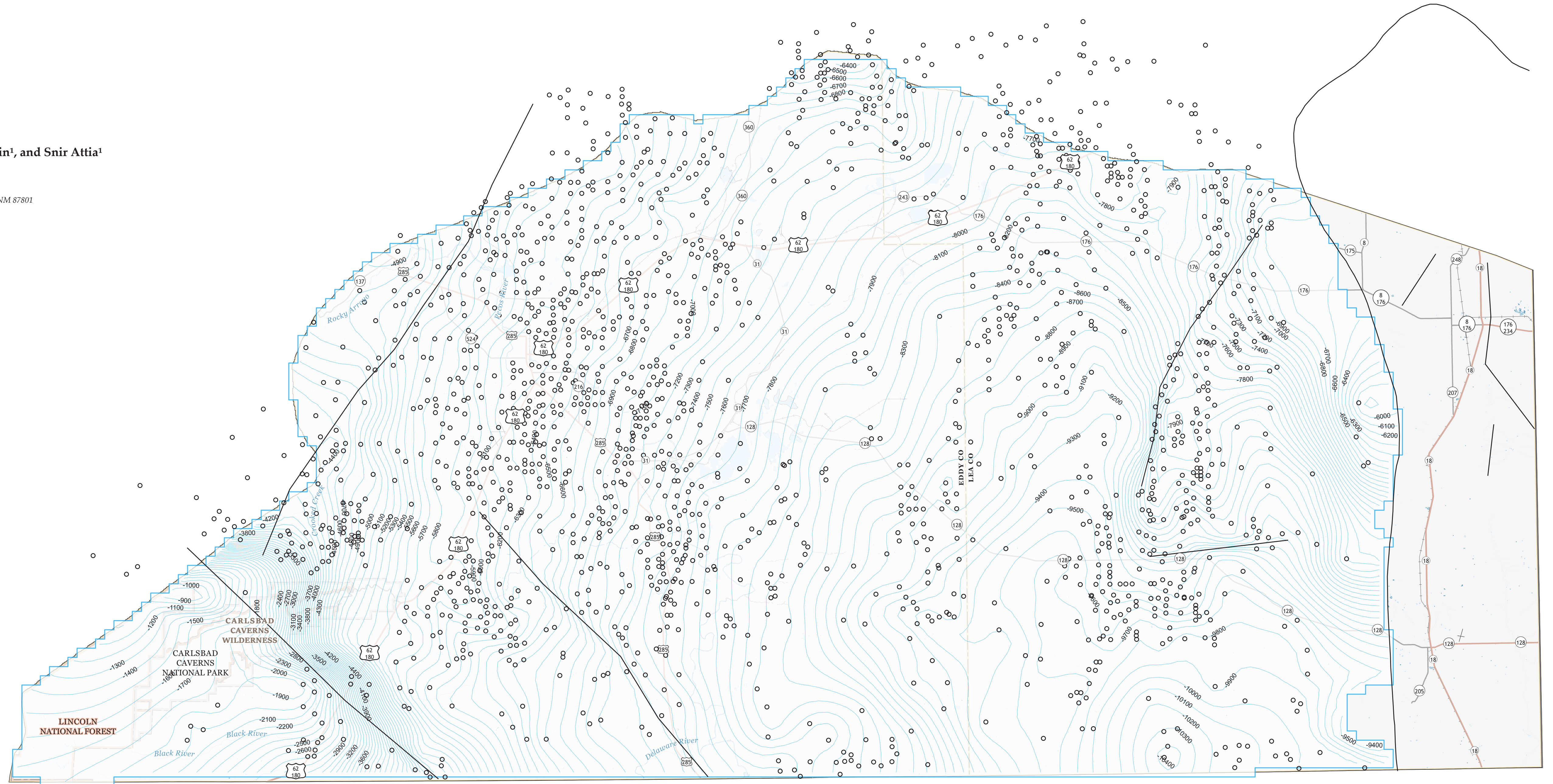
September 2024

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New Mexico Tech  
801 Leroy Place  
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87801-4796

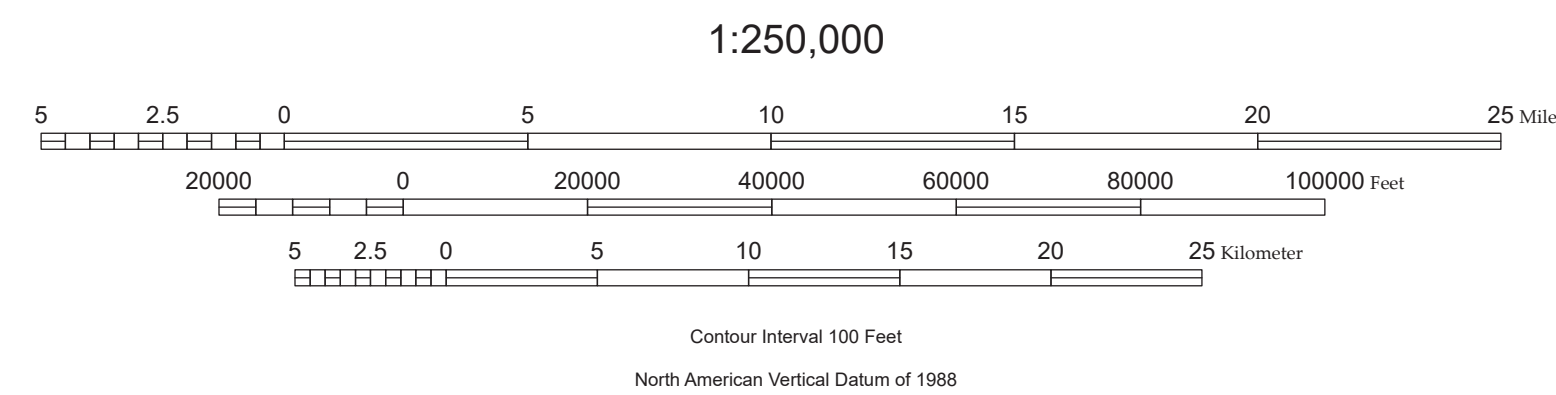
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Canyon Surface

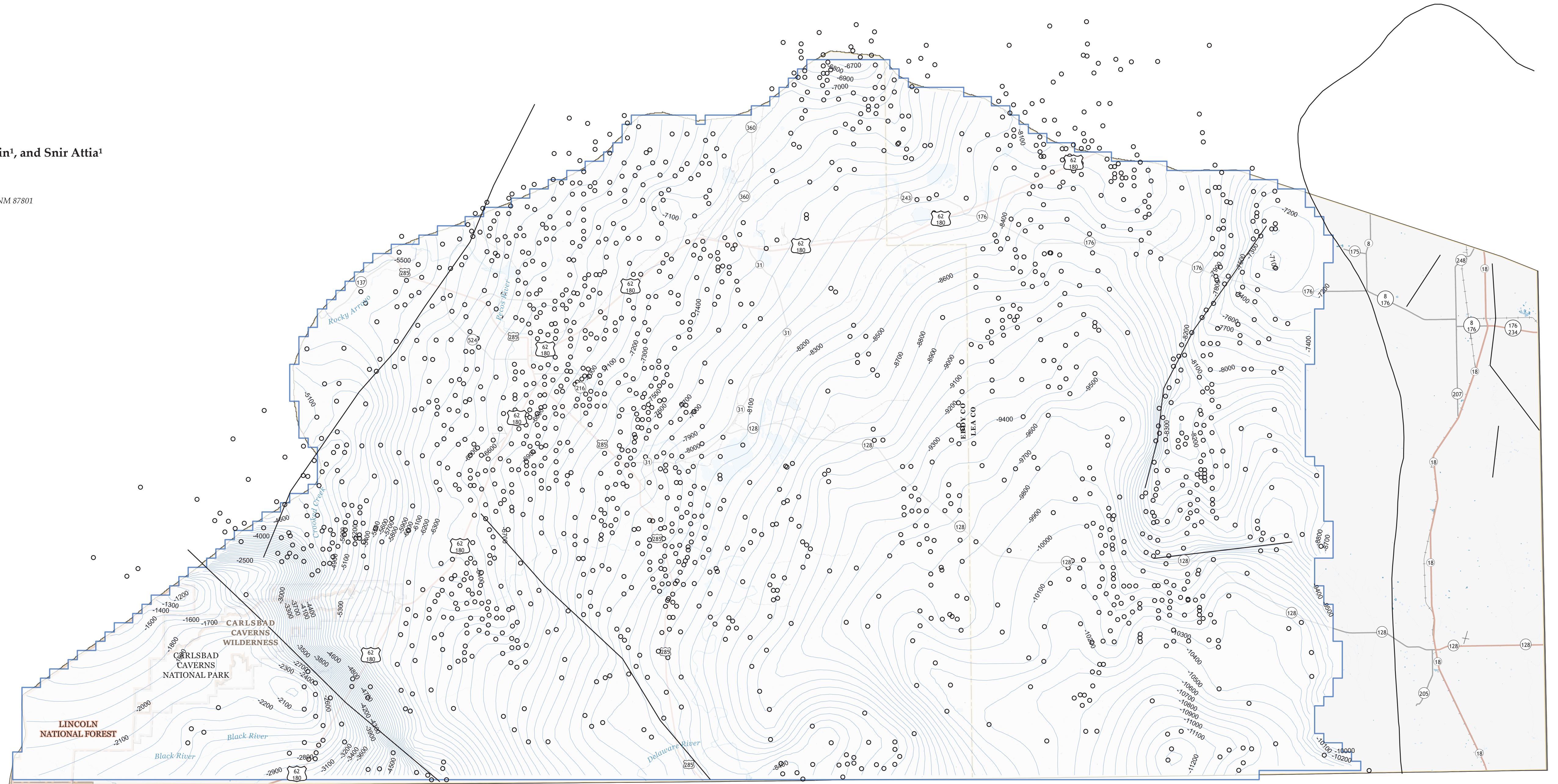
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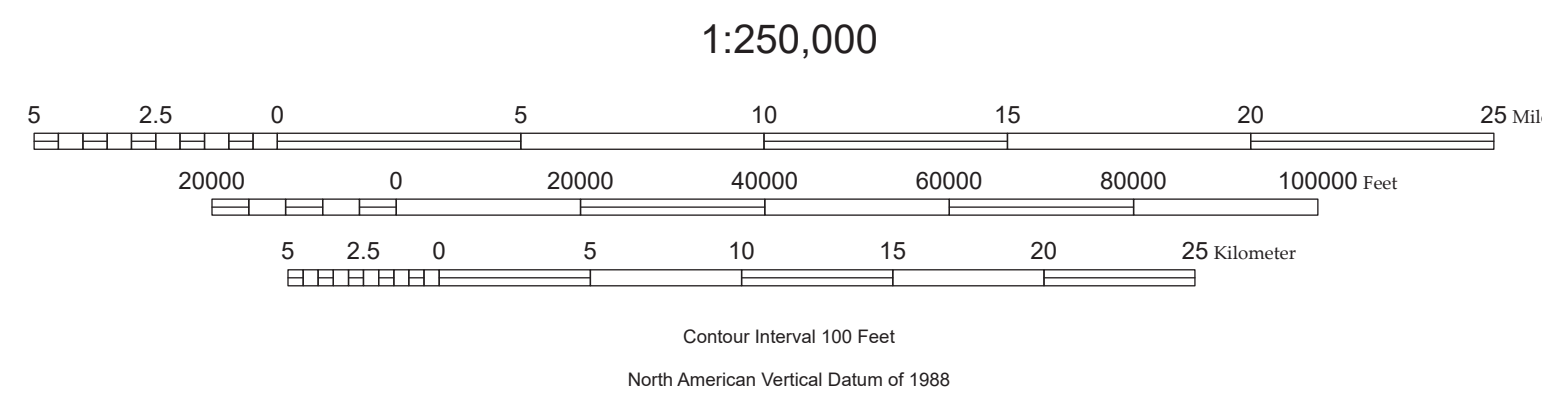
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Strawn Surface

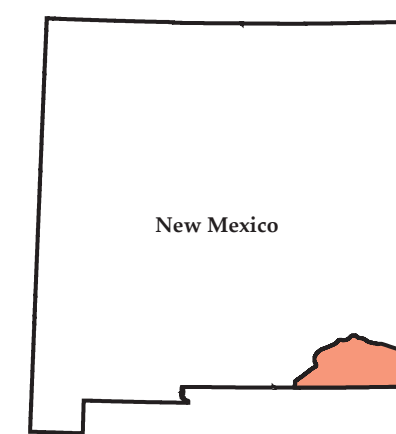
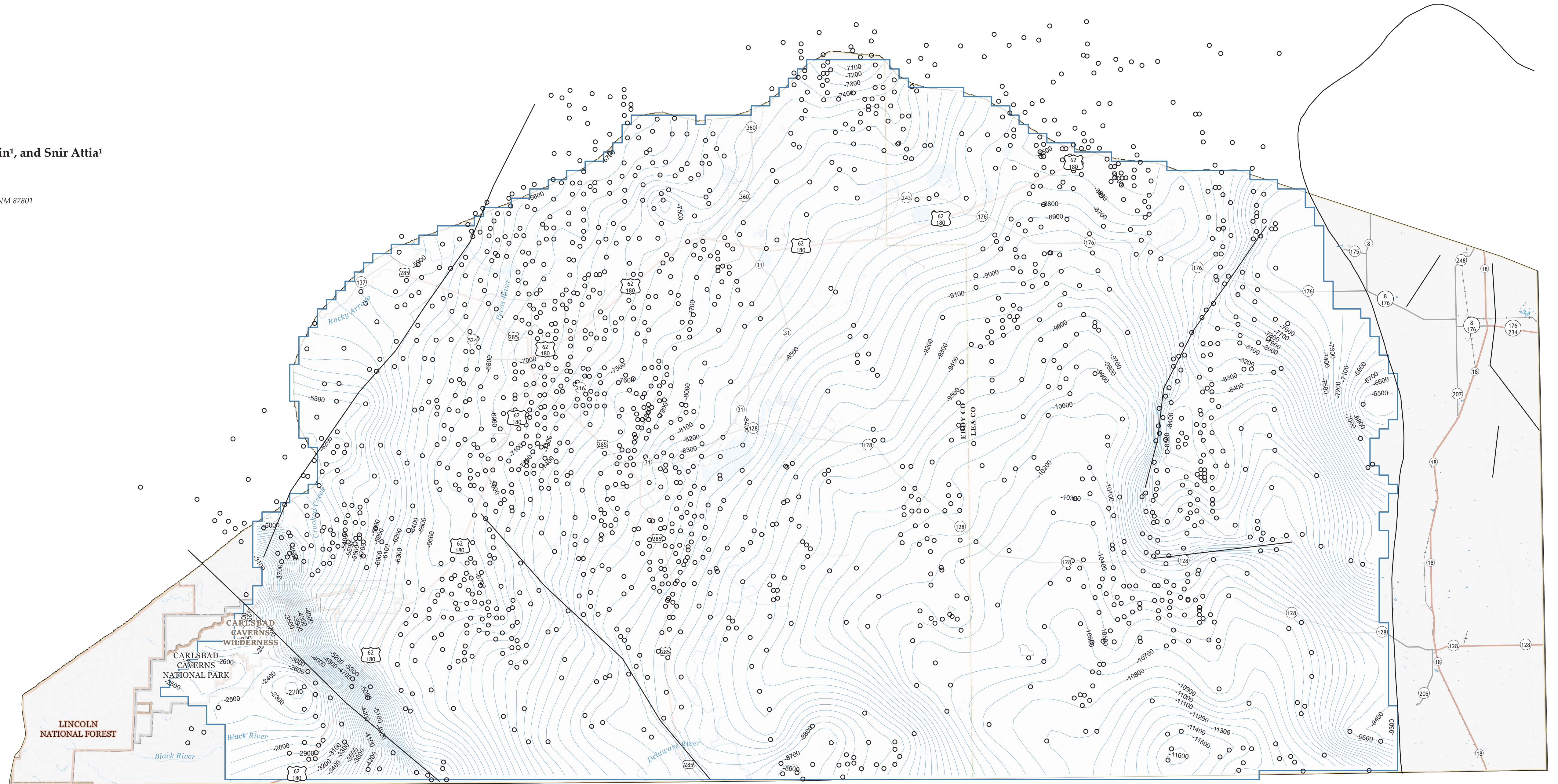
September 2024

by  
Dan Lavery<sup>1</sup>, Martin Reyes Correa<sup>1</sup>, Alyssa Baca<sup>1</sup>, Luke Martin<sup>1</sup>, and Snir Attia<sup>1</sup>

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New Mexico Bureau of Geology and Mineral Resources  
New Mexico Tech  
801 Leroy Place  
Socorro, New Mexico  
87801-4796

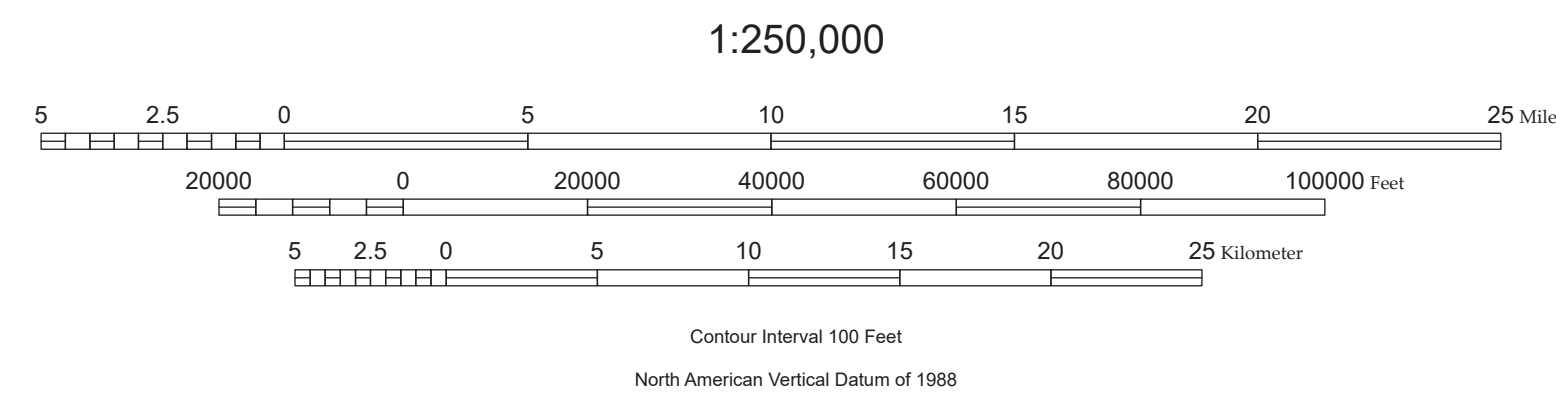
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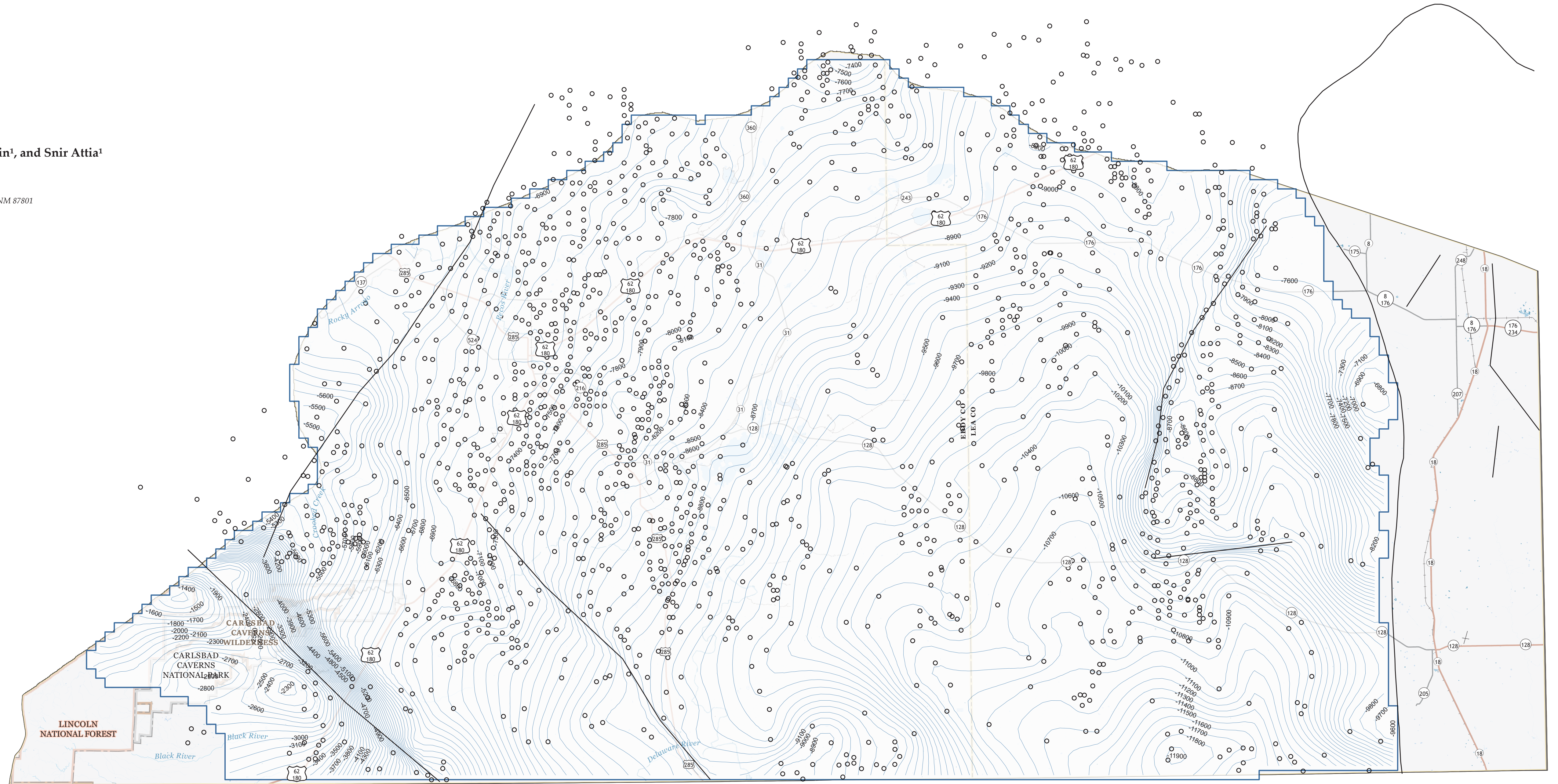
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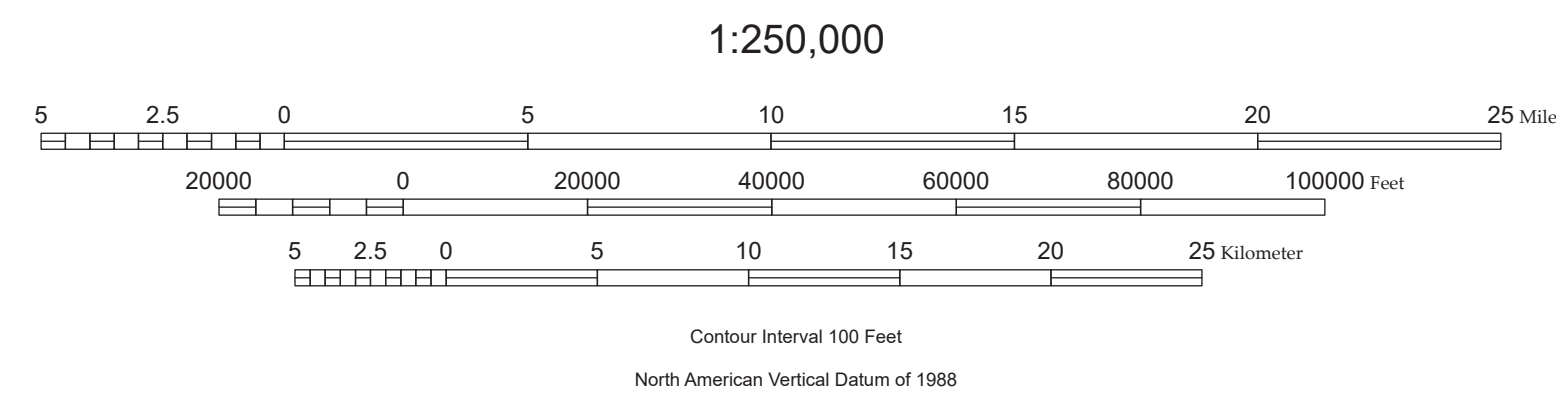
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

Morrow Surface

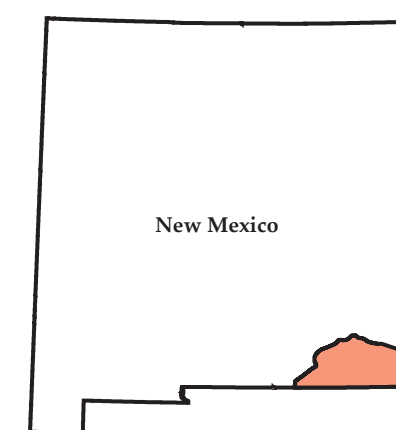
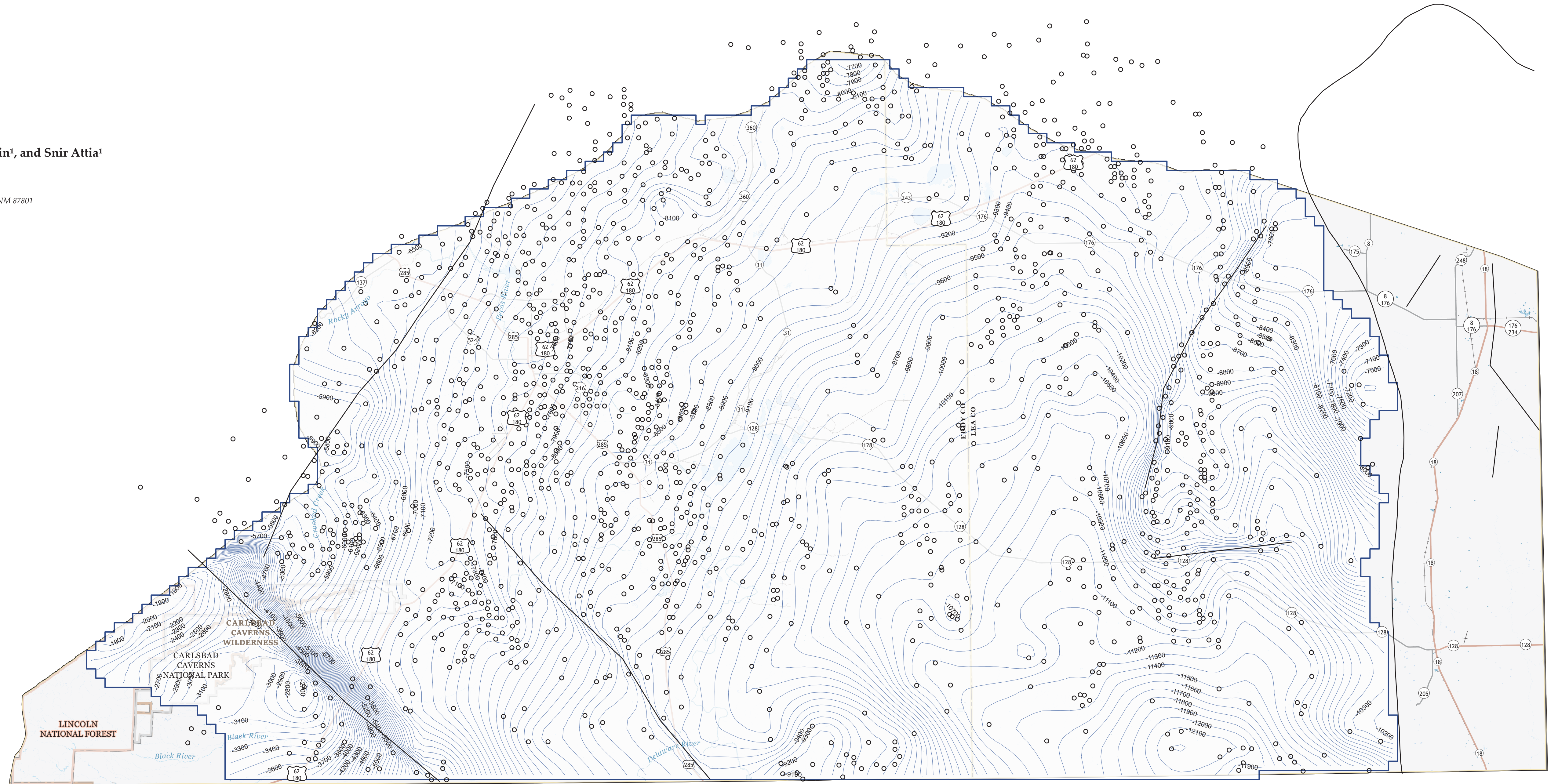
September 2024

by  
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<sup>1</sup>New Mexico Bureau of Geology and Mineral Resources, 801 Leroy Pl., Socorro, NM 87801



Base map from U.S. Geological Survey 2021, North American Datum of 1983 (NAD83)  
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Contours: JRSAR 4.5-m Digital Terrain Model, 2008  
Wetlands: FWS National Wetlands Inventory 1977–2018



Project Area Location

New Mexico Bureau of Geology and Mineral Resources  
New Mexico Tech  
801 Leroy Place  
Socorro, New Mexico  
87801-4796

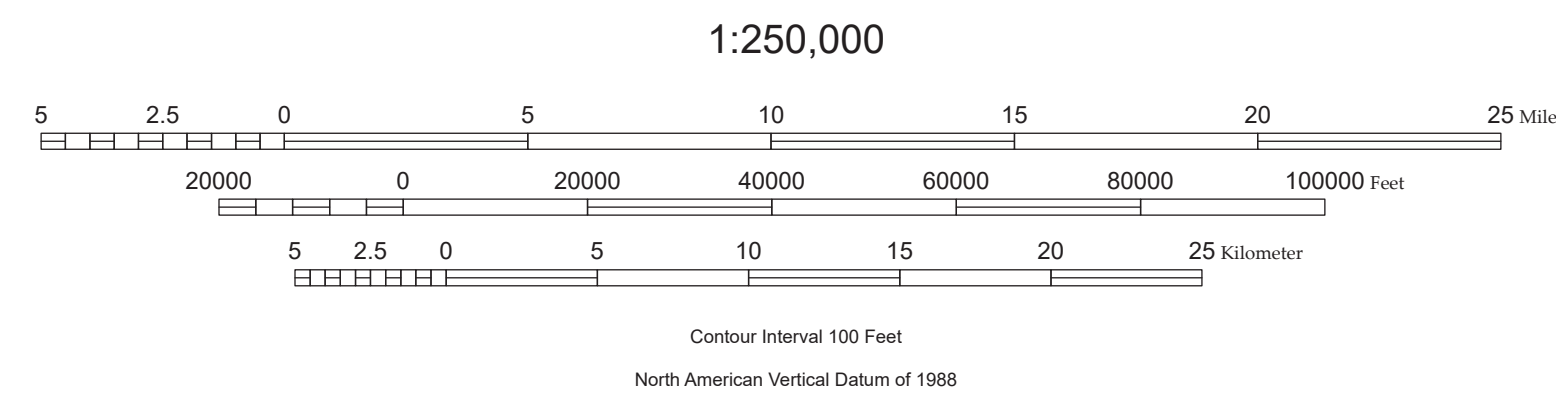
[575] 835-5490

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<https://doi.org/10.58799/OF-GM-318>



Digital layout and cartography by the NMBGMR Map Production Group:  
Phil L. Miller, Amy L. Dunn, Ann D. Knight, Tyler Askin, and Hannah N. Hunt



### Explanation of Map Symbols

- Fault
- Surface Contour
- Surface Extent
- Well

### Comments to Map Users

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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Barnett Surface

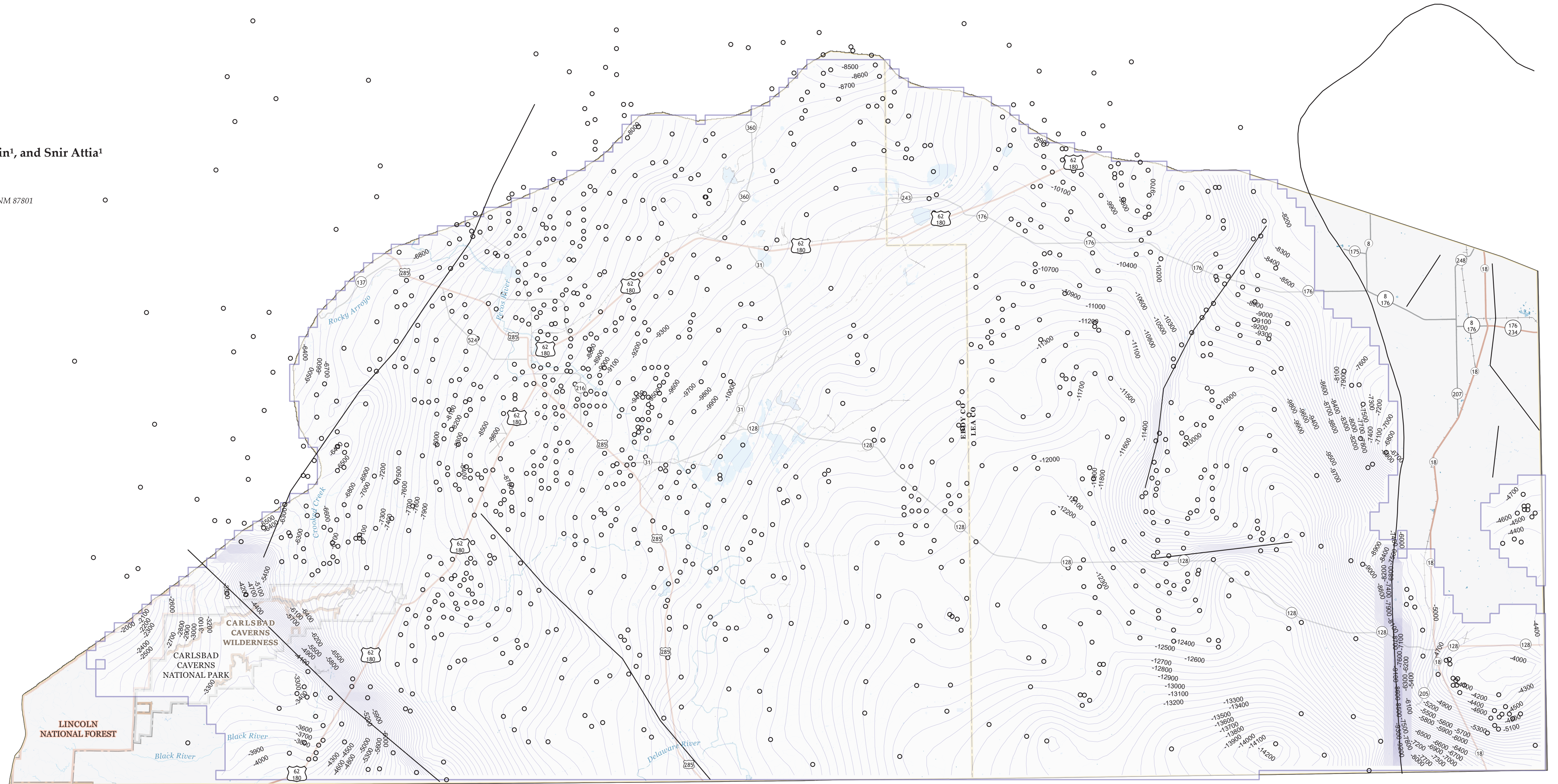
September 2024

by  
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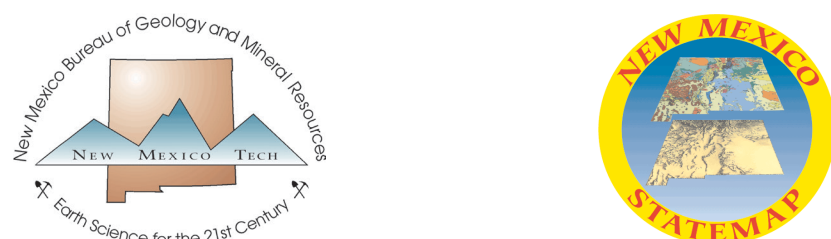
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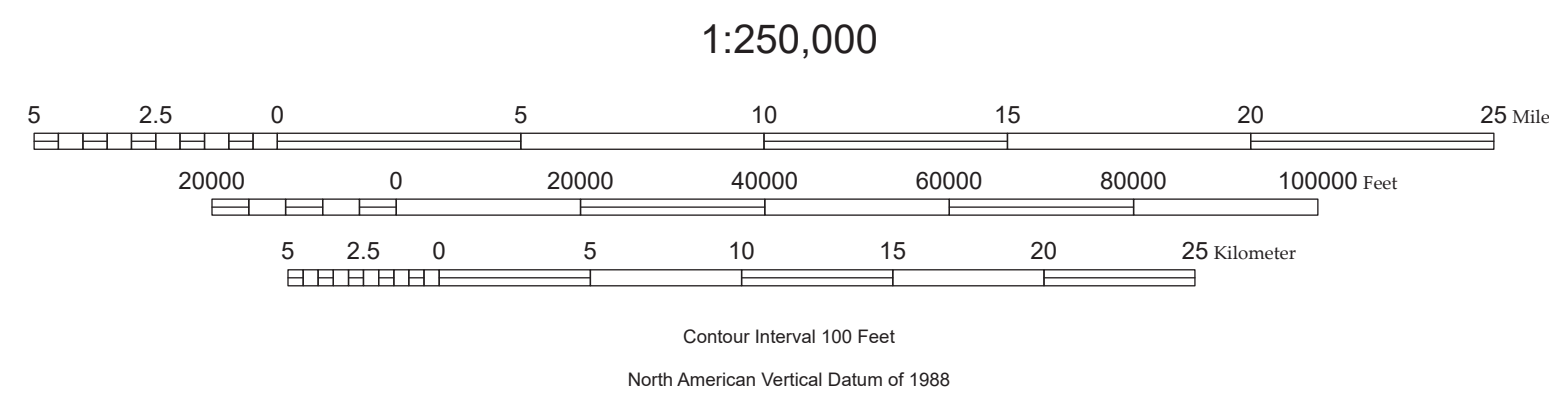
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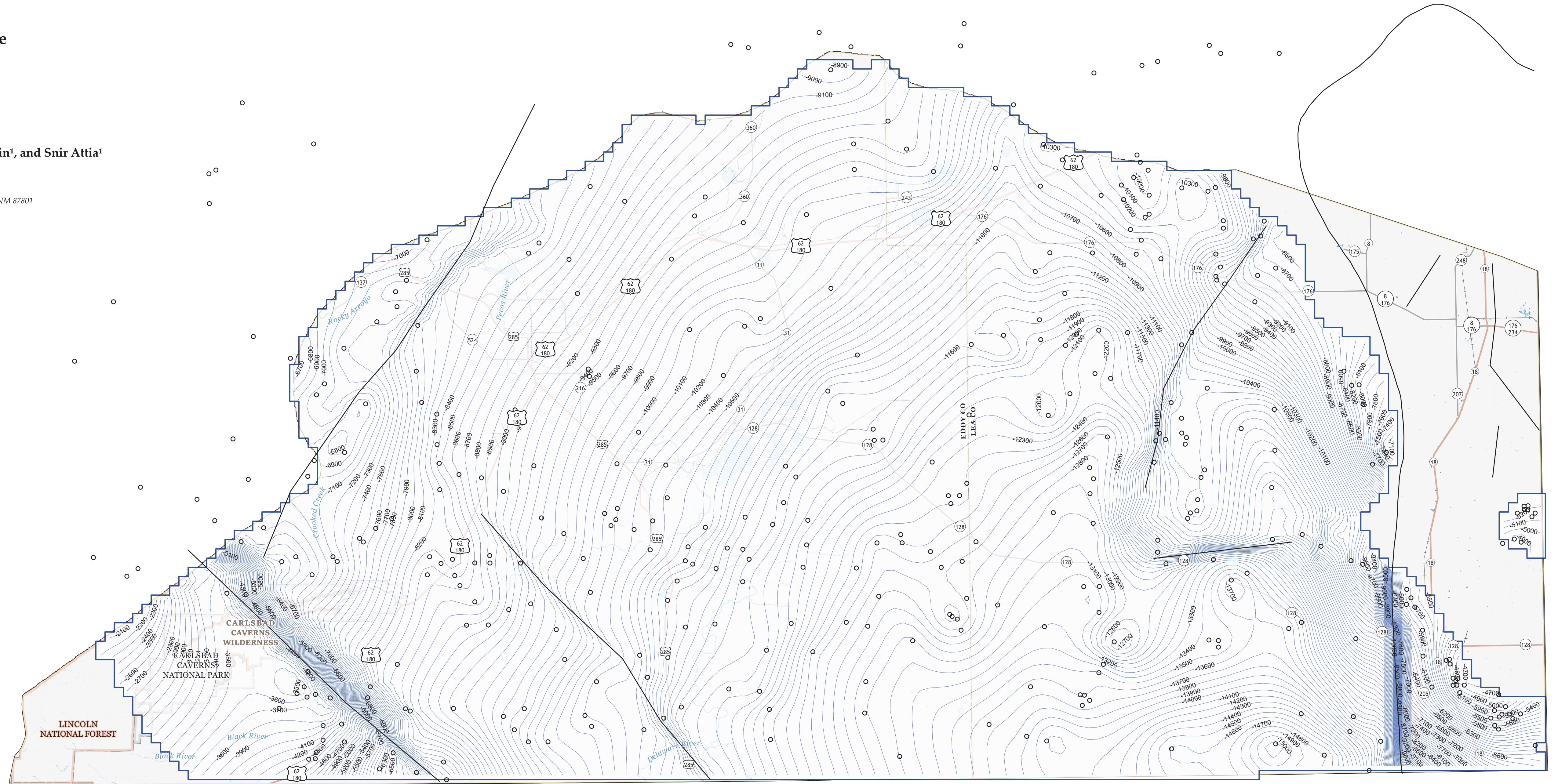
# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Mississippian Limestone Surface

September 2024

by  
Dan Lavery<sup>1</sup>, Martin Reyes Correa<sup>1</sup>, Alyssa Baca<sup>1</sup>, Luke Martin<sup>1</sup>, and Snir Attia<sup>1</sup>

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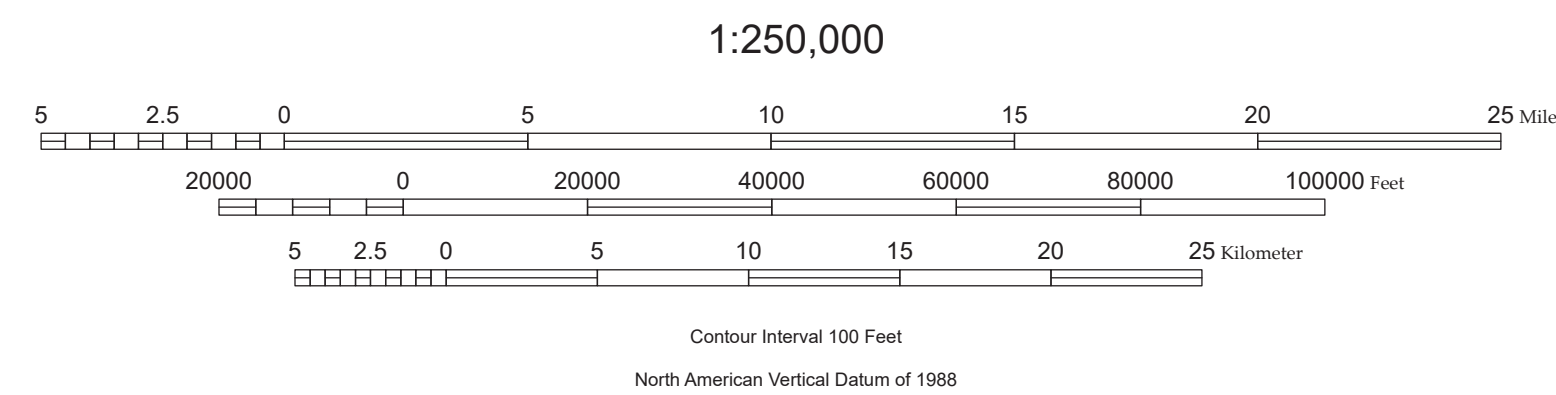
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Woodford Surface

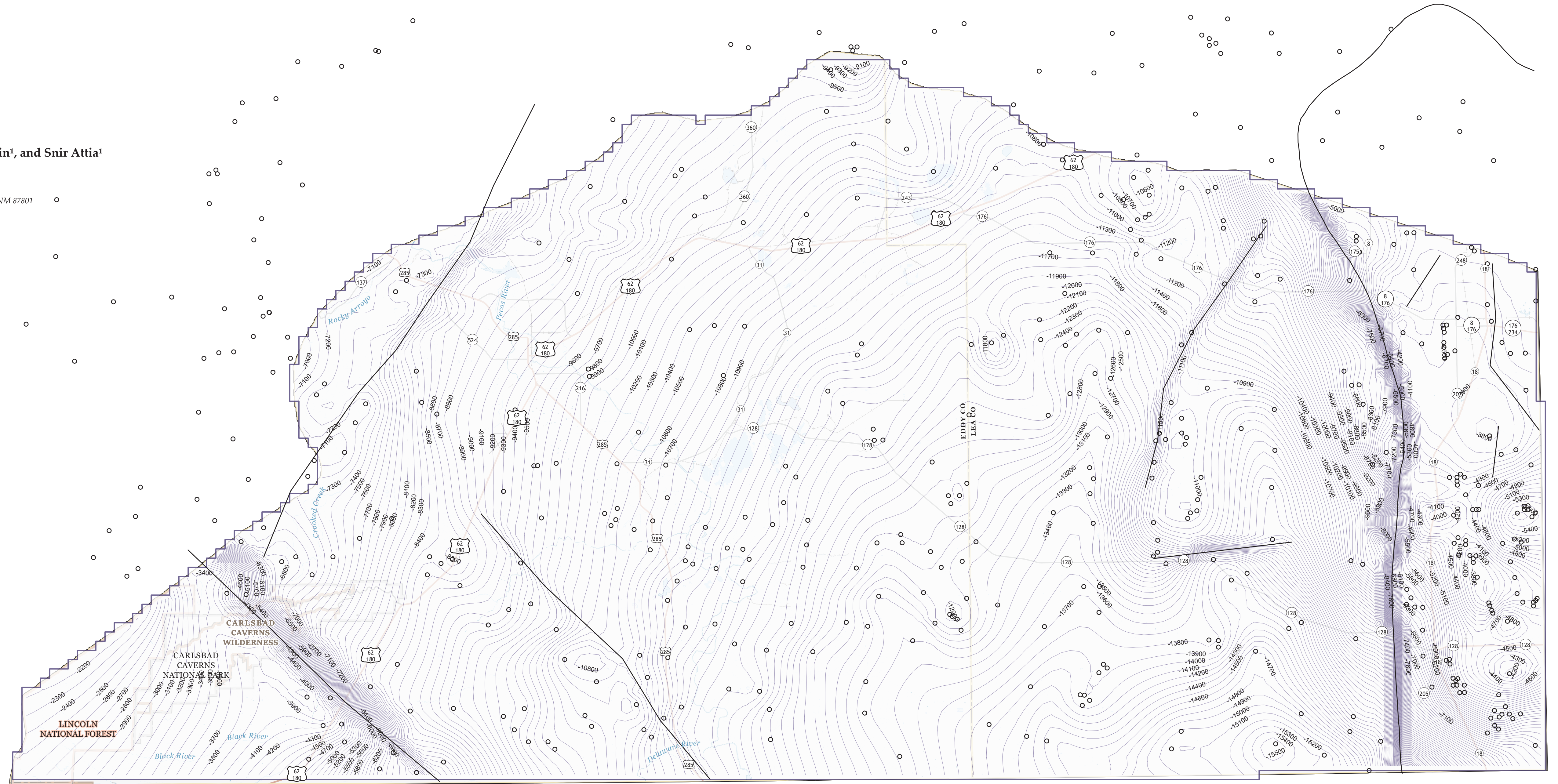
September 2024

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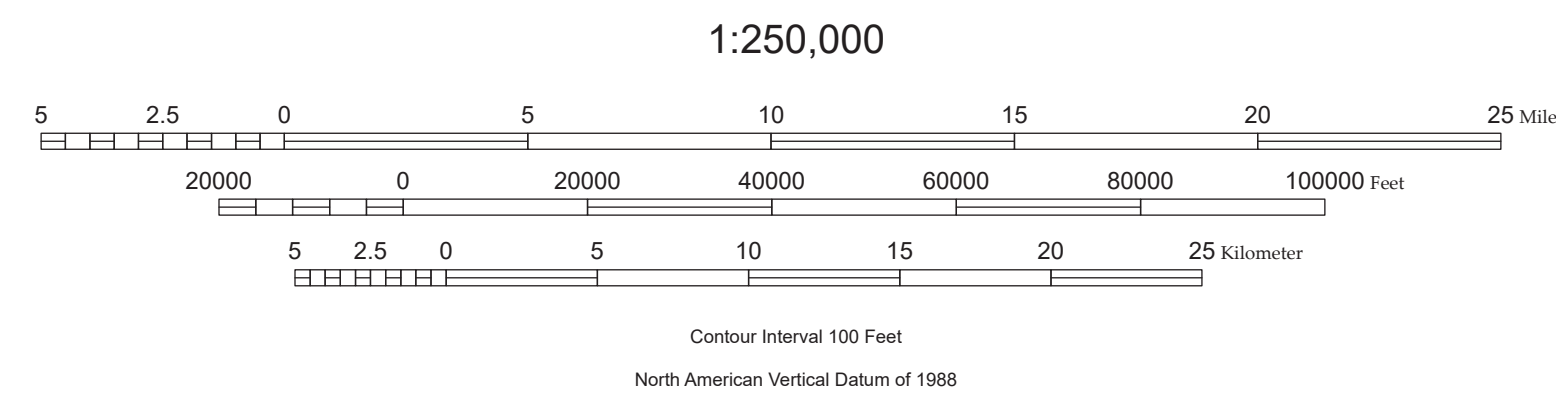
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

## Siluro-Devonian Surface

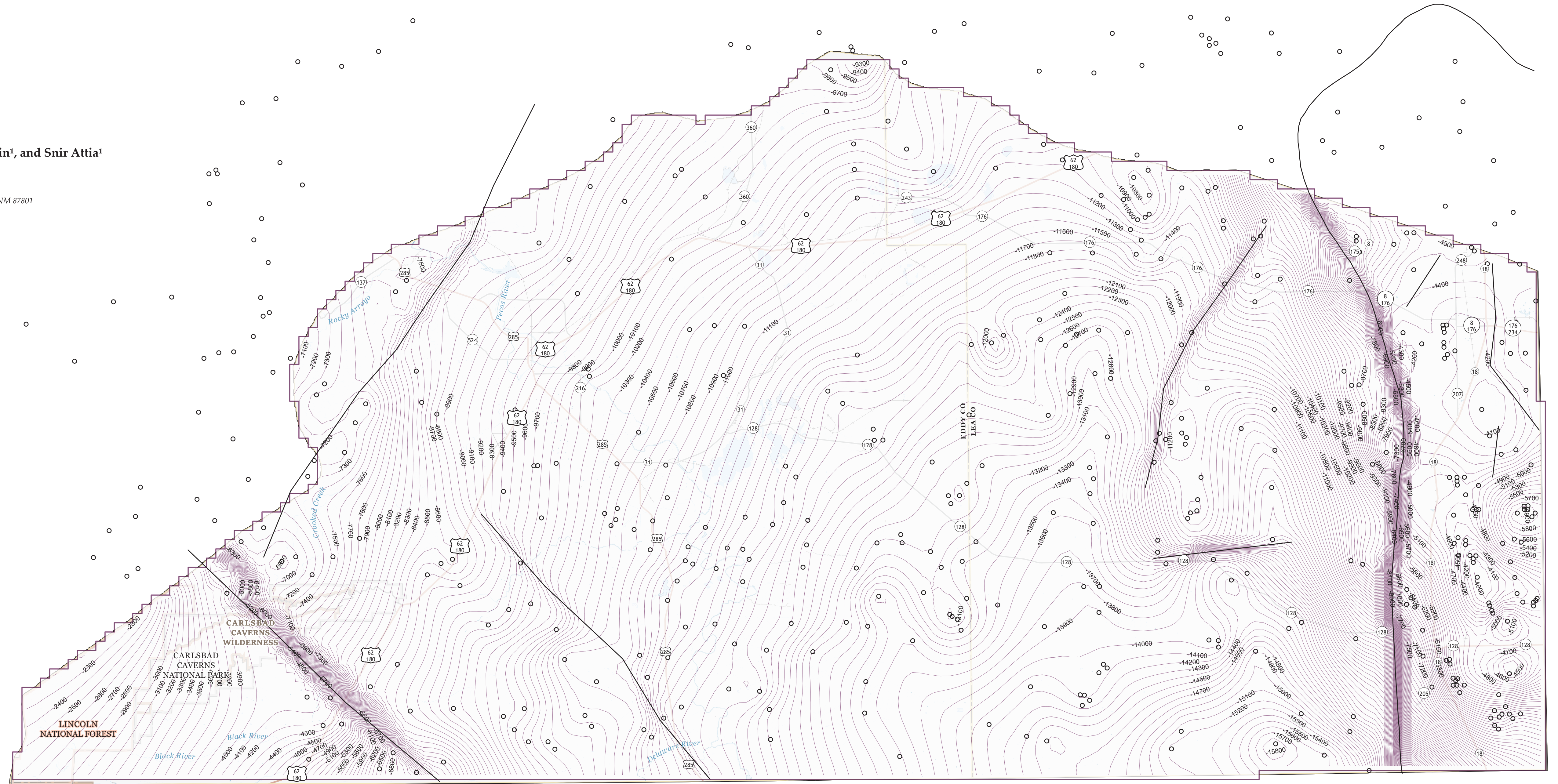
September 2024

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Magnetic Declination  
September 2024  
6° 20' East  
At Map Center

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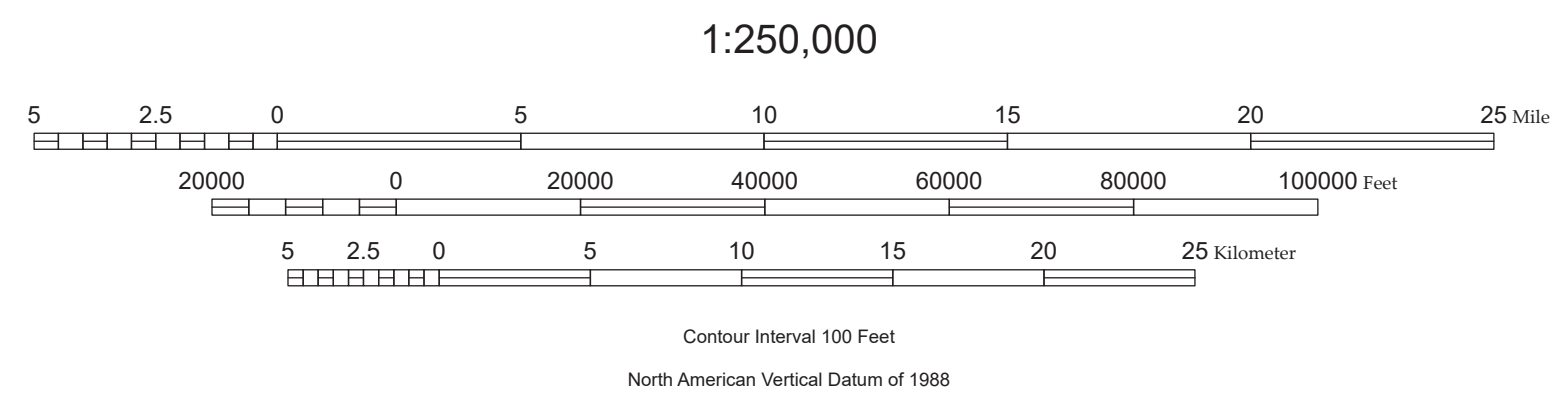
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Montoya Surface

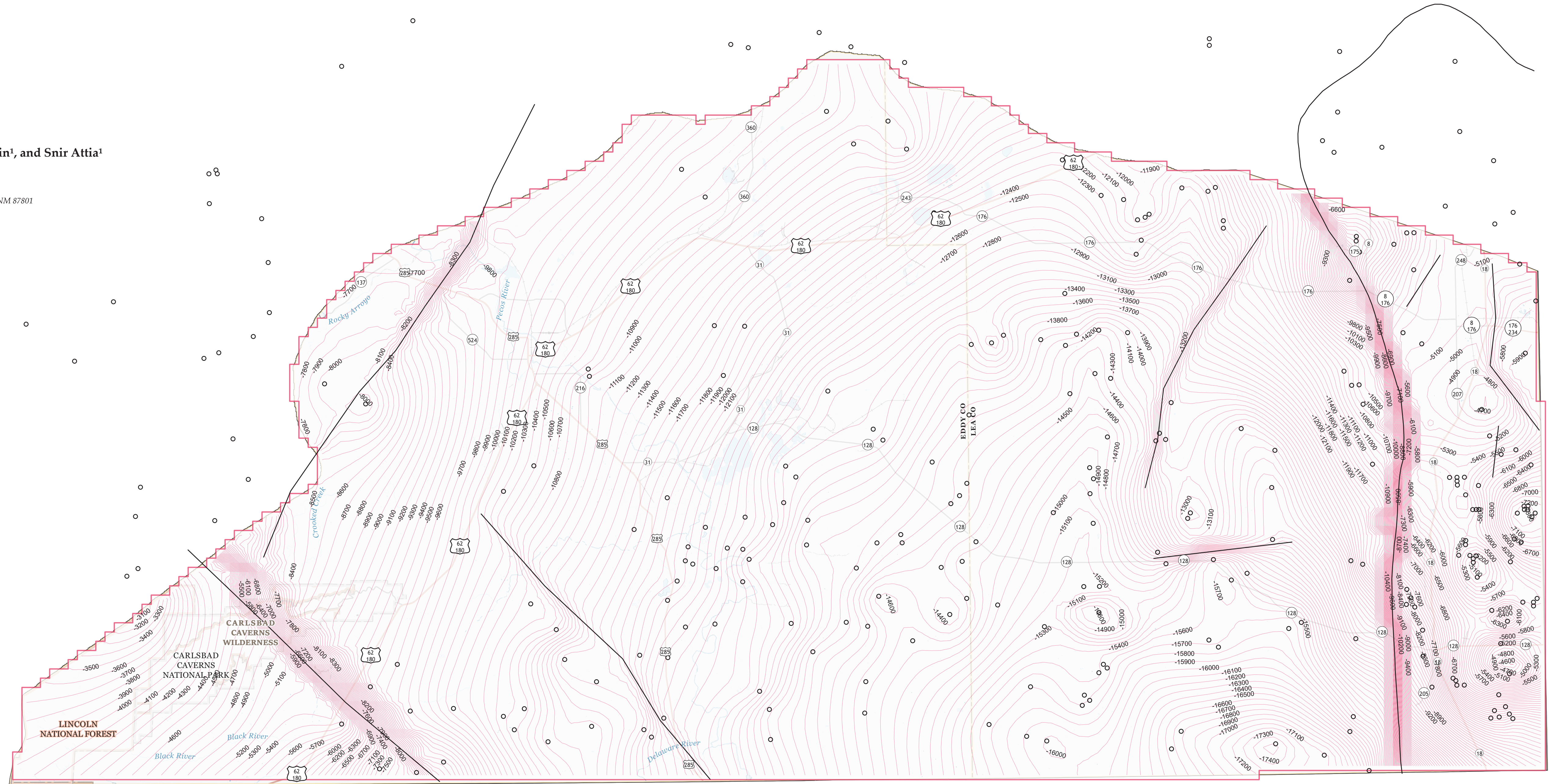
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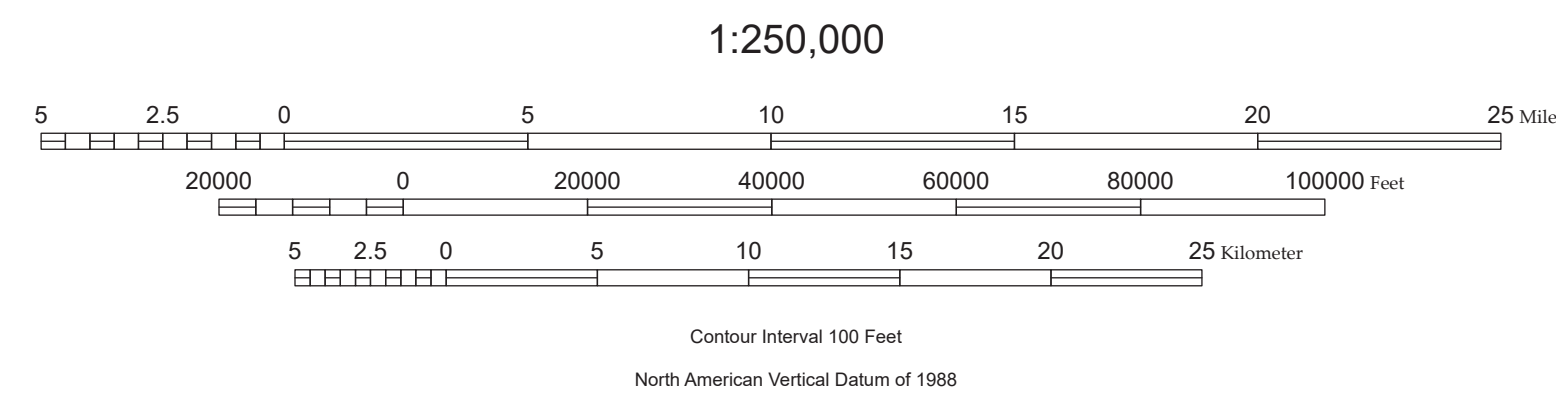
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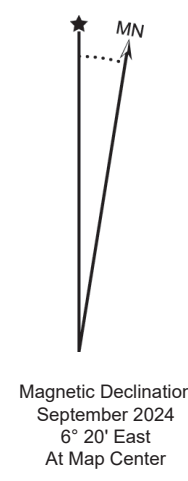
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## Simpson Surface

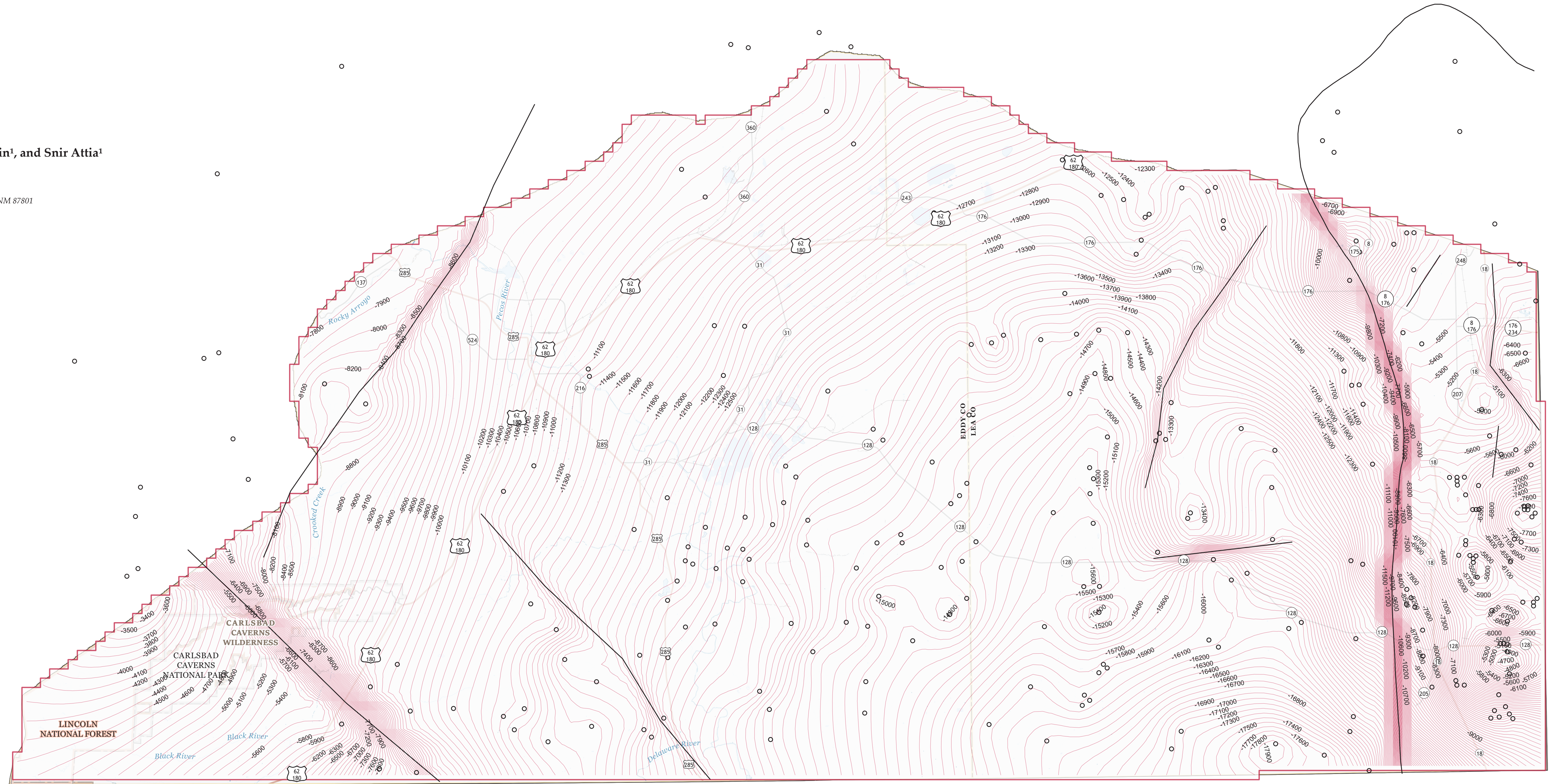
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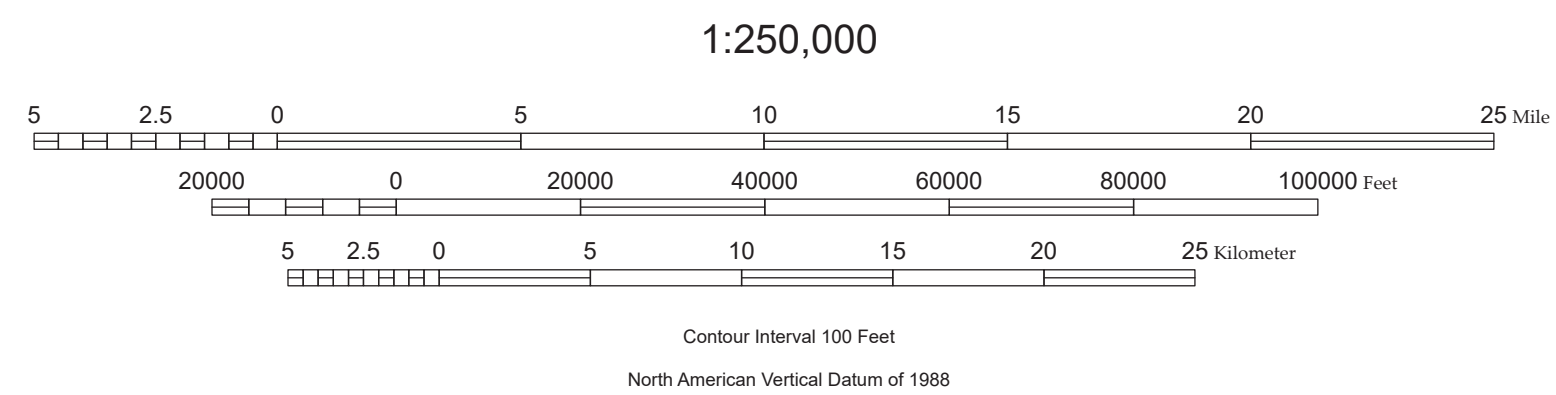
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# 3D Geologic Framework of the Delaware Basin, Eddy and Lea Counties, New Mexico

Ellenburger Surface

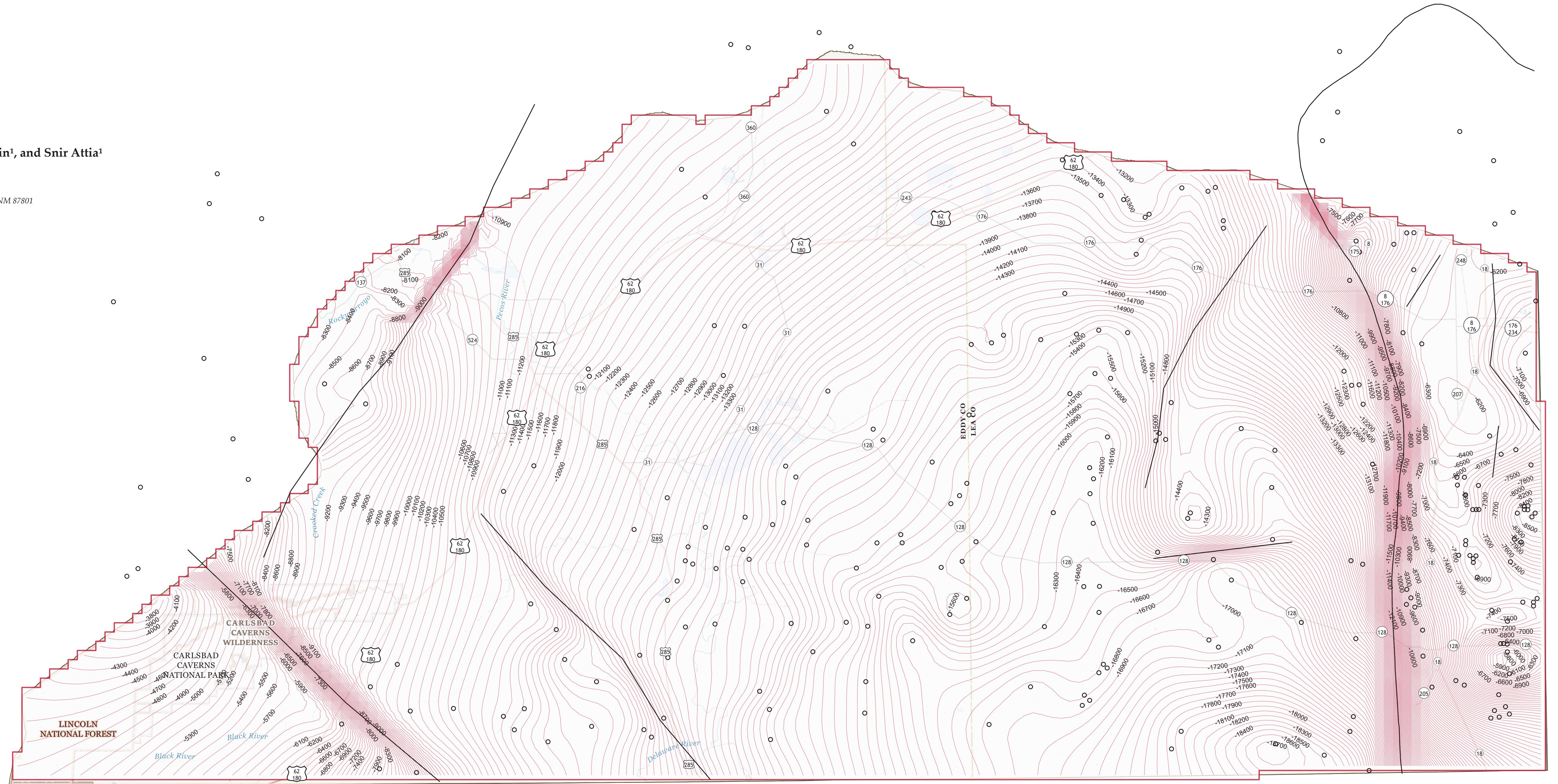
September 2024

by  
Dan Lavery<sup>1</sup>, Martin Reyes Correa<sup>1</sup>, Alyssa Baca<sup>1</sup>, Luke Martin<sup>1</sup>, and Snir Attia<sup>1</sup>

<sup>1</sup>New Mexico Bureau of Geology and Mineral Resources, 801 Leroy Pl., Socorro, NM 87801



Base map from U.S. Geological Survey 2021, North American Datum of 1983 (NAD83)  
Universal Transverse Mercator, Zone 13S  
Roads: U.S. Census Bureau, 2015–2016  
Names: U.S. Census Bureau, GNIS, 2018  
Hydrography: National Hydrography Dataset, 2019  
Contours: JRSAR 4.5-m Digital Terrain Model, 2008  
Wetlands: FWS National Wetlands Inventory 1977–2018



### Project Area Location

New Mexico Bureau of Geology and Mineral Resources  
New Mexico Tech  
801 Leroy Place  
Socorro, New Mexico  
87801-4796

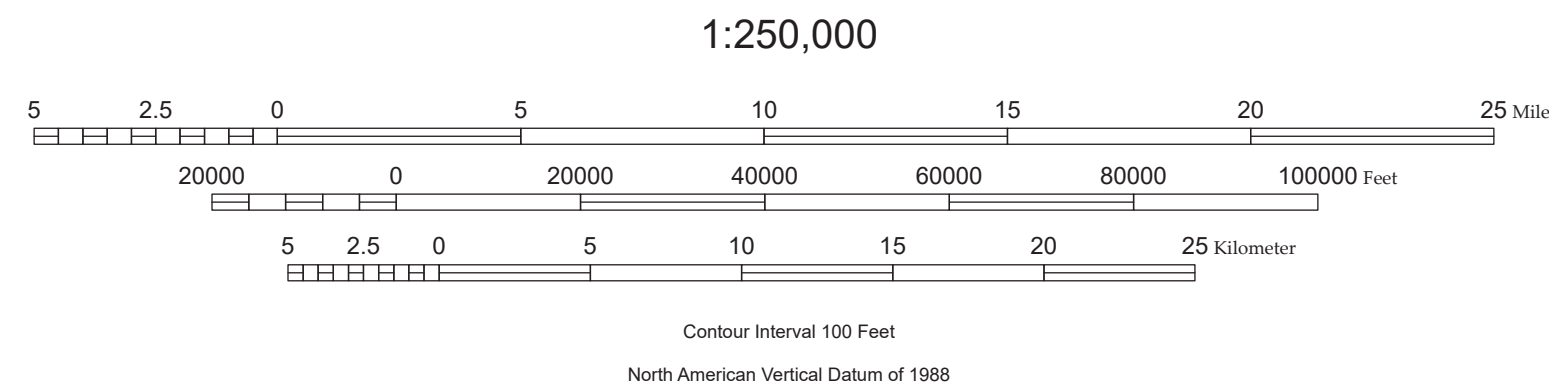
[575] 835-5490

This and other STATEMAP quadrangles are available for free download in both PDF and ArcGIS formats at:

<https://geoinfo.nmt.edu>  
<https://doi.org/10.58799/OF-GM-318>



Digital layout and cartography by the NMBGMR Map Production Group:  
Phil L. Miller, Amy L. Dunn, Ann D. Knight, Tyler Askin, and Hannah N. Hunt



### New Mexico Bureau of Geology and Mineral Resources Open-File Geologic Map 318

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under STATEMAP award number G22AC00601, 2022. Additional support was made possible by the 2023 Technology Enhancement Fund provided by the New Mexico Higher Education Department. Funding is administered by the New Mexico Bureau of Geology and Mineral Resources (Dr. Nella W. Dunbar, *Director and State Geologist* (2023); Dr. J. Michael Timmons, *Director and State Geologist* (2024); Dr. Matthew J. Zimmerer, *Geologic Mapping Program Manager*).

### Explanation of Map Symbols

- Fault
- Surface Contour
- Surface Extent
- Well

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## Basement Surface

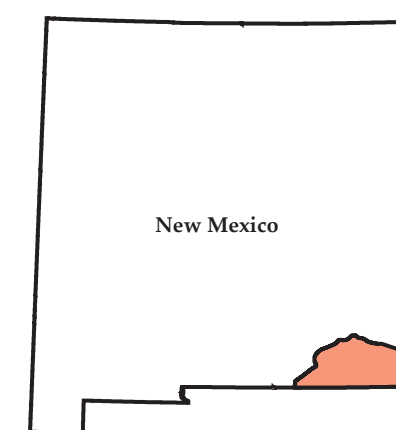
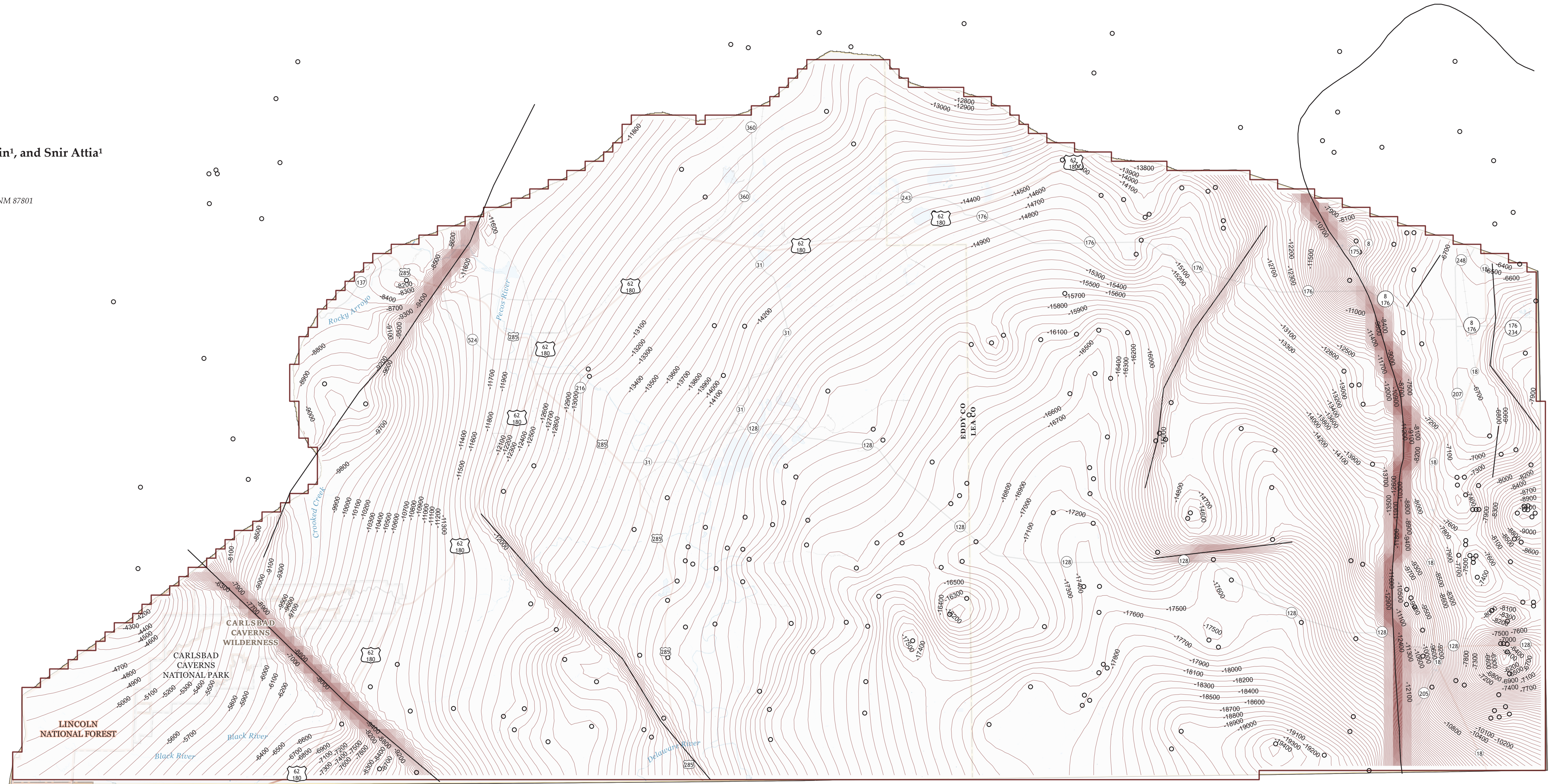
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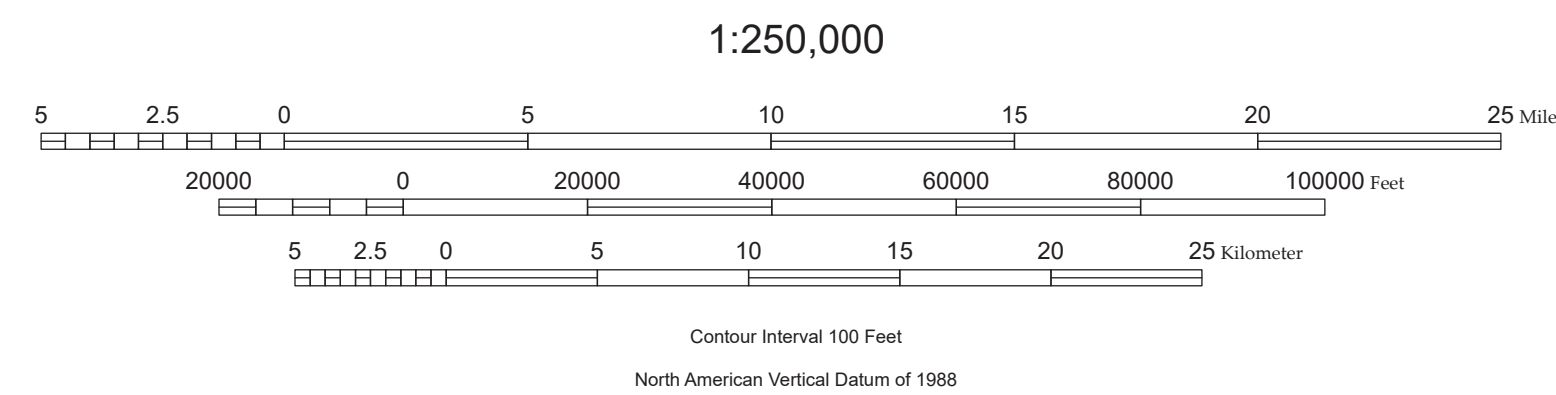
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