



# Fault Area Determination

## *Lewis & Clark Station*

Prepared for  
Montana-Dakota Utilities Co.

October 2018

Fault Area Determination  
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## Certifications

I hereby certify that this Fault Area Determination report for the Lewis & Clark Station meets the requirements of the Coal Combustion Residuals Rule 40 CFR 257 Subpart D, and the requirements of 40 CFR §257.62.



A handwritten signature in cursive script that reads "Paul T. Swenson".

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Paul T. Swenson  
Barr Engineering Co.  
MT Registration Number 12805PE

Dated this 15<sup>th</sup> day of October 2018

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## 1.0 Introduction

Montana-Dakota Utilities Co. (MDU) operates the Lewis & Clark Station (Lewis & Clark), a coal-fired steam-electric generating plant, near Sidney, Montana, to produce electrical energy. Coal combustion residuals (CCR) is a by-product of plant operation. Management of CCR produced by electric utilities is subject to the requirements of 40 CFR 257 Subpart D, Disposal of Coal Combustion Residuals From Electric Utilities (CCR Rule).

The Scrubber Ponds, a single, multi-unit CCR unit, at Lewis & Clark is an existing CCR surface impoundment (40 CFR §257.53) that receives sluiced flue-gas desulfurization sludge and fly ash material. This CCR fault area determination report has been developed to satisfy the requirements of 40 CFR §257.62 as they apply to the Scrubber Ponds.

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## 2.0 Demonstration

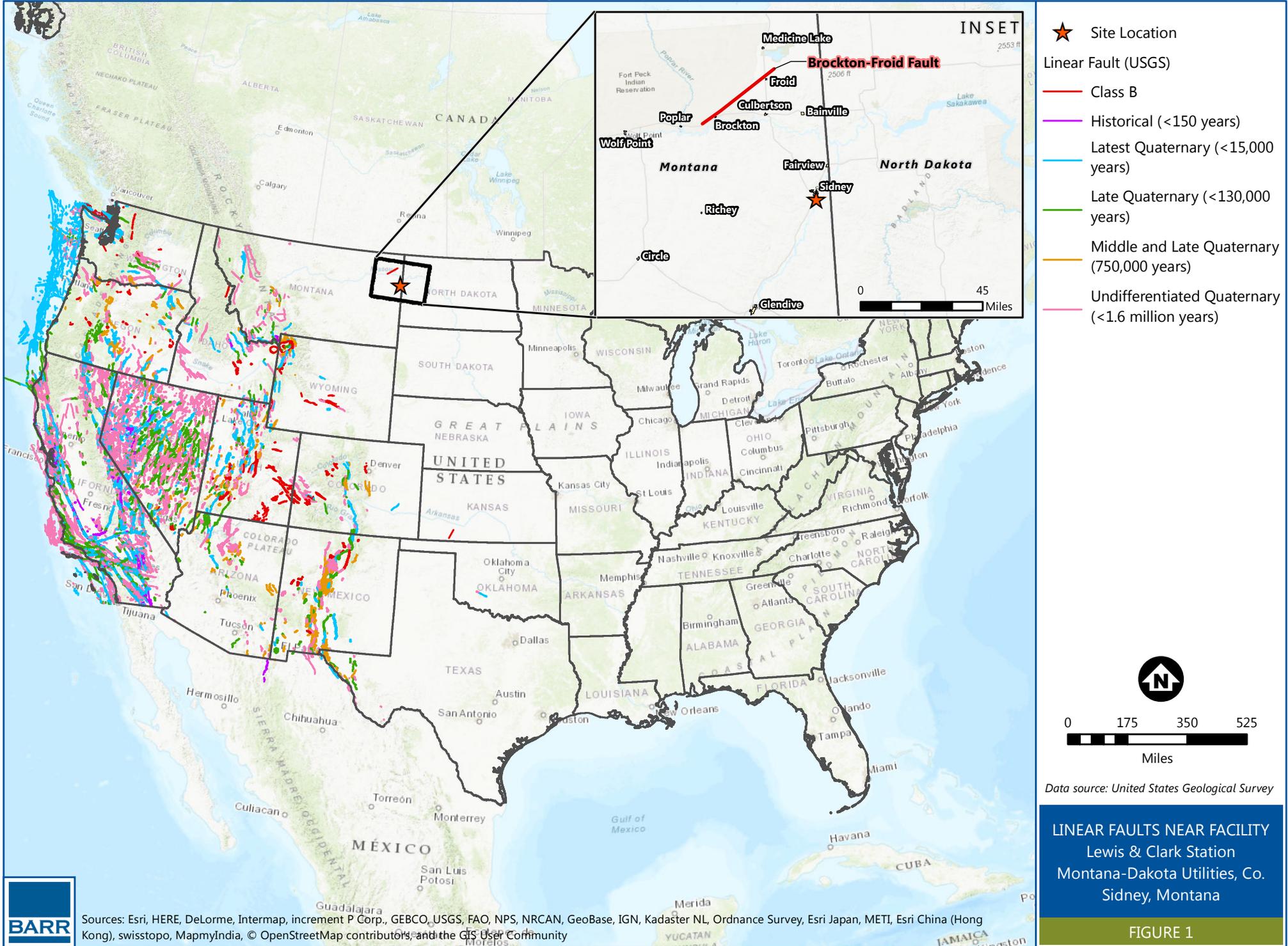
As required by 40 CFR §257.62, existing CCR surface impoundments cannot be located within 200 feet of a fault that has had displacement in Holocene time. The area surrounding the Site was analyzed using the Quaternary Fault and Fold Database for the United States from the U.S. Geological Survey (Database). The Database contains information on faults and associated folds in the United States that demonstrate geological evidence of surface deformation in large earthquakes during the Quaternary Period (last 2.6 million years to the present).

The Brockton-Froid fault zone (Figure 1), located in Roosevelt County, Montana, 45 miles northwest of Lewis & Clark, was identified as the only fault in eastern Montana (Wheeler, 1999). Based on the results of the USGS Database analysis, the location of the existing CCR surface impoundment conforms to the location restriction of §257.62.

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## 3.0 References

- Wheeler, R.L., compiler, 1999. Fault number 707, Brockton-Froid fault zone, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, [https://earthquake.usgs.gov/cfusion/qfault/show\\_report\\_AB\\_archive.cfm?fault\\_id=707&section\\_id=](https://earthquake.usgs.gov/cfusion/qfault/show_report_AB_archive.cfm?fault_id=707&section_id=). Accessed September 11, 2018.
- USGS, U.S. Quaternary Faults and Folds Database, Interactive Fault Mapper, United States Geological Survey. <https://usgs.maps.arcgis.com/apps/webappviewer/> . Accessed September 11, 2018.



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Data source: United States Geological Survey