
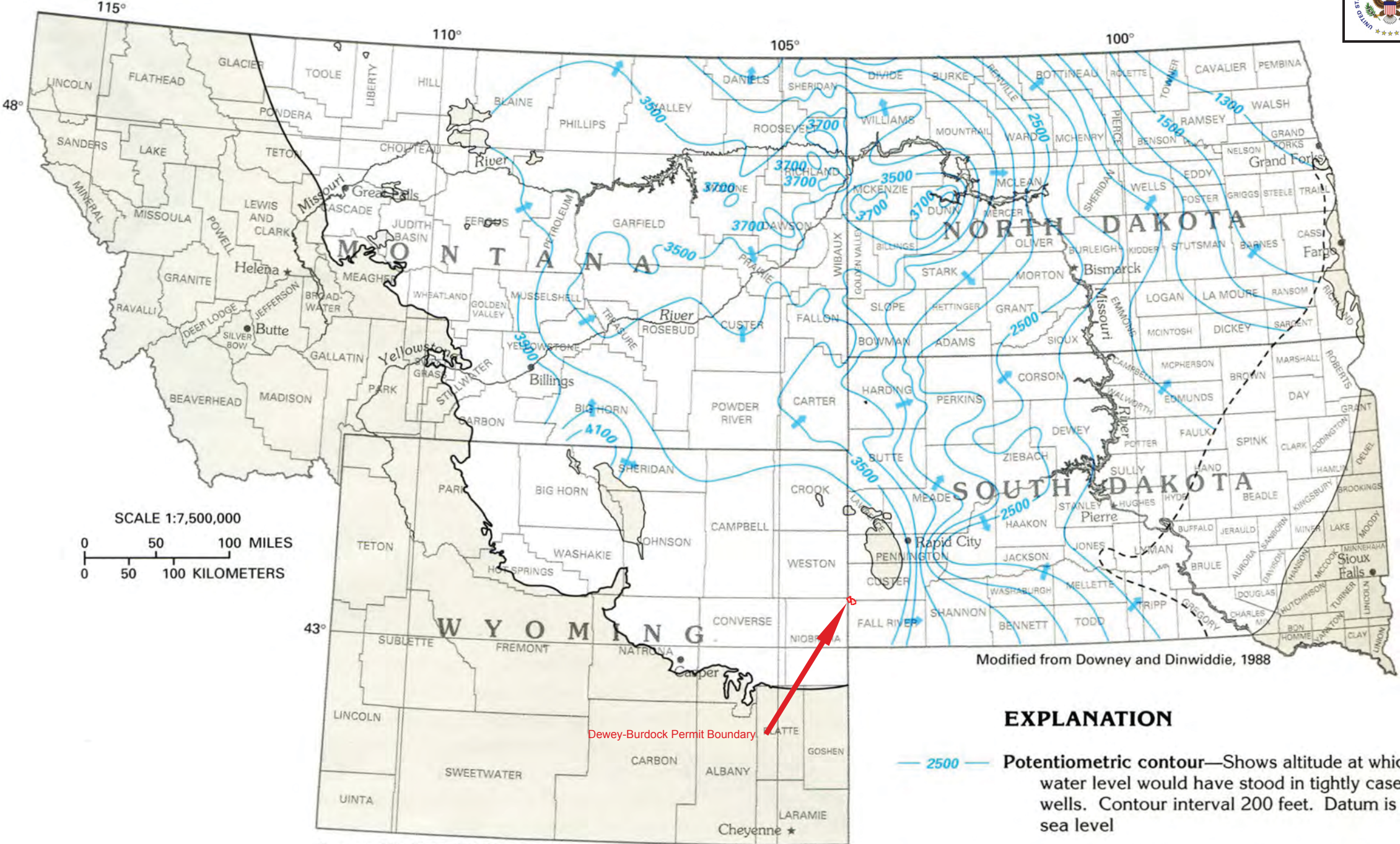





United States Nuclear Regulatory Commission Official Hearing Exhibit			
POWERTECH USA, INC. (Dewey-Burdock In Situ Uranium Recovery Facility)			
	ASLBP #:	10-898-02-MLA-BD01	Identified: 8/19/2014 Withdrawn: Stricken:
	Docket #:	04009075	
	Exhibit #:	APP-016-T-00-BD01	
	Admitted:	8/19/2014	
	Rejected:		
Other:			




Modified from Downey and Dinwiddie, 1988

EXPLANATION

-  **Potentiometric contour**—Shows altitude at which water level would have stood in tightly cased wells. Contour interval 200 feet. Datum is sea level
-  **Limit of lower Paleozoic aquifers**—Dashed where approximately located
-  **Direction of ground-water movement**

Base modified from U.S. Geological Survey digital data, 1:2,000,000, 1972


From:
Ground Water Atlas of the United States,
Segment 8 MT, SD, ND & WY,
Hydrologic Investigations Atlas 730-I USGS
(by Whitehead, 1996)



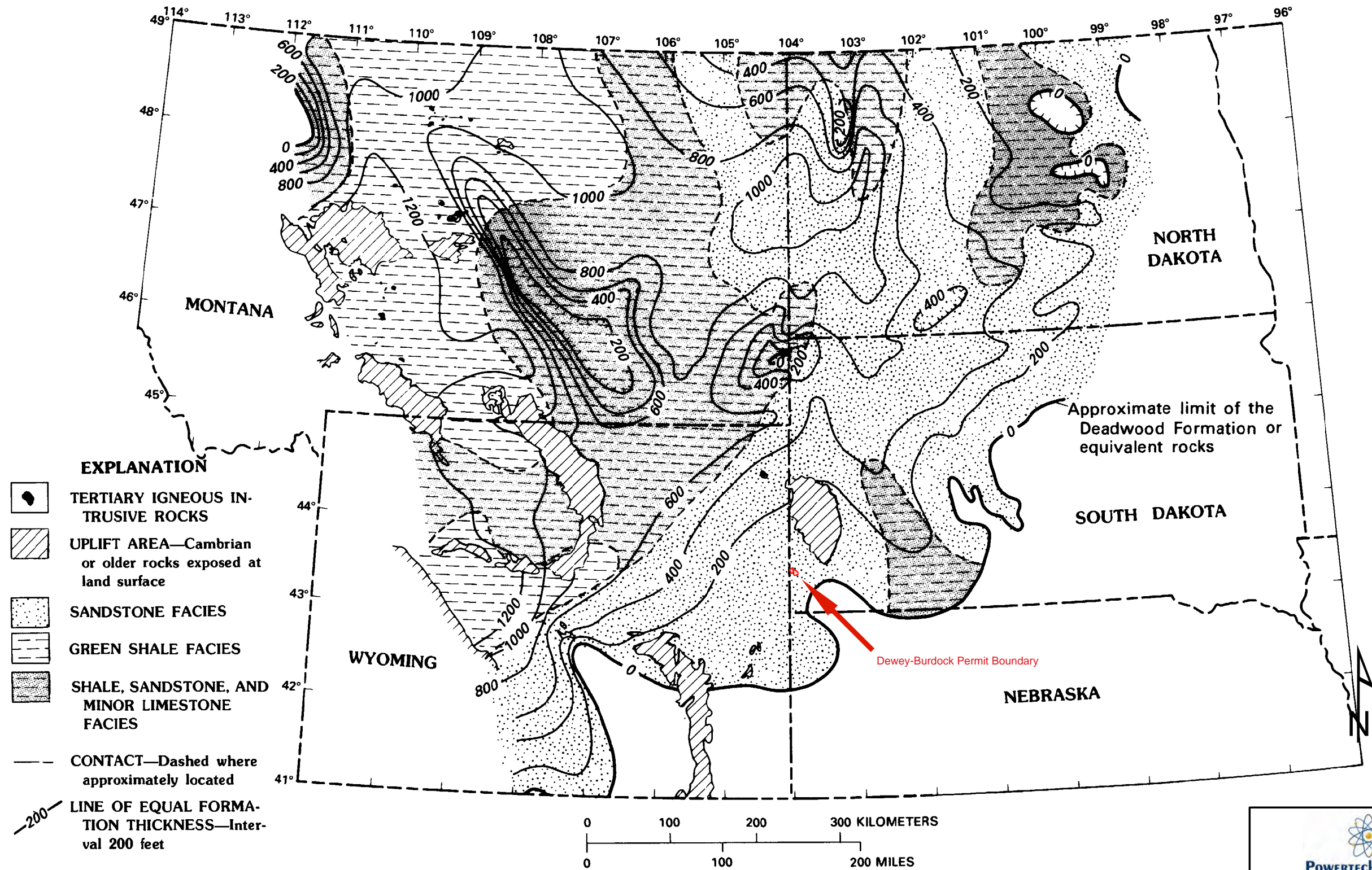
PowerTech (USA) Inc.

Figure D-4
Regional Groundwater Flow in Lower Paleozoic
Aquifer System, Powder River and Williston Basins
2010 Dewey-Burdock Class V Permit

Scale: See Bar Scale	Date: March 2010
2010_DB_Class_V_Fig_D-04.ai	By: JLM Checked: HD



10288 West Chatfield Ave., Suite 201
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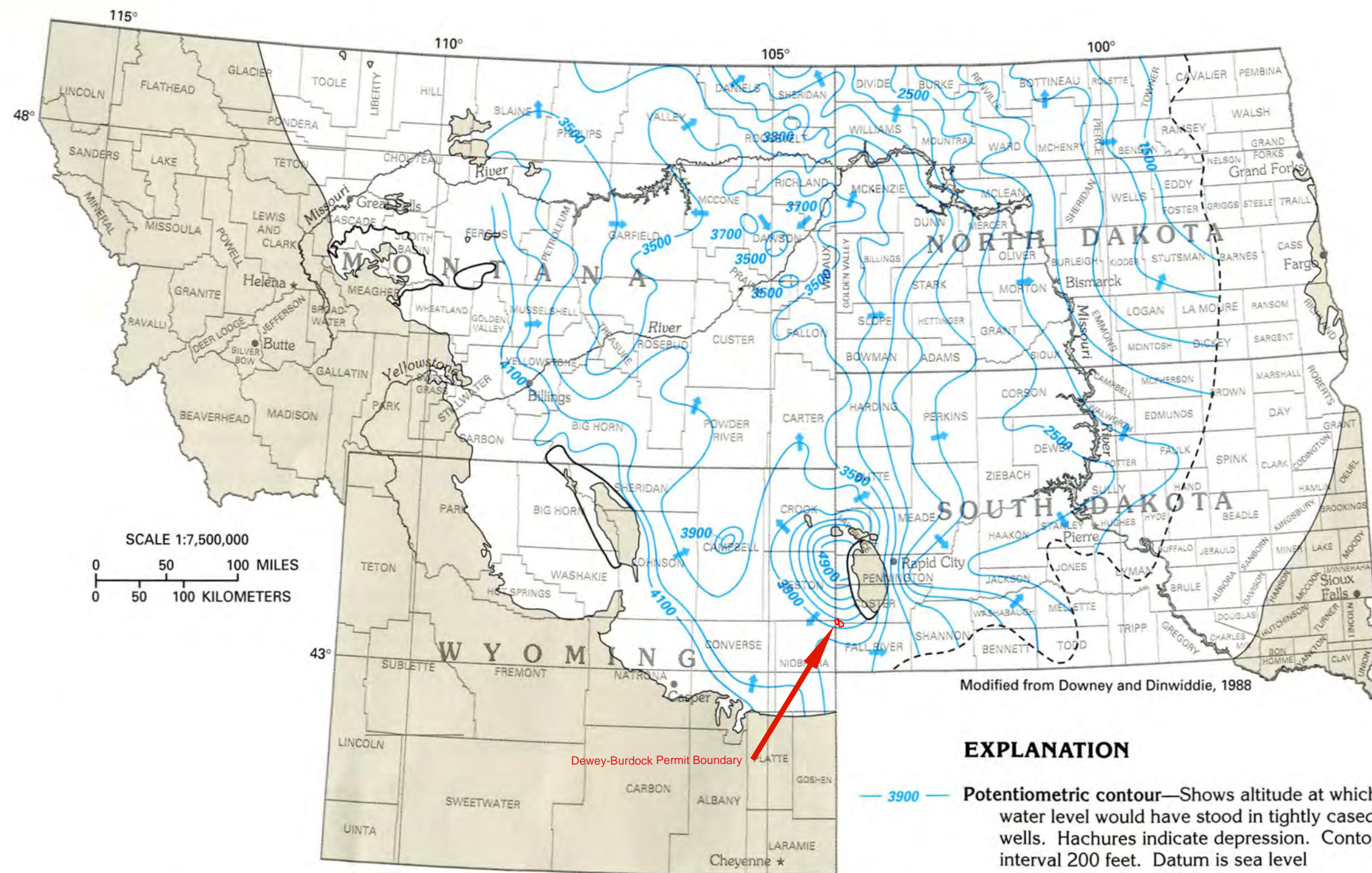


POWERTECH (USA) INC.

Figure D-5
Isopach Map,
Deadwood Formation
2010 Dewey-Burdock Class V Permit

Scale: See Bar Scale	Date: March 2010
2010_DB_Class_V_Fig_D-05.ai	By: JLM Checked: HD

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Modified from Downey and Dinwiddie, 1988

EXPLANATION

- 3900 — Potentiometric contour—Shows altitude at which water level would have stood in tightly cased wells. Hachures indicate depression. Contour interval 200 feet. Datum is sea level
- Limit of upper Paleozoic aquifers—Dashed where approximately located
- ➔ Direction of ground-water movement

Base modified from U.S. Geological Survey digital data, 1:2,000,000, 1972

From:
Ground Water Atlas of the United States,
Segment 8 MT, SD, ND & WY,
Hydrologic Investigations Atlas 730-I USGS
(by Whitehead, 1996)



POWERTECH (USA) INC.

Figure D-6

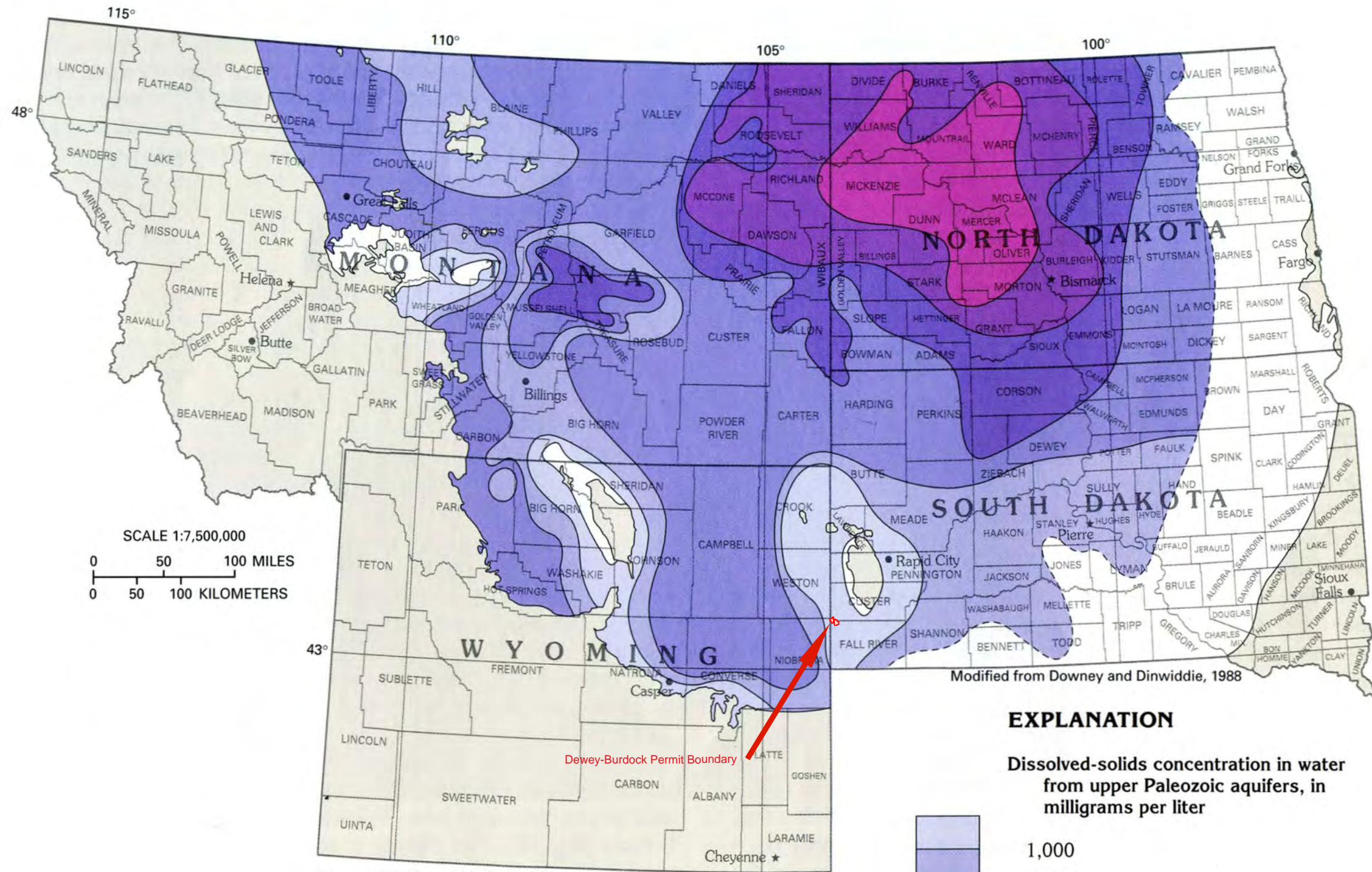
Regional Groundwater Flow Pattern in Upper Paleozoic
Aquifer System, Powder River and Williston Basins

2010 Dewey-Burdock Class V Permit

Scale: See Bar Scale	Date: March 2010
2010_DB_Class_V_Fig_D-06.ai	By: JLM Checked: HD

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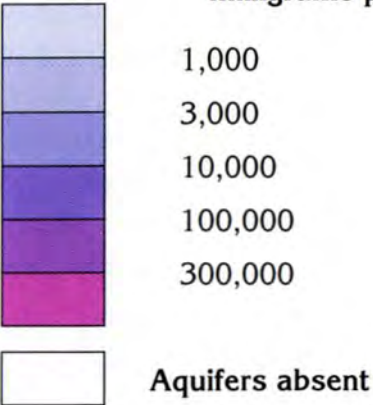
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Base modified from U.S. Geological Survey digital data, 1:2,000,000, 1972

EXPLANATION

Dissolved-solids concentration in water from upper Paleozoic aquifers, in milligrams per liter



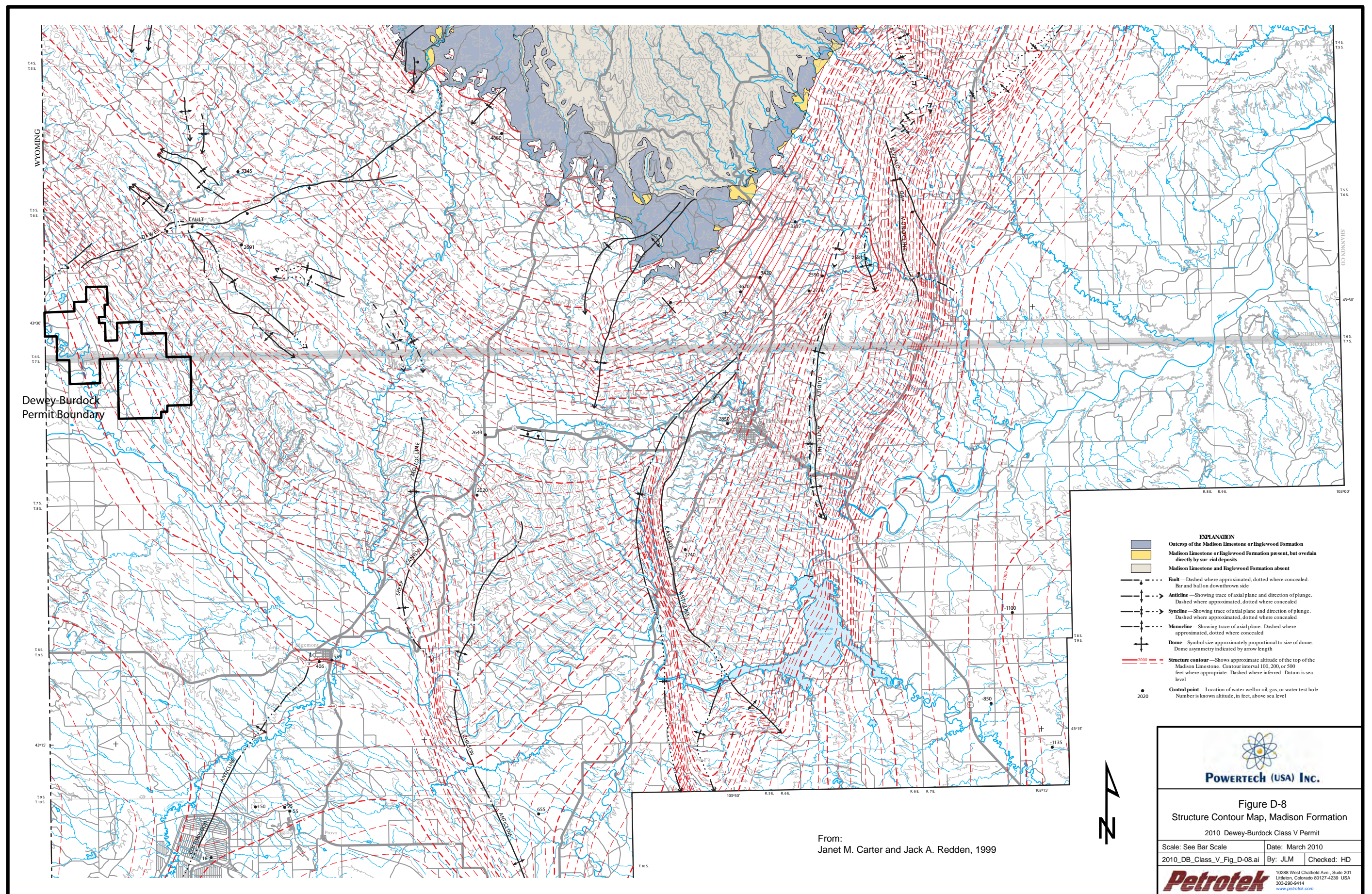
From:
Ground Water Atlas of the United States,
Segment 8 MT, SD, ND & WY,
Hydrologic Investigations Atlas 730-I USGS
(by Whitehead, 1996)

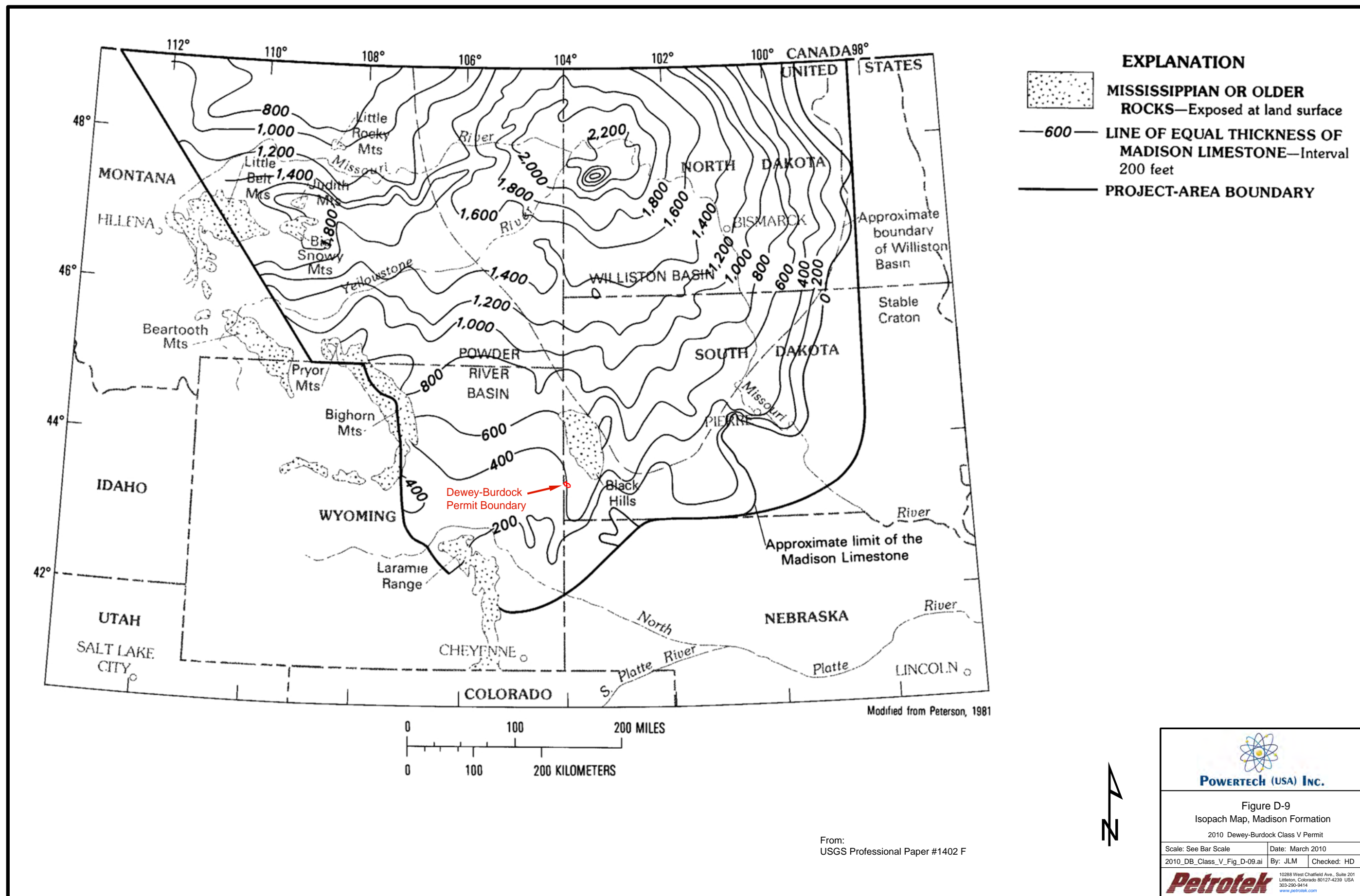
PowerTech (USA) Inc.

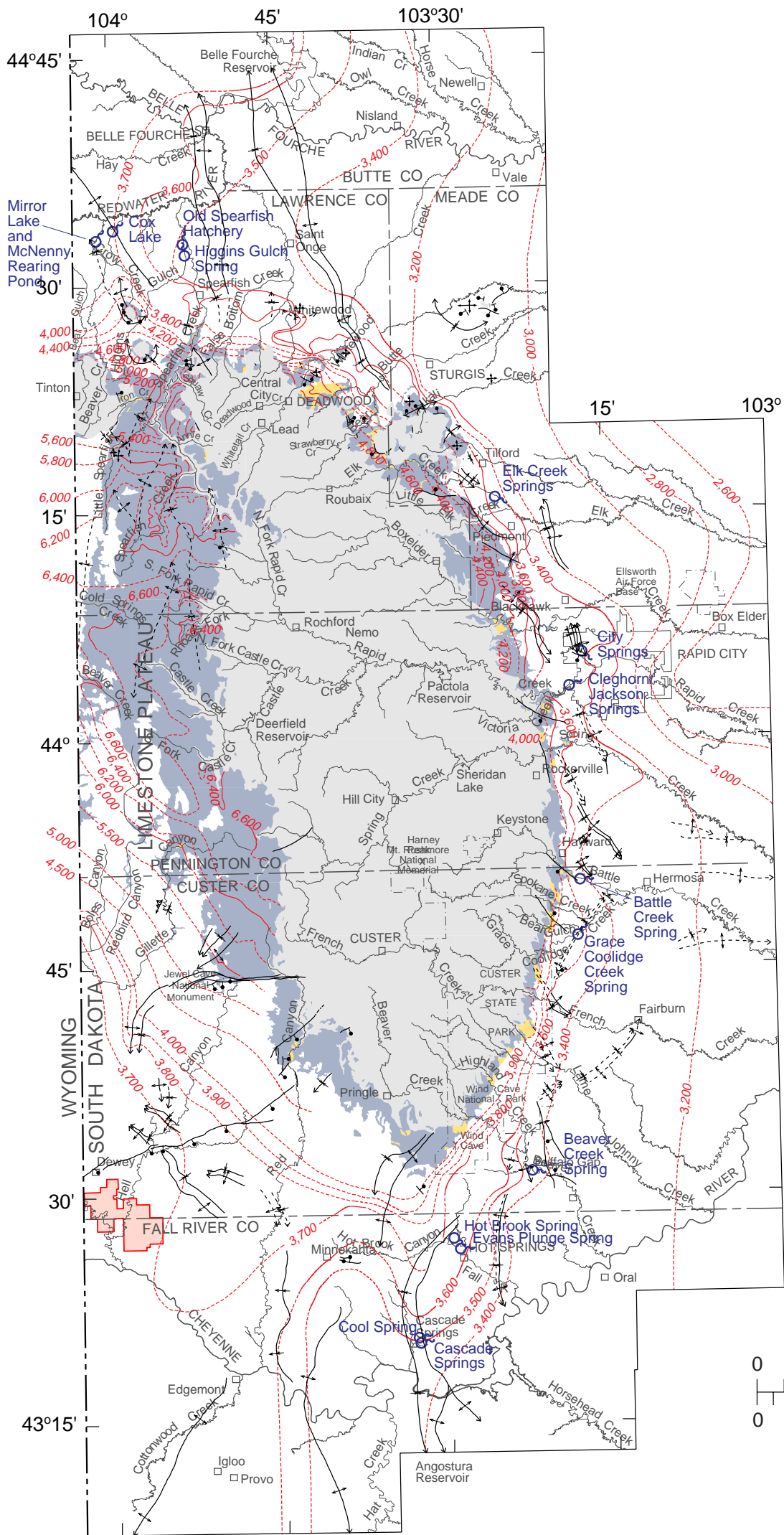
Figure D-7
Dissolved Solids Concentrations in Upper Paleozoic
Aquifer System, Powder River and Williston Basins
2010 Dewey-Burdock Class V Permit

Scale: See Bar Scale	Date: March 2010
2010_DB_Class_V_Fig_D-07.ai	By: JLM Checked: HD

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Base modified from U.S. Geological Survey digital data, 1:100,000, 1977, 1979, 1981, 1983, 1985
Rapid City, Office of City Engineer map, 1:18,000, 1996
Universal Transverse Mercator projection, zone 13

Legend

Dewey-Burdock Permit Boundary

- EXPLANATION**
- OUTCROP OF MADISON LIMESTONE (from Strobel and others, 1999)
 - MADISON LIMESTONE PRESENT, BUT OVERLAIN BY SURFICIAL DEPOSITS (from Carter and Redden, 1999d)
 - MADISON LIMESTONE ABSENT (from Carter and Redden, 1999d)
 - POTENTIOMETRIC CONTOUR-- Shows altitude at which water would have stood in tightly cased, nonpumping wells (modified from Strobel and others, 2000a). Contour interval 100, 200, or 500 feet, where appropriate. Dashed where inferred. Datum is sea level
 - FAULT--Dashed where approximated. Bar and ball on down-thrown side
 - ANTICLINE--Showing trace of axial plane and direction of plunge. Dashed where approximated
 - SYNCLINE--Showing trace of axial plane and direction of plunge. Dashed where approximated
 - MONOCLINE--Showing trace of axial plane. Dashed where approximated
 - DOMES--Symbol size approximately proportional to size of dome. Dome asymmetry indicated by arrow length
 - ARTESIAN SPRING



Figure D-10
Potentiometric Surface of the Madison Formation and Locations of Major Artesian Springs
2010 Dewey-Burdock Class V Permit

Scale: See Bar Scale	Date: March 2010
2010_DB_Class_V_Fig_D-10.ai	By: JLM Checked: HD
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From:
Water-Resources Investigations Report 02-4094
(modified by Driscoll et al., 2002)