Appendix E

Potentiometric Surfaces in the Black Hills Area

POWERTECH (USA) INC.

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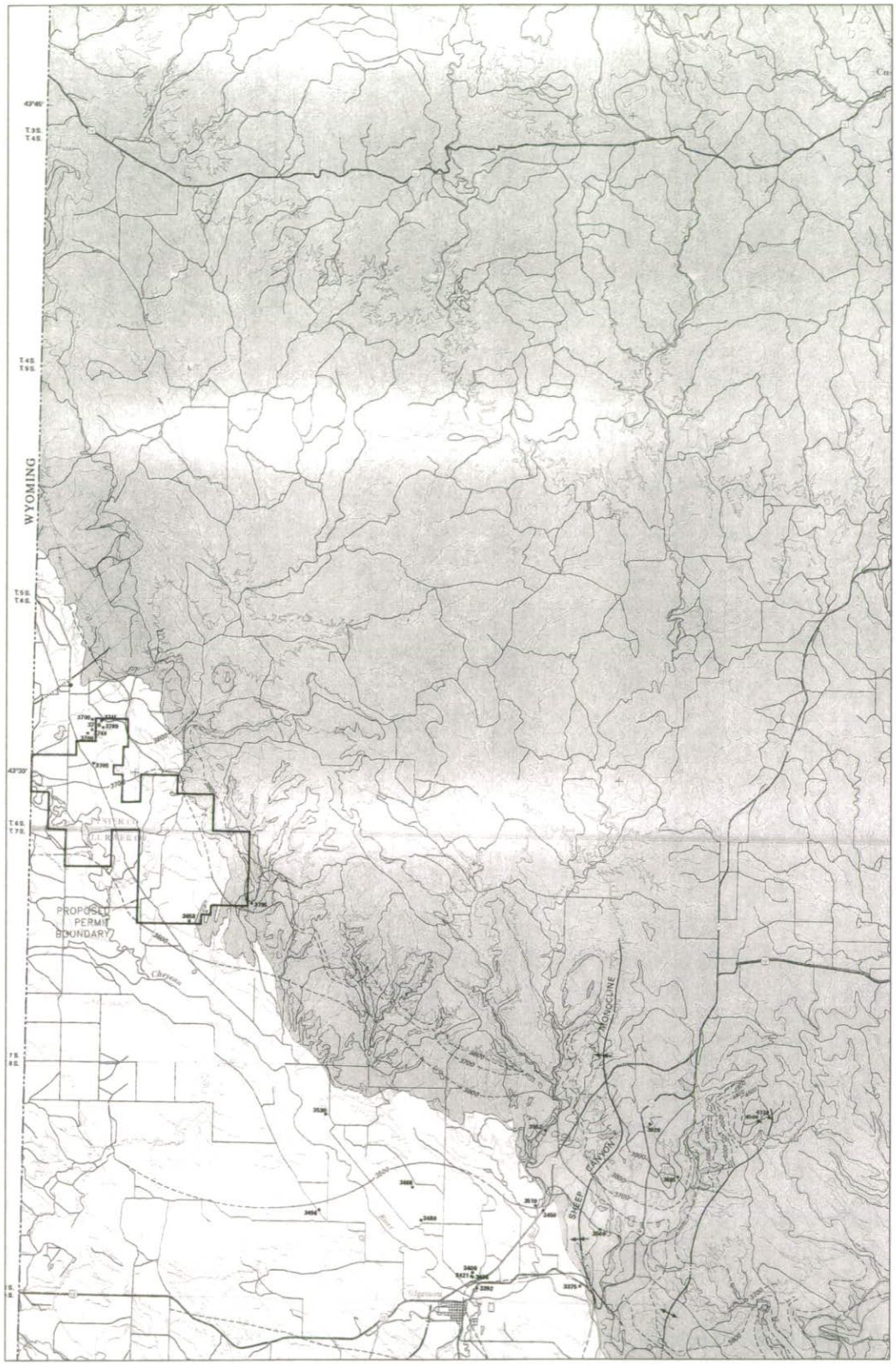
MINERALS & MINING PROGRAM

APPENDIX E
POTENTIOMETRIC SURFACES IN THE BLACK HILLS AREA



15,000 0 15,000 30,000 FEET

EXPLANATION

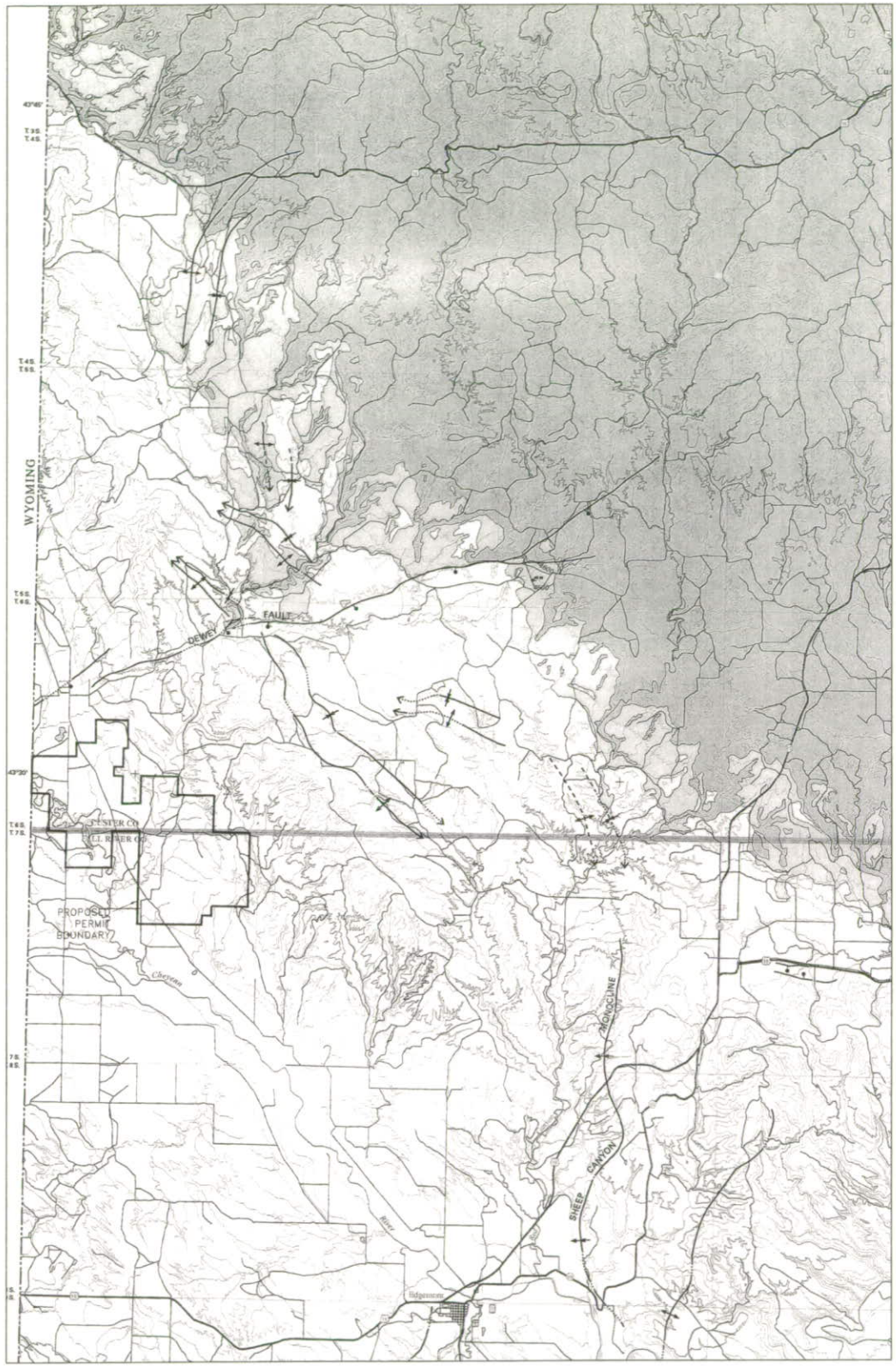
- **Outcrop of the Inyan Kara Group**
- **Inyan Kara Group present, but overlain directly by surficial deposits**
- **Inyan Kara Group absent**
- **Fault**—Dashed where approximated, dotted where concealed. Bar and ball on downthrown side
- **Anticline**—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed
- **Syncline**—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed
- **Monocline**—Showing trace of axial plane. Dashed where approximated, dotted where concealed
- **Dome**—Symbol size approximately proportional to size of dome. Dome asymmetry indicated by arrow length
- **Potentiometric contour**—Shows altitude at which water would have stood in tightly cased, nonpumping wells. Contour interval 100 feet. Dashed where inferred. Datum is sea level
- **Well**—Number is mean hydraulic head of the well, in feet above sea level. "R" indicates continuous recording wells
- **Spring originating from Inyan Kara aquifer**—Number is altitude of the spring, in feet above sea level

POTENTIOMETRIC SURFACE OF THE INYA KARA AQUIFER

POWERTECH (USA) INC.

DRAWN	L. Tafoya	PROJECT	Dewey-Burdock Project
CHECKED		COORDS	
SCALE	NOT TO SCALE	FILENAME	PLATE_C-1.dwg

DATE	13-Nov-2008
PLOT DATE	13-Nov-2008
REF	



N

15,000 0 15,000 30,000 FEET

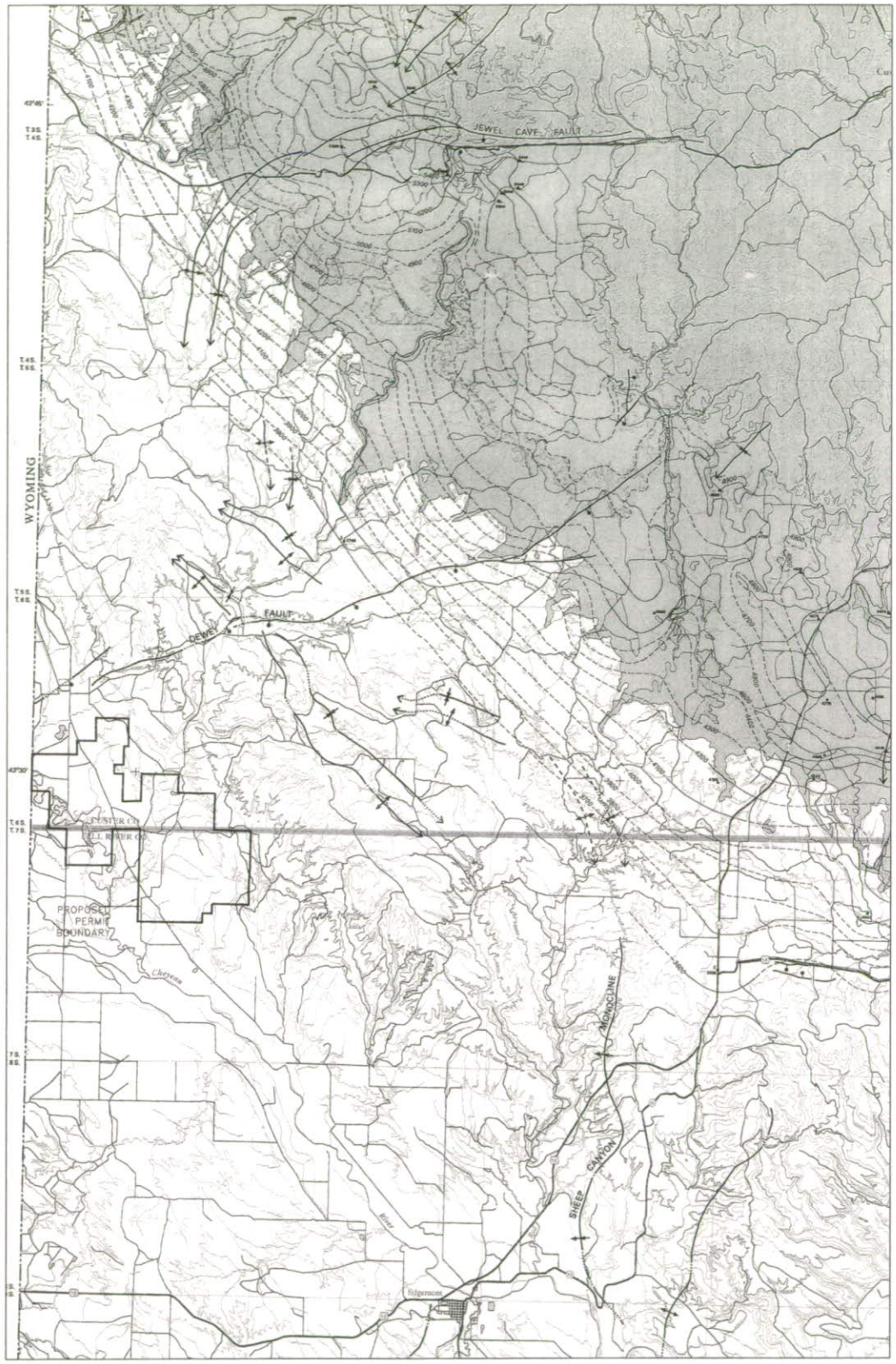
EXPLANATION

- Outcrop of the Minnekahta Limestone
- Minnekahta Limestone present, but overlain directly by surficial deposits
- Minnekahta Limestone absent
- **Fault**—Dashed where approximated, dotted where concealed. Bar and ball on downthrown side
- **Anticline**—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed
- **Syncline**—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed
- **Monocline**—Showing trace of axial plane. Dashed where approximated, dotted where concealed
- **Dome**—Symbol size approximately proportional to size of dome. Dome asymmetry indicated by arrow length
- 3600 **Potentiometric contour**—Shows altitude at which water would have stood in tightly cased, nonpumping wells. Contour interval 100 feet. Dashed where inferred. Datum is sea level[1]
- **Well**—Number is mean hydraulic head of the well, in feet above sea level. "R" indicates continuous recording wells
- **Spring originating from Minnekahta aquifer**—Number is altitude of the spring, in feet above sea level

POTENTIOMETRIC SURFACE OF THE MINNEKAHTA AQUIFER

POWERTECH (USA) INC.

DRAWN	L. Tafoya	PROJECT	Dewey-Burdock Project	DATE	13-Nov-2008
CHECKED		COORDS		PLOT DATE	13-Nov-2008
SCALE	NOT TO SCALE	FILENAME	PLATE_C-2.dwg	REF	



N

15,000 0 15,000 30,000 FEET

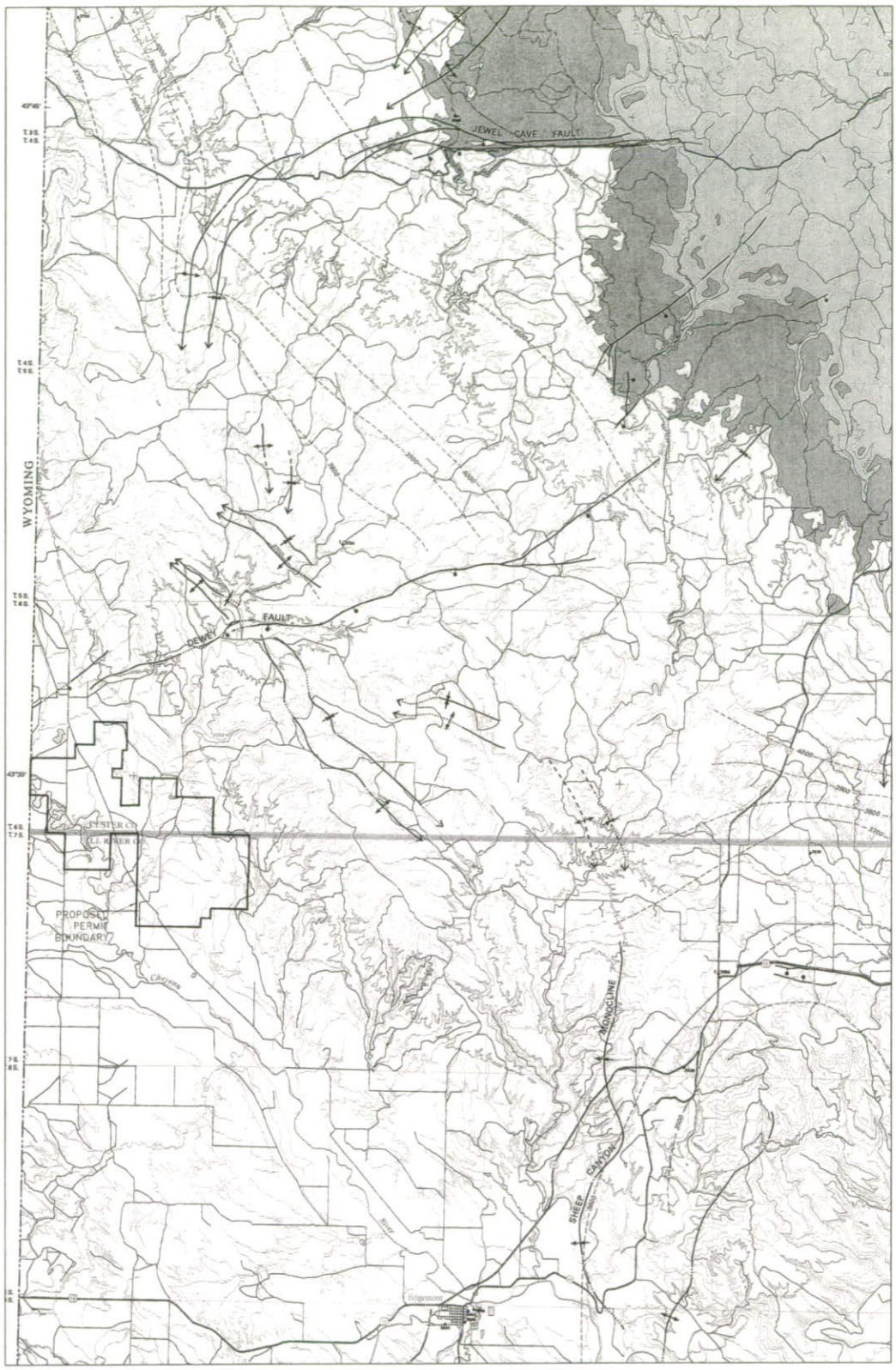
EXPLANATION

- Outcrop of the Minnelusa Formation
- Minnelusa Formation present, but overlain directly by surficial deposits
- Minnelusa Formation absent
- Fault—Dashed where approximated, dotted where concealed. Bar and ball on downthrown side
- Anticline—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed
- Syncline—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed
- Monocline—Showing trace of axial plane. Dashed where approximated, dotted where concealed
- Dome—Symbol size approximately proportional to size of dome. Dome asymmetry indicated by arrow length
- 2600 Potentiometric contour—Shows altitude at which water would have stood in tightly cased, nonpumping wells. Contour interval 100 feet. Dashed where inferred. Datum is sea level
- Well—Number is mean hydraulic head of the well, in feet above sea level. "R" indicates continuous recording wells
- Spring originating from Minnelusa aquifer—Number is altitude of the spring, in feet above sea level

POTENTIOMETRIC SURFACE OF THE MINNELUSA AQUIFER

POWERTECH (USA) INC.

DRAWN	L. Tafoya	PROJECT	Dewey-Burdock Project	DATE	13-Nov-2008
CHECKED		COORDS		PLOT DATE	13-Nov-2008
SCALE	NOT TO SCALE	FILENAME	PLATE_C-3.dwg	REF	



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EXPLANATION

Outcrop of the Madison Limestone or Englewood Formation

Madison Limestone or Englewood Formation present, but overlain directly by surficial deposits

Madison Limestone or Englewood Formation absent

Fault—Dashed where approximated, dotted where concealed. Bar and ball on downthrown side

Anticline—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed

Syncline—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed

Monocline—Showing trace of axial plane. Dashed where approximated, dotted where concealed

Dome Symbol size approximately proportional to size of dome. Dome asymmetry indicated by arrow length

5000 **Potentiometric contour** Shows altitude at which water would have stood in tightly cased, nonpumping wells. Contour interval 100 or 500 feet where appropriate. Dashed where inferred. Datum is sea level

Well—Number is mean hydraulic head of the well, in feet above sea level. "R" indicates continuous recording wells

Spring originating from Madison aquifer Number is altitude of the spring, in feet above sea level

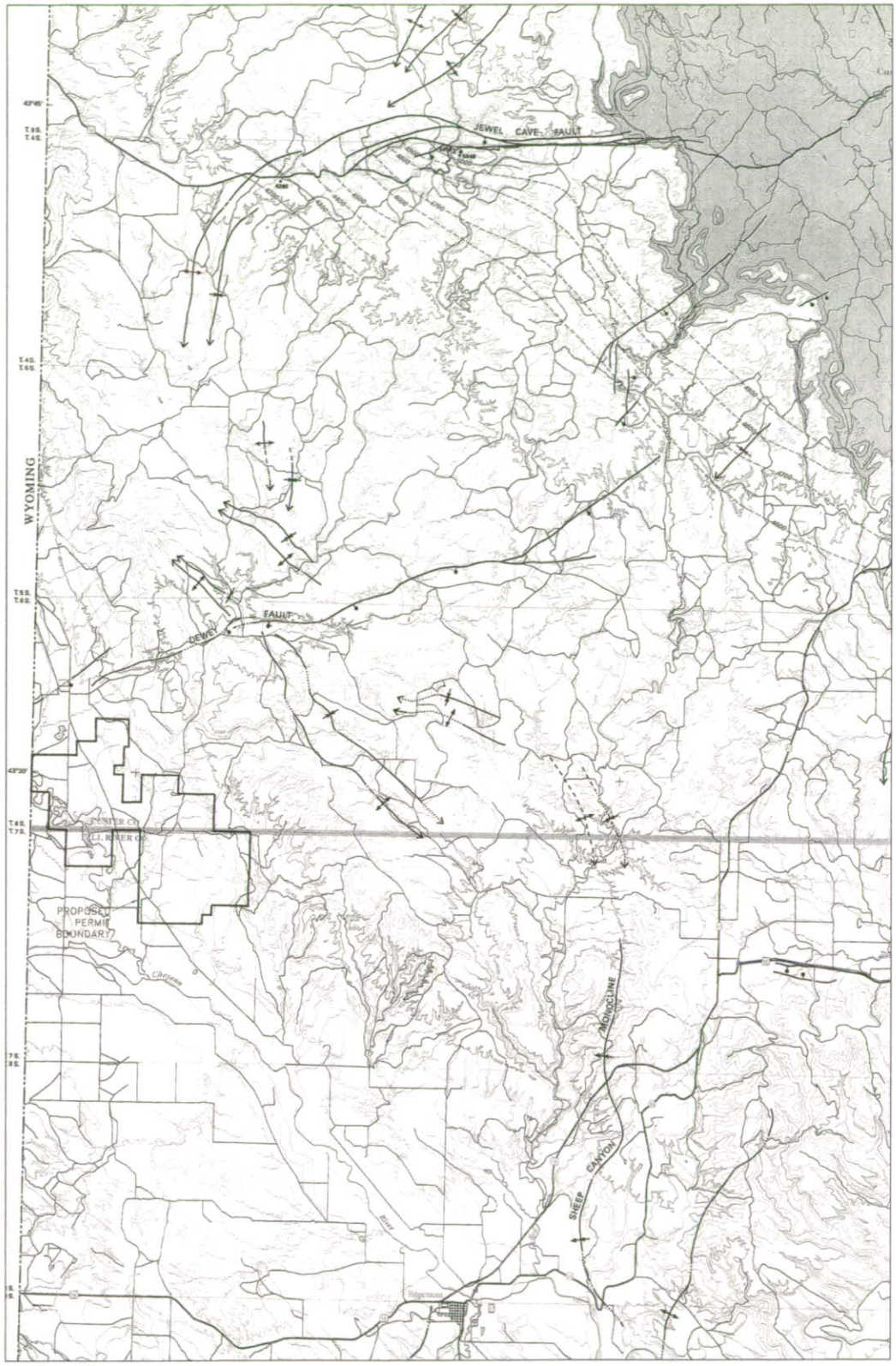
15,000 0 15,000 30,000 FEET

POTENTIOMETRIC SURFACE OF THE MADISON AQUIFER

POWERTECH (USA) INC.

DRAWN	L. Tafoya	PROJECT	Dewey-Burdock Project
CHECKED		COORDS	
SCALE	NOT TO SCALE	FILENAME	PLATE_C-4.dwg

DATE	13-Nov-2008
PLOT DATE	13-Nov-2008
REF	



N

15,000 0 15,000 30,000 FEET

EXPLANATION

Outcrop of the Deadwood Formation

Deadwood Formation present, but overlain directly by surficial deposits

Deadwood Formation absent

Fault—Dashed where approximated, dotted where concealed. Bar and ball on downthrown side

Anticline—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed

Syncline—Showing trace of axial plane and direction of plunge. Dashed where approximated, dotted where concealed

Monocline—Showing trace of axial plane. Dashed where approximated, dotted where concealed

Dome Symbol size approximately proportional to size of dome. Dome asymmetry indicated by arrow length

Potentiometric contour Shows altitude at which water would have stood in tightly cased, nonpumping wells. Contour interval 100 feet. Dashed where inferred. Datum is sea level

Well Number is mean hydraulic head of the well, in feet above sea level. "R" indicates continuous recording wells

Spring originating from Deadwood aquifer—Number is altitude of the spring, in feet above sea level

POTENTIOMETRIC SURFACE OF THE DEADWOOD AQUIFER

POWERTECH (USA) INC.

DRAWN	L. Tafoya	PROJECT	Dewey-Burdock Project
CHECKED		COORDS	
SCALE	NOT TO SCALE	FILENAME	PLATE_C-5.dwg

DATE	13-Nov-2008
PLOT DATE	13-Nov-2008
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