



Map location number	Well / Location	API Number	Coordinates	Elevations	Log Types
61	BREWSTER TERRACE 1-6	49 045 20563	SE NW sec. 6, T. 48 N., R. 67 W., Waukegan County, Wyoming	Kelly bushing elevation: 4,402 ft Ground surface elevation: 4,390 ft	gamma ray, potential, resistivity, and conductivity
62	CARDWELL # F 1	49 011 05555	NE NW sec. 26, T. 50 N., R. 65 W., Lawrence County, South Dakota	Kelly bushing elevation: 4,334 ft Ground surface elevation: 4,329 ft	potential and resistivity
63	WELLS 1 WEISSMAN	49 091 05090	SW SE sec. 30, T. 5 N., R. 4 E., Lawrence County, South Dakota	Kelly bushing elevation: 3,690 ft Ground surface elevation: 3,680 ft	potential and resistivity
64	PHILLIPS 1 CLEGGERS FIELD	49 091 20025	NW SE sec. 14, T. 7 N., R. 19 E., Meade County, South Dakota	Kelly bushing elevation: 2,592 ft Ground surface elevation: 2,578 ft	gamma ray
65	PHILLIPS 1 EDWARDS PARK	49 093 05032	NE SE sec. 34, T. 7 N., R. 13 E., Meade County, South Dakota	Kelly bushing elevation: 2,788 ft Ground surface elevation: 2,778 ft	potential and resistivity
66	TRUE 1 KNOX GOVERNMENT	49 101 05018	NW NW sec. 29, T. 5 N., R. 17 E., Pennington County, South Dakota	Kelly bushing elevation: 2,580 ft Ground surface elevation: 2,540 ft	potential and resistivity
67	PHILLIPS 1 MAY	49 055 05016	NE SE sec. 21, T. 4 N., R. 18 E., Hand County, South Dakota	Kelly bushing elevation: 2,568 ft Ground surface elevation: 2,574 ft	potential and resistivity
68	ESTER 1 GUNNERS GREEN	49 055 20002	SW SW sec. 6, T. 4 N., R. 21 E., Hand County, South Dakota	Kelly bushing elevation: 2,318 ft Ground surface elevation: 2,374 ft	potential and resistivity
69	GULF 1 EDWARDS	49 055 05054	NE NE sec. 31, T. 4 N., R. 24 E., Hand County, South Dakota	Kelly bushing elevation: 2,024 ft Ground surface elevation: 2,200 ft	potential and resistivity
70	WELLS 1 MCKRONE	49 117 05000	NW NW sec. 11, T. 5 N., R. 23 E., Stanley County, South Dakota	Kelly bushing elevation: 2,035 ft Ground surface elevation: 2,024 ft	potential and resistivity
71	PHILLIPS 1 STAYE	49 117 05001	NW SE sec. 36, T. 5 N., R. 27 E., Stanley County, South Dakota	Kelly bushing elevation: 1,862 ft Ground surface elevation: 1,854 ft	potential and resistivity
72	CITIES SERVICES 1 WADSWORTH A	49 117 05003	NW NW sec. 13, T. 5 N., R. 29 E., Stanley County, South Dakota	Kelly bushing elevation: 1,814 ft Ground surface elevation: 1,802 ft	potential, resistivity, and conductivity
73	ST. MARY'S 1 HORIZONTAL B	49 095 60021	NE SW sec. 4, T. 110 N., R. 79 W., Hughes County, South Dakota	Kelly bushing elevation: 1,448 ft Ground surface elevation: 1,448 ft	potential, resistivity, and conductivity
74	GRIST 1 REEDS POINT	49 095 60002	NE NE sec. 27, T. 112 N., R. 76 W., Hughes County, South Dakota	Kelly bushing elevation: 1,710 ft Ground surface elevation: 1,710 ft	potential and resistivity
75	SHOOKER 1 KLEINSCHEIDT	49 095 20001	NW NW sec. 12, T. 113 N., R. 75 W., Hughes County, South Dakota	Kelly bushing elevation: 1,872 ft Ground surface elevation: 1,867 ft	potential, resistivity, and conductivity
76	ART COWEN	49 069 60002	SE SW sec. 2, T. 110 N., R. 72 W., Hughes County, South Dakota	Kelly bushing elevation: 2,175 ft Ground surface elevation: 2,175 ft	potential and resistivity
77	REILLY 1 HAREY 1 A/B	49 059 60016	SE NW sec. 4, T. 109 N., R. 70 W., Hughes County, South Dakota	Kelly bushing elevation: 1,875 ft Ground surface elevation: 1,875 ft	potential and resistivity
78	WESTINGTON SPRINGS TEST 1	49 073 60032	SE sec. 9, T. 107 N., R. 65 W., Spink County, South Dakota	Kelly bushing elevation: 1,975 ft Ground surface elevation: 1,975 ft	potential and resistivity
79	RESTAURANT 1 GENTRY	49 095 60003	SE NE sec. 1, T. 109 N., R. 62 W., Spink County, South Dakota	Kelly bushing elevation: 1,300 ft Ground surface elevation: 1,300 ft	gamma ray
80	JAMES 1 TITCHEN	49 077 60140	SW SW sec. 16, T. 111 N., R. 58 W., Kingsbury County, South Dakota	Kelly bushing elevation: 1,455 ft Ground surface elevation: 1,455 ft	potential and resistivity
81	REEDMAN 1 FARM	49 011 60100	Sec. 25, T. 111 N., R. 52 W., Kingsbury County, South Dakota	Kelly bushing elevation: 1,690 ft Ground surface elevation: 1,690 ft	gamma ray

STATE OF SOUTH DAKOTA
M. Michael Rusk, Governor

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
SHERI L. PETERSON, Secretary

GEOLOGICAL SURVEY
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OIL AND GAS INVESTIGATION 2

Cross Sections Showing Geophysical Logs of Phanerozoic Rocks in South Dakota

Plate 6. Structural Cross Section F-F'

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2009

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Explanation

The geologic profile control consists of areas west of the Missouri River to the east between the Northern Pineau and the Pierre Shale. It is recognized that geologic profiles such as these show the Pierre Shale, but they are not interpreted for this cross section.

- Contour line for an uncorrelated geologic contact. Interpreted from a geophysical log or an uncorrelated geologic contact. Interpreted from a geophysical log or an uncorrelated geologic contact. Interpreted from a geophysical log or an uncorrelated geologic contact.
- Contour line for an uncorrelated geologic contact. Interpreted from a geophysical log or an uncorrelated geologic contact. Interpreted from a geophysical log or an uncorrelated geologic contact.
- Contour line for an uncorrelated geologic contact. Interpreted from a geophysical log or an uncorrelated geologic contact. Interpreted from a geophysical log or an uncorrelated geologic contact.

Profile of the bedrock surface from U.S. Geological Survey digital elevation model. Profile of the bedrock surface from the Missouri River. Contour values are shown. Modified from Fox and Schell (2004).

Boundary of a geologic unit. Boundary shown in orange on index map below. Boundary and correlation points generally coincide with Fox and Schell (2004).

Dikes for cross section in view are listed.

Horizontal and vertical exaggeration.

Index map showing locations of data points used for construction of cross sections

Map showing the locations of data points used for the construction of cross sections. The map includes the Missouri River, the Pierre Shale, and the Cretaceous and Paleogene formations. The map is divided into sections labeled A through I.

Index map showing surface geology along the line of cross section in South Dakota

Map showing the surface geology along the line of cross section in South Dakota. The map includes the Missouri River, the Pierre Shale, and the Cretaceous and Paleogene formations. The map is divided into sections labeled A through I.

Index map showing bedrock geology along the line of cross section east of the Missouri River

Map showing the bedrock geology along the line of cross section east of the Missouri River. The map includes the Pierre Shale, the Cretaceous, and the Paleogene formations. The map is divided into sections labeled A through I.

Vertical exaggeration = 52.8X

Geologic unit	Map location number (API No.) and depth, in feet, in top of geologic unit																																									
	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	
Pierre Shale	4,402	4,334	3,690	2,592	2,788	2,580	2,574	2,318	2,024	2,200	2,024	1,862	1,854	1,710	1,872	1,867	2,175	1,975	1,300	1,455	1,690	4,402	4,334	3,690	2,592	2,788	2,580	2,574	2,318	2,024	2,200	2,024	1,862	1,854	1,710	1,872	1,867	2,175	1,975	1,300	1,455	1,690
... (other units)

1. A lithologic correlation and geophysical cross-section is based on the geologic units in the geologic logs and geophysical logs. The geologic logs are based on the geologic logs and geophysical logs. The geophysical logs are based on the geologic logs and geophysical logs. The geologic logs are based on the geologic logs and geophysical logs. The geophysical logs are based on the geologic logs and geophysical logs.

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