U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

SCIENTIFIC INVESTIGATIONS MAP 2925
SHEET 2 OF 2
Version 1.0

EXPLANATION

Drill Holes

- T. 18 N., R. 91 W., Sec. 33 — **Location of drill hole** by Township (T. 18 N.), Range (R. 91 W.), and Section (Sec. 33)
- DH-1 — **Drill hole number**—Shown also on geologic map and table 1
- GL 7,183 ft — **Elevation** of ground level (GL) or kelly bushing (KB) at drill hole
- 3,200 ft / 4,000 ft — **Stratigraphic interval not shown**—Down-hole reference depths shown to left of column
- TD 350 ft — **Total depth** (TD) of drill hole

Measured Sections

- T. 16 N., R. 92 W., Sec. 3 — **Location of measured section** by Township (T. 16 N.), Range (R. 92 W.), and Section (Sec. 3) or Sections (Secs. 3, 4)
- (40) — **Measured section number**—Number corresponds to line of measured stratigraphic section or short measured section of coal bed or coal zone on geologic map (sheet 1)
- ● D5099-A — **USGS palynomorph collection showing stratigraphic position in measured section**—Locality shown on geologic map

Correlations

- **Correlation line**—Dashed line indicates probable correlation
- **Pinchout of lithology**
- **Unconformity**

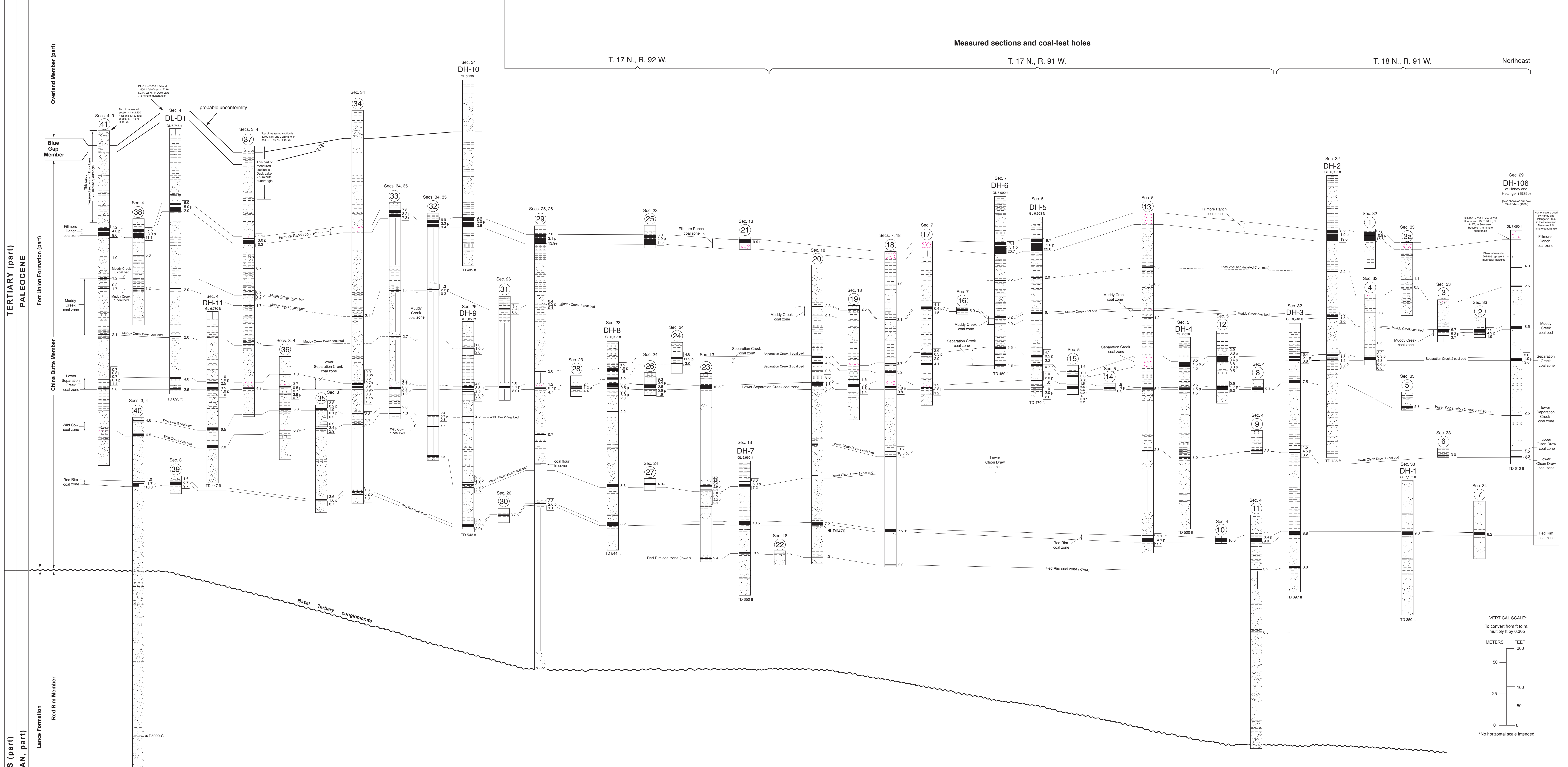
Abbreviations: township (T.); range (R.); section (Sec.); north (N); west (W); ground level (G.L.); kelly bushing (KB); total depth (TD), feet (ft); from south line (fsl); from north line (fnl); from east line (fel); interburden or parting (p)

Lithology

- **Covered interval in measured section, or undescribed lithology in measured section or drill hole**
- **Conglomerate**
- **Sandstone**
- **Sandstone with pebbles or lenses of conglomerate**
- **Sandstone, thin bed**
- **Probable lithology**—Insufficient outcrop exposure or geophysical log resolution for accurate lithologic interpretation
- **Siltstone**
- **Claystone, mudstone, shale, or carbonaceous shale**
- 6.0 / 4.0+ — **Coal bed**—Showing thickness in feet; plus sign indicates the coal bed was only partially exposed and it is likely to be thicker than the measured value. Thickness rounded to nearest foot in oil and gas holes
- 5.5 / 2.2 p / 3.5 — **Coal bed**—Showing thickness of coal and interburden or parting (p) in feet; thicknesses rounded to nearest foot in oil and gas holes
- **Clinker**

Measured sections and coal-test holes

Southwest T. 16 N., R. 92 W. T. 17 N., R. 92 W.



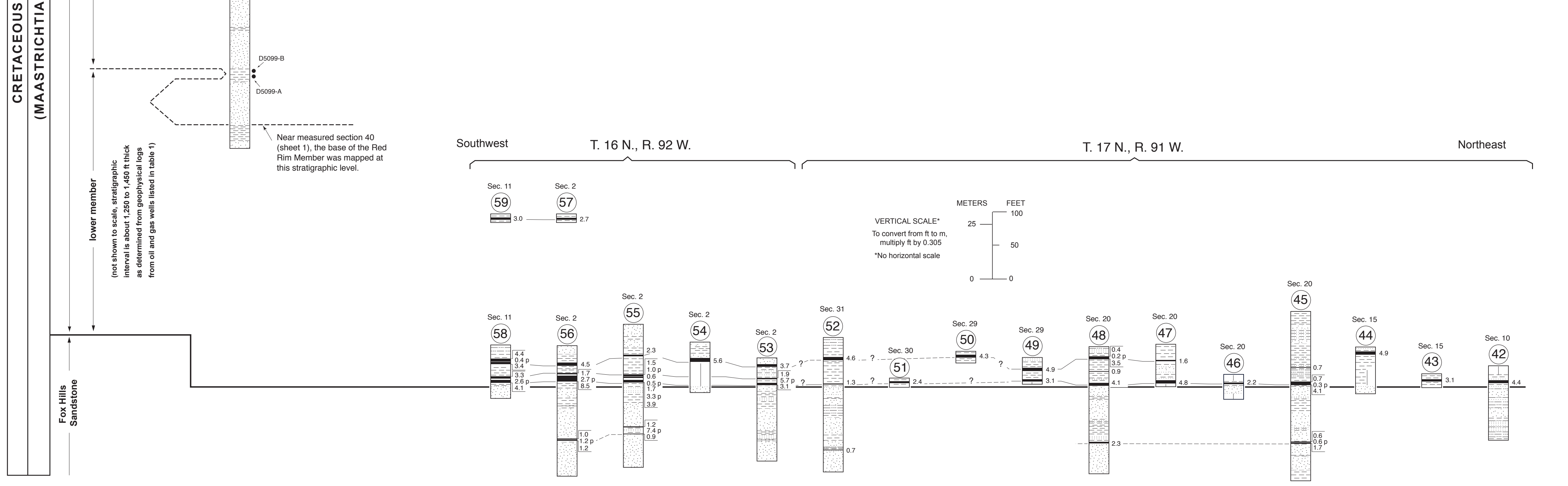

lower member
(not shown to scale, stratigraphic interval is about 1,250 to 1,450 ft thick as determined from geophysical logs from oil and gas wells listed in table 1)
Near measured section 40 (sheet 1), the base of the Red Rim Member was mapped at this stratigraphic level.
D5099-C
D5099-B
D5099-A
Southwest
T. 16 N., R. 92 W.
T. 17 N., R. 91 W.
Northeast
VERTICAL SCALE*
To convert from ft to m, multiply ft by 0.305
*No horizontal scale
METERS
FEET
Fox Hills Sandstone

Table 1. Identification and location of drill holes shown on geologic map (sheet 1) and correlation diagrams (sheet 2).

[The downhole depths and thicknesses of selected formations are shown for oil and gas wells. Abbreviations: T., Township; R., Range; Sec., Section; N, north; W, west; GL, ground level; KB, kelly bushing; Tfc, Tertiary Fort Union Formation, China Butte Member; Klr, Cretaceous Lance Formation, Red Rim Member; Kll, Cretaceous Lance Formation, lower member; Kfh, Cretaceous Fox Hills Sandstone; Kleu, Cretaceous Lewis Shale, upper part; Kled, Cretaceous Lewis Shale, Dad Sandstone Member; Klel, Cretaceous Lewis Shale, lower part; Kmv, Cretaceous Mesaverde Group; RMEC, Rocky Mountain Energy Company; UPC, Union Pacific Corporation; USGS, U.S. Geological Survey]

Coal-test holes

Drill hole designation	Company name	Well name	Location Sec.	T. (N)	R. (W)	Elevation (ft)
DH-1	RMEC, UPC	CB 81, 1AS	33	18	91	GL 7,183 ***
DH-2	USGS	DM-D1	32	18	91	GL 7,004 * (GL 6,995 **)
DH-3	USGS	DM-D2	32	18	91	GL 6,966 * (GL 6,940 **)
DH-4	RMEC, UPC	CB 87, 1AS	5	17	91	GL 7,058 ***
DH-5	RMEC, UPC	CB 96, 3AS	5	17	91	GL 6,903 ***
DH-6	RMEC, UPC	1AS	7	17	91	GL 6,990 **
DH-7	RMEC, UPC	2AS	13	17	92	GL 6,960 **
DH-8	RMEC, UPC	2AS	23	17	92	GL 6,985 **
DH-9	USGS	DM-4	26	17	92	GL 6,850 **
DH-10	USGS	DM-3	34	17	92	GL 6,790**
DH-11	USGS	DM-5	4	16	92	GL 6,780**
DL-D1 (sheet 2 only)	USGS	DL-D1	4 (Duck Lake quadrangle)	16	92	GL 6,745**
DH-106 (sheet 2 only)	RMEC, UPC	1AS	29 (Seaverson Reservoir quadrangle)	18	91	GL 7,050***

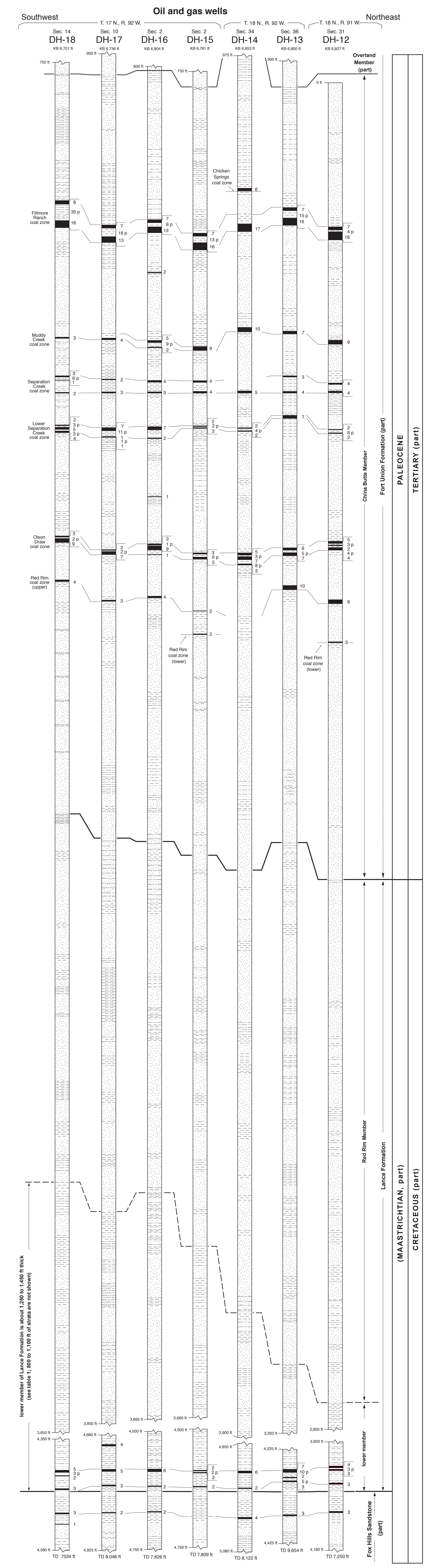
* Ground elevation reported on well log header (estimated from topography shown on Doty Mountain 15-minute quadrangle)
** Ground elevation estimated from topography shown on Doty Mountain or Duck Lake 7.5-minute quadrangles
*** Ground elevation reported by RMEC

Oil and gas wells

Downhole depths (ft) of selected formation tops, and thicknesses (ft) of selected formations. Depths to formation tops are measured from the kelly bushing. Formation thicknesses are shown in parentheses. Bar indicates that thickness was not determined.

Drill hole designation	Company name	Well name	Location Sec.	T. (N)	R. (W)	Elevation (ft)	Tfc	Klr	Kll	Kfh	Kleu	Kled	Klel	Kmv
DH-12	Union Pacific Resources Co.	China Butte Unit 2-31	31	18	91	KB 6,827	—	1,690 (1,105)	2,795 (1,260)	4,055 (375)	4,430 (255)	4,685 (1,550)	6,235 (595)	6,830 —
DH-13	Marathon Oil	Creston 111 Unit 4	36	18	92	KB 6,800	353 (1,602)	1,955 (1,101)	3,056 (1,256)	4,312 (318)	4,630 (310)	4,940 (1,510)	6,450 (580)	7,030 —
DH-14	Snyder Oil Co.	Creston Nose 7-34-18-92	34	18	92	KB 6,853	942 (1,758)	2,700 (938)	3,638 (1,314)	4,952 (306)	5,258 (282)	5,540 (1,560)	7,100 (560)	7,660 —
DH-15	Snyder Oil Co.	Baldy Butte 4-2-17-92	2	17	92	KB 6,781	785 (1,625)	2,410 (828)	3,238 (1,392)	4,630 (390)	5,020 (405)	5,425 (1,335)	6,760 (570)	7,330 —
DH-16	Snyder Oil Co.	Baldy Butte 12-2-17-92	2	17	92	KB 6,804	810 (1,630)	2,440 (742)	3,182 (1,446)	4,628 (296)	4,924 (480)	5,404 (1,356)	6,760 (575)	7,335 —
DH-17	Snyder Oil Co.	Baldy Butte 10-10-17-92	10	17	92	KB 6,736	995 (1,615)	2,610 (790)	3,400 (1,402)	4,802 (376)	5,178 (384)	5,562 (1,396)	6,958 (581)	7,539 —
DH-18	Snyder Oil Co.	Baldy Butte 4-14-17-92	14	17	92	KB 6,701	775 (1,565)	2,340 (778)	3,118 (1,344)	4,462 (326)	4,788 (472)	5,260 (1,250)	6,510 (573)	7,083 —

Oil and gas wells



COAL CORRELATIONS IN THE UPPER CRETACEOUS LANCE FORMATION AND PALEOCENE FORT UNION FORMATION

GEOLOGIC MAP AND COAL STRATIGRAPHY OF THE DOTY MOUNTAIN QUADRANGLE, EASTERN WASHAKIE BASIN, CARBON COUNTY, WYOMING

By
R.D. Hettinger and J.G. Honey
2006

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