

DESCRIPTIVE NOTES

The map-area is wholly underlain by Paskapoo strata and in most places these are concealed by glacial drift. The Anglesey well, (elevation 3,750 ± feet, l. s. 1, sec. 22, tp. 21, range 1, west of the 5th meridian) affords the only information within the area on formations underlying the Paskapoo. The well is 4,500 feet deep and penetrates the Paskapoo, Edmonton, Bearpaw and part of the Belly River formation. From the log of the well the Paskapoo is known to consist of alternating grey and greenish sandstones and dark shales with a few thin coal seams. At a depth of about 1,970 feet a conglomeratic sandstone carrying pebbles of chert and quartzite was encountered and fragments of pebbles occur to a depth of 2,180 feet. Samples at 2,150 to 2,160 feet, 2,180 feet, 2,290 feet, 2,340 feet and, to a less extent, at other, intermediate depths, were of reddish sandstone and suggest the Willow Creek formation which, in southern Alberta, underlies the Porcupine Hills formation. These two formations are roughly the equivalent of the Paskapoo in more northerly areas. A very coarse sandstone bed was encountered in the well at 2,390 feet and may be the basal member of the Paskapoo formation. At greater depths the contacts of the various formations are difficult to determine. In beds presumably of Edmonton age a dicotyledon leaf was observed at 3,000 feet in carbonaceous sandstone. Above this the beds are mainly grey sandstones with some greenish shales. Between 3,100 and 3,800 feet the strata are predominantly dark carbonaceous shales with some grey sandstone. The character of these beds suggests the Bearpaw formation. Below 3,800 feet to the bottom of the well at 4,500 feet the strata are grey sandstones, in part carbonaceous, alternating with small amounts of dark shale. Presumably these are Belly River strata.

South of the map-area, the Arca well (elevation 3,590 feet, l. s. 16, sec. 24, tp. 18, range 1, west of 5th meridian, 16 miles south of the Anglesey well) was drilled to a depth of 8,988 feet. From the well samples it is not possible to place some of the upper formational contacts accurately but they and other key beds are believed to have been encountered at the following depths: Paskapoo-Edmonton contact, at the base of a coarse sandstone with fragments of pebbles, 2,490 feet; Edmonton-Bearpaw contact, at the base of a coarse sandstone, 3,620 feet; Bearpaw-Belly River contact (not marked by a coal seam as in other areas), at about 4,340 feet; Belly River-Upper Alberta contact, about 5,540 feet; Cardium sandstone, 6,850 feet, "Grit", (Lower Alberta-Blairmore contact), 7,540 feet; Home sandstone, 8,440 feet; Dalhousie conglomerate, 8,560 feet; base of Blairmore, 8,660 feet; and top of Palaeozoic limestone, 8,750 feet.

In the Ranchmen's well (elevation 3,378 feet, l. s. 16, sec. 13, tp. 20, range 29, west of 4th meridian, 7 miles southeast of the map-area) the Paskapoo, Edmonton, Bearpaw and Belly River formations are not easily separated. The base of the Paskapoo may be a coarse green sandstone 70 feet thick encountered at 1,330 feet. As far as can be ascertained from the well samples no pebbles are present. The base of the Edmonton may be at 2,480 feet, at the bottom of a coarse, grey sandstone member 40 feet thick containing some shale and coal. Below this the strata are mainly dark shales but contain coal at 2,610 to 2,620 feet, at 2,680 and at 2,890 feet. At 3,100 feet sandstone with shale and coal may represent the top of the Belly River formation which consists of alternating sandstones and shales to a depth of 4,200 feet where the top of the Upper Alberta formation occurs. Below this the various formational contacts and key horizons are easily recognized and occur as follows: Cardium sandstone, 5,490 feet; "Grit" (Lower Alberta-Blairmore contact), 6,210 feet; coal, 6,825 feet; Home sandstone 7,020 feet; Dalhousie sandstone, 7,200 feet; and the base of the Blairmore at 7,204 feet. The well has not been completed to the Palaeozoic limestone and is at present in the Fernie shales at 7,230 feet.

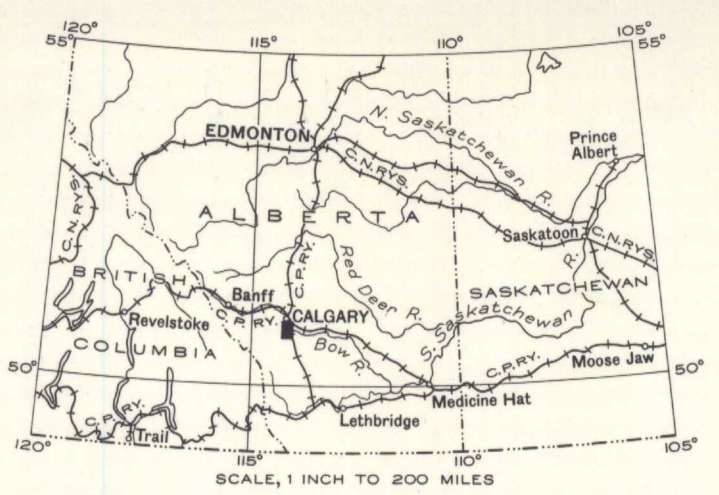
The Twin Dome well, at elevation 3,225 ± feet, was drilled to a depth of 5,708 feet on l. s. 7, sec. 16, tp. 21, range 28, west of 4th meridian, 8 miles east of the map-area. In this well the contacts between formations and the positions of other key horizons were more easily recognized and occur at the following depths.—Paskapoo-Edmonton contact, 760 feet; Edmonton-Bearpaw contact, 1,770 feet; Bearpaw-Belly River contact, 2,640 feet; and Bearpaw-Upper Alberta contact, 3,770 feet. At greater depth the Cardium sandstone was encountered at 5,170 feet; the "Grit" (Lower Alberta-Blairmore contact), at 5,700 feet; the Blairmore coal at 6,170 feet; the Home sandstone at 6,340 (?) feet; the Dalhousie sandstone at 6,460 feet; and the top of the Palaeozoic limestone at 6,651 feet.

The Twin Dome well is on the southeast extension of the Lloyd Lake anticline, shown on the Midnapore map-sheet. The anticline is oblique to the general trend of the foothills and mountains. It begins in what is interpreted as a fault zone on Fish creek in the adjoining Fish Creek map-area to the west and may continue through the Twin Dome structure on Highwood river to the Eyre area area where the Hudson's Bay Oil and Gas Company, in 1929, drilled a well on sec. 26, tp. 17, range 18, west of 4th meridian and reached the top of the Palaeozoic limestone at a depth of 4,012 feet or 1,313 feet below sea level.

LEGEND

- CENOZOIC**
- TERTIARY**
 - PASKAPOO FORMATION: sandstone, shale
- Rock outcrop..... x
 - Bedding (inclined)..... ↘
 - Anticlinal axis..... +
 - Bore-hole..... B.H. ●
- Provincial highway (numbered)..... NO. 22
 - Road well travelled.....
 - Road not well travelled.....
 - Road along township boundary.....
 - Natural gas and oil main.....
 - Church.....
 - School.....
 - Post Office.....
 - Township boundary.....
 - Section line.....
 - Indian Reserve boundary.....
 - Intermittent lake and stream.....
 - Marsh.....
 - Contours (interval 50 feet).....
 - Depression contour.....
 - Height in feet above Mean sea-level..... 3708'

Geology by G.S. Hume, 1929, and 1937.
Base-map prepared by the Topographical Survey, 1940, from Federal Government map published in 1930. Cartography by the Drafting and Reproducing Division, 1940.



MAP 606A
MIDNAPORE
ALBERTA

Scale, 63,360 or 1 Inch to 1 Mile
Approximate magnetic declination, 23' East.

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