

LEGEND

- TERTIARY**
- OLIGOCENE**
- 8 CYPRESS HILLS FORMATION: conglomerate
- PALEOCENE**
- 7 RAVENSCRAG FORMATION: sandstone, shale
- CRETACEOUS**
- UPPER CRETACEOUS**
- 6 WHITEMUD FORMATION: whitish clay, grey clay, tuff (?)
- 5 EASTEND FORMATION: sandstone, shale; coal seams
- 4 BEARPAW FORMATION: dark shale
- 3 OLDMAN FORMATION: light-coloured shale and sandstone; coal seams in uppermost part
- 2 FOREMOST FORMATION: sombre-coloured shale and sandstone; coal seams
- 1 PAKOWKI FORMATION: dark shale

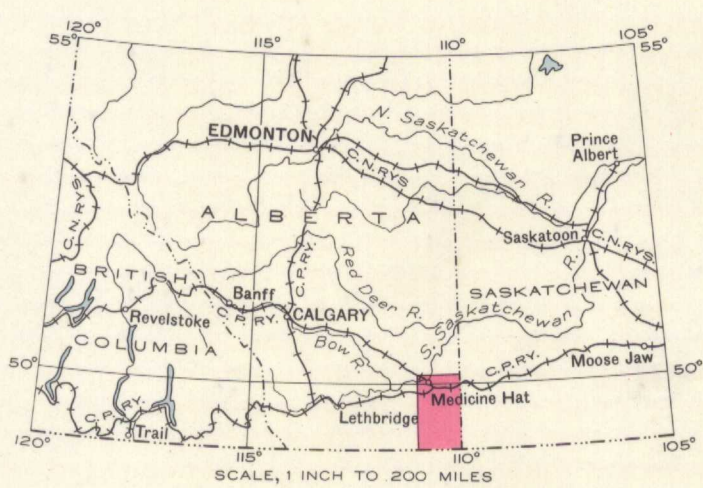
- Geological boundary (defined, assumed).....
- Structure contour, on top of Alberta shale, interval 50 feet (determined, assumed).....
- Road.....
- Road not well travelled.....
- Road along township boundary.....
- Post Office.....
- Railway Station and Post Office.....
- International boundary.....
- Interprovincial boundary.....
- Township boundary.....
- Forest Reserve boundary.....
- Section line.....
- Intermittent lake and stream.....
- Marsh.....
- Contours (interval 100 feet).....
- Depression contour.....
- Height in feet above Mean sea-level.....

Geology and structure contours by L.S. Russell, 1934, 1935, 1936, and 1937.

Base-map prepared from surveys and topography by the Topographical Survey, 1937, and from Federal Government maps published in 1914, and 1924. Cartography by the Drafting and Reproducing Division, 1940.

DIAGRAM OF TOWNSHIP SHOWING NUMBERING OF SECTIONS

31	32	33	34	35	36
30	29	28	27	26	25
19	20	21	22	23	24
18	17	16	15	14	13
7	8	9	10	11	12
6	5	4	3	2	1



DESCRIPTIVE NOTES

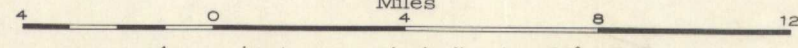
The oldest formation exposed is the Pakowki formation (1) of marine origin and having a total thickness probably greater than 500 feet. The Foremost formation (2) consists mostly of brackish water deposits. On Milk River the lower part of the formation is of shale and silt with thin coaly beds, the upper part is dark shale and sandstone with numerous coal seams. The thickness on Milk River is 270 feet but this decreases rapidly eastward. On South Saskatchewan River the beds consist of sombre shales and sandstones, with coal seams in the upper part. The thickness near Medicine Hat is about 180 feet. The Oldman formation (3) is of fresh-water deposition. Coal seams are present in the upper beds, the Lethbridge member, but are absent elsewhere. On and near Milk River beds of massive, cross-bedded, buff sandstone are conspicuous. The thickness of the formation in borings near Eagle Butte is 480 feet. The Bearpaw formation (4) is composed of dark, marine shales with occasional sandy beds. Thin bentonite beds are numerous. The thickness exceeds 630 feet near Manyberries and is about 830 feet in borings near Eagle Butte. The Eastend formation (5) is a variable series of sandstone and shale, in part marine. Coal beds occur in the upper part. The thickness near Eagle Butte is about 440 feet. The Whitemud formation (6) consists of about 17 feet of whitish, kaolinized clay overlain by about 30 feet of dark clay with a thin bed of hard, siliceous rock (tuff) near the top. In many places the formation has been partly or entirely removed by erosion prior to the deposition of the overlying beds. The Ravenscrag formation (7) is of fresh-water deposition and consists mainly of sandstone for the most part massive, cross-bedded and buff in colour. The thickness is about 560 feet. The Cypress Hills formation (8) rests unconformably upon the Ravenscrag and consists of light-coloured quartzite boulders in a sparse, sandy matrix. In western outcrops the thickness is about 25 feet, but this increases eastward. Small dykes of minette occur on Milk River, they are, probably connected with the intrusive mass in the East Butte of the Sweetgrass hills. The area lies on the east flank of the Sweetgrass arch. The regional dip is to the northeast and east, and averages about 20 feet to a mile. Subsidiary folds are mostly plunging anticlines. A small dome appears to be present southeast of Comrey. In the Cypress hills district the thick series of younger rocks obscures the underlying structure but apparently the easterly dip is prevalent there. Coal is mined from upper foremost beds at Medicine Hat and near Comrey, and from upper Eastend beds at Little Plume, Elkwater and Thelma. Natural gas occurs in the upper Alberta beds at Medicine Hat. Brick clay is quarried from the Oldman formation near Medicine Hat. Artesian water is obtained from sandstone in the lower part of the Milk River formation in the southwest.

NOTE 1. The blank area in the vicinity of Eagle Butte has been subjected to large-scale slumping, and the distribution of the underlying bedrock cannot be determined.

NOTE 2. At this point on Manyberries creek, sandstone rests unconformably on upper Oldman beds and is overlain by glacial drift. The sandstone may be interglacial but more likely is Pliocene in age.

MAP 567A
DUNMORE
ALBERTA

Scale, 1/4 inch to 4 Miles



Approximate magnetic declination, 20'30" East.

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567A

5.1.1
A. Geol. Dunmore, Alta.
Map 567A. copy 2