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GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA

Introduction

The isopach maps were constructed using at least one well per township, wherever possible, and contouring was done manually. Drilling density is greatest in the eastern subcrop areas, decreasing westward and least dense in the foothills. Isopach maps for the total Triassic interval and the Montney Formation, Doig plus Halfway formations and the Charlie Lake Formation are presented. Some formations are not represented largely because of inconsistency in the choice of formation tops in the various provincial databases. This is especially true for the Halfway and Baldonnel formations.

Triassic (Figure 1)

Also illustrated on Figure 1 are the subcrop edges of the post-Montney formations, with the exception of the Halfway Formation. Triassic strata thicken to over 1500 m in the foothills of northeast British Columbia. In eastern areas of occurrence the "scalloped" nature of the isopachs reflects erosion at a sub-Jurassic and intra-Charlie Lake unconformity. The latter is most noticeable in parts of west-central Alberta where the Charlie Lake Formation rests directly on Montney strata. Another notable feature is the rapid thickening in the foothills of British Columbia.

Montney Formation (Figure 2)

The isopach map of the Montney Formation (Fig. 2) also illustrates the subcrop edge of the Charlie Lake Formation and the distribution of a prominent dolostone coquinal unit within the Montney Formation (Davies at al.'s, 1997, Coquinal Dolomite Middle member). The eastern margin of the coquinal dolostone is truncated, principally at a sub-Jurassic unconformity. The western margin of the dolostone unit is a facies change to a sandier succession.

The gradual westward thickness increase in the eastern areas reflects the progressive truncation of Montney strata at a sub-Jurassic unconformity. Where the effects of the unconformity end the Montney tends to become more uniform in thickness and thickens westward at a much reduced rate. Near the eastern margin of the foothills the rate of thickening again increases.

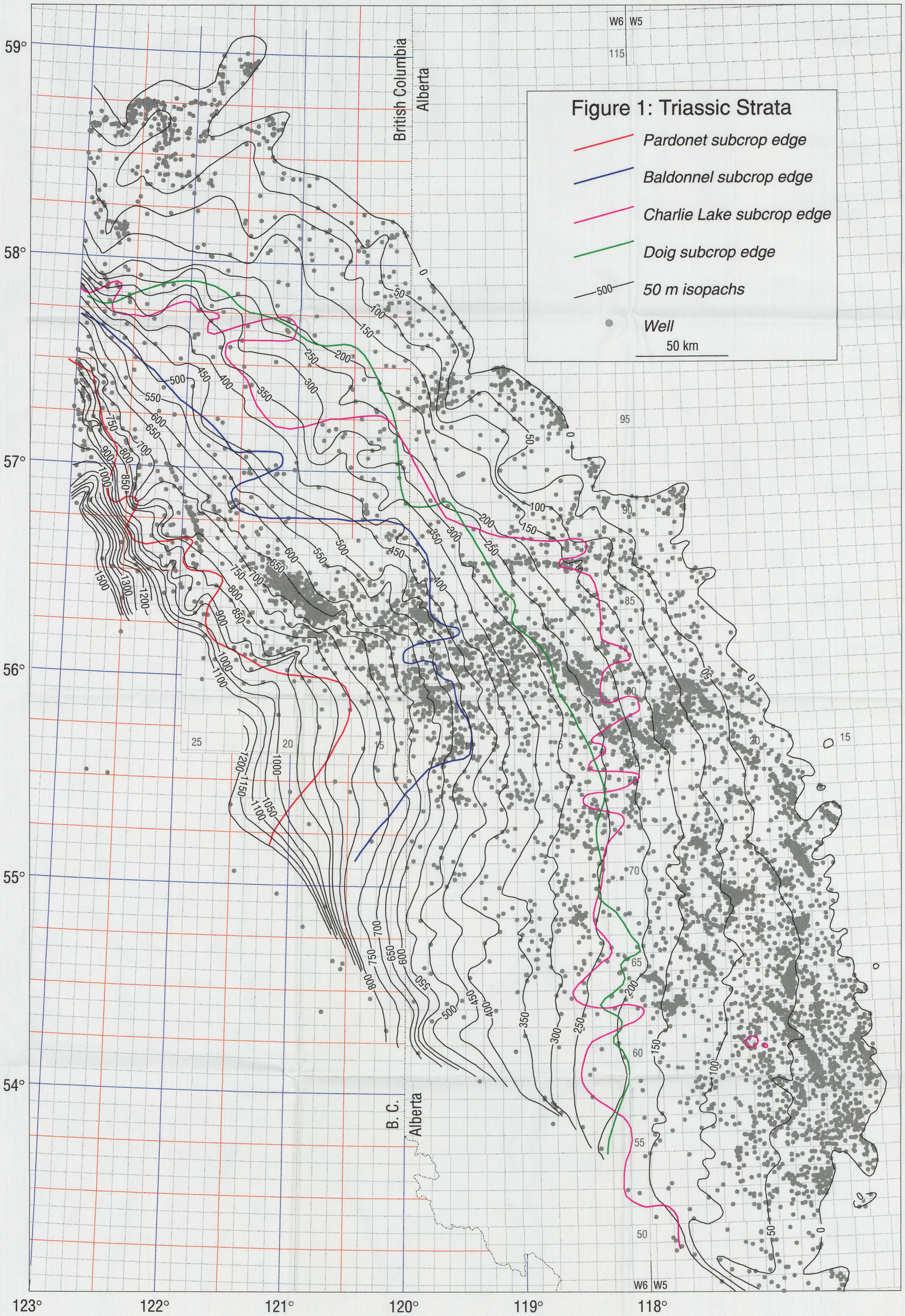
Doig and Halfway formations (Figure 3)

Because of the inconsistencies noted in the provincial databases in the choice of a Doig-Halfway contact and a more consistent choice of a Halfway-Charlie Lake contact, a combined Doig-Halfway formations map was constructed. The map illustrates a gradual westward thickening with more rapid thickening near the foothills, especially in British Columbia. Also of note are northeast trending features in the area just north of Fort St John, British Columbia.

Charlie Lake Formation (Figure 4)

The isopach map of the Charlie Lake Formation (Fig. 4) shows a more uniform westward thickening than underlying units and a less pronounced thickening near the foothills. The highly indented zero edge is the result of pre-Jurassic truncation.

Two of the uppermost Triassic units, the Baldonnel and Pardonet, have not been mapped due to the need to review the formation tops in the Alberta and British Columbia databases.



Isopach map of Triassic strata

Sheet 1 of 4
Projection: UTM
C.M.: 119

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NOTE:

Although every effort has been made to ensure accuracy, this Open File Report has not been edited for conformity with Geological Survey of Canada standards.

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