

2. Some tens of miles of tectonic telescoping between the Hyndman-East Fork and Phi Kappa-Trail Creek allochthons alone seems required to account for juxtaposition of dissimilar Ordovician paleofacies; cumulative shortening across the entire thrust belt was considerably greater.

3. No structures of unequivocal Antler age are recognized, but plates (4) through (7) probably were transported on Sevier thrusts from a northern extension of the Antler orogenic belt, located southwest of the Pioneer Mountains in the region now occupied by the southern end of the Idaho batholith.

Insert the following abstract on page 619:

MARYSVILLE GEOTHERMAL PROJECT, REVIEW OF 1974 ACTIVITIES
LaMori, Phillip N., Battelle Northwest, Richland, Washington, 99352; McSpadden, William R., Battelle Northwest, Richland, Washington 99352

The abnormally high heat flow (19.5 h.f.u.) found by David Blackwell 4 Km west of Marysville, Mt. was examined by a deep drill hole. It was thought that a possible source of the heat might be a relatively young pluton 1-3 Km below the surface. Drilling started on June 10 and ended on August 30 at a total depth of 2063.5 m. Two formations were encountered during drilling; the Pre-Cambrian Belt Series Empire shale to a depth of 291 m, and below that the Tertiary quartz-feldspar porphyry called the Empire stock. Temperature measurements taken in the drill hole indicated that the surface gradient of 180° C/Km continued to a depth of 550 m. Large quantities of water were encountered at 580 m and at all depths to the bottom of the hole. Subsequent logging has shown that the quartz-feldspar porphyry is highly fractured. Fracture analysis shows 3 sets of well defined fractures, one nearly horizontal and 2 steeply dipping sets whose poles are normal. Flow measurements taken immediately after drilling indicated a downward flow of 250 gallons/min from 1040 m to the hole bottom. This flow was reduced significantly by casing and plugging and has continued to decrease with time. The maximum temperature observed in the hole was 96°C at 1 Km. It is believed that the actual temperature in the ground is greater but has been changed by the drilling operations. As a result of this work it is concluded that the Marysville Geothermal Anomaly is the result of a convective warm water system.

vol. 7, no. 6: Insert the following abstract on page 732:

ILE ROULEAU, QUEBEC, A NEWLY DISCOVERED (CRYPTOEXPLOSION STRUCTURE.

Caty, Jean-Louis, Sciences de la Terre, Université de Québec, Chicoutimi, Que.; Roy, D.W. Sciences de la Terre, Université de Québec, Chicoutimi, Que.; Chown, E.H., Geology Department, Concordia University, (Loyola Campus), Montreal, Que. #4B 1R6.

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HOW CAN HISTOLOGICAL
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Müller, Klaus J.,
Friedrich-Wilhe
Germany

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