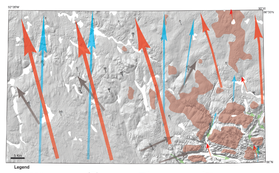


Figure 1. Generalised glacial ice-flow directions and chronology derived from small scale ice-flow indicators (e.g. striations) and the trends of streamlined landforms. The dominant direction of regional dispersal is related to the north-northeast flow. The brown polygons represent areas of minimum cold-based (frozen bed) conditions during or at least parts of the last glaciation based on the presence of relict and polythermal terrains.

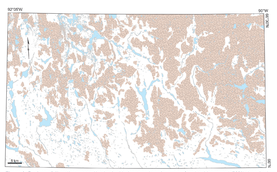


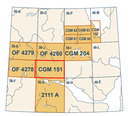
Figure 2. Regions of till and/or exposed bedrock with dense and continuous surface boulder cover (>70%) deposited by warm-based ice (yellow) and cold-based ice (orange) and areas of extensive bedrock exposure and/or thin till veneer (patterned beige). The most extensive boulder cover occurs on top of the uplands in the eastern part of the map sheet (Fig. 1) much of which was under cold-based conditions that occurred during at least parts of the last glaciation and/or downwasting of ice remnants in these uplands (McMartin et al., 2015). The boulder concentration polygons are included in the digital geodatabase that accompanies this map.

Abstract

Much of the Walker Lake South map area is covered by streamlined till plains with shallow, glacially-eroded basins; however the southeast is dominated by a bedrock highland. Striae and streamlined landforms in till indicate initial north-northeast then persistent northeastward ice flow during the last glaciation, although late-glacial flow reversals occurred to the southwest in response to the growth of the Keewatin highland. Weathered bedrock and regolith indicate areas of cold-based ice conditions and combined with the hummocky till, delineate the presence of late-ice remnants in highlands. Large subglacial corridors, sometimes with eskers, record the meltwater that carried meltwater northward into the Arctic Ocean. South of the regional drainage divide, short-lived glacial lakes, marked by wave-cut notches and boulder lags on the till surface, developed as the ice front receded southwards into the upland south of the Ford Lake-Wager Bay lowlands. The marine limit ranges from 100–110 m a.s.l. in this area.

Résumé

La plus grande partie de la région cartographique de Walker Lake Sud est occupée par des plaines de till profilé parsemées de bassins peu profonds creusés par les glaciers. Cependant, la partie sud-est est dominée par des hautes terres rocheuses. Des stries et des formes profilées dans le till indiquent un écoulement glaciaire initial de direction nord-nord-est, suivi d'un écoulement persistant vers le nord-est, bien que durant le cours de la dernière glaciation, bien que des inversions tardiglaciaires de l'écoulement se soient produites au sud et à l'est dans des cuvettes glaciaires au sein des hautes terres rocheuses. De la roche météorisée et un till bosselé indiquent des zones de conditions froides ou de glacier à base froide, ce qui, combiné à la présence de till bosselé, permet de délimiter des zones de glaces résiduelles tardives dans les hautes terres. De larges corridors sous-glaciaires, contenant des eskers et d'autres dépôts de contact glaciaire, ont permis de diriger les eaux de fonte vers le nord jusqu'à l'océan Arctique. Au sud de la ligne de partage des eaux, des lacs glaciaires éphémères, dont rendent compte des encoches d'abrasion littorale et des blocs résiduels à la surface du till, se sont formés alors que le front glaciaire se retirait vers le sud dans les hautes terres, au sud des basses terres du lac Ford et de la baie Wager. Dans cette région, la limite marine se situe entre 100 et 110 m au-dessus du niveau de la mer.



National Topographic System reference and index to adjoining published Geological Survey of Canada maps

Catalogue No. M183-1/151-2016E-PDF
ISBN 978-0-660-05362-2
doi:10.4095/298698

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CANADIAN GEOSCIENCE MAP 151

SURFICIAL GEOLOGY

WALKER LAKE SOUTH

Nunavut

NTS 56-J south

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