Preliminary CANADIAN GEOSCIENCE MAP 220 Preliminary Preliminary 116°00'

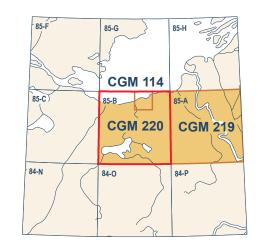
References and additional field data from: Cocking, R.B., Deblonde, C., Kerr, D.E., Campbell, J.E., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Laviolette, A., Parent, M., Plouffe, A., Robertson, L., St-Onge, D.A., and Weatherston, A., 2015. Surficial Data Model, version 2.1.0: Revisions to the science language of the integrated Geological Survey of Canada data model for surficial geology maps; Geological Survey of Canada, Open File 7741, 276 p. doi:10.4095/296568

Craig, B.G., 1965. Glacial Lake McConnell, and the surficial geology of parts of Slave River and Redstone River map-areas, District of Mackenzie; Geological Survey of Canada, Bulletin 122, 44 p. doi:10.4095/100639

Lemmon, D.S., 1998. Surficial geology, Buffalo Lake, District of Mackenzie, Northwest Territories; Geological Survey of Canada, Map 1906A, scale 1:250 000. doi:10.4095/209687

This new surficial geology map product represents the conversion of Map 1906A and its legend only, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.1) which can be found in Open File 7741. All geoscience knowledge and information from Map 1906A that conformed to the current SDM were maintained during the conversion process. Additional material such as marginal notes or figures which may exist on the original map, are not included here. Supplementary, limited legacy information was added to complement the converted geoscience data. This consists of an ice flow feature from Craig, 1965. It is identified in the accompanying geodatabase. The purpose of converting legacy map data to a common science language and common legend is to enable and facilitate the efficient digital compilation, interpretation, management and dissemination of geologic map information in a structured and consistent manner. This provides an effective knowledge management tool designed around a geo-database which can expand following the type of information to appear on new surficial geology maps.

Ce nouveau produit dérivé de la carte des formations superficielles 1906A a été produit avec le Modèle de données des formations superficielles (MDFS version 2.1) de la Commission géologique du Canada qui a été publié sous forme de dossier public 7741. La connaissance et toutes les données de la carte 1906A se retrouvant dans le MDFS ont été maintenues pendant le processus de conversion. Des éléments supplémentaires tels que les notes marginales ou les figures qui peuvent exister sur la carte originale, ne sont pas incluses ici. Des données complémentaires limitées ont été ajoutées pour compléter les données géoscientifiques converties. Il s'agit d'écoulement glaciaire de Craig, 1965. Elles sont identifiées dans la base de données géospatiales. Le but de convertir les cartes publiées antérieurement en langage scientifique commun et en légende commune est de permettre et faciliter la compilation, l'interprétation, la gestion et la diffusion numériques efficace d'information de cartes géologiques de façon structurée et cohérente. Cette base de données géospatiales est un outil de gestion qui pourra évoluer suivant le type d'information à paraître sur les nouvelles cartes des formations superficielles.



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

Catalogue No. M183-1/220-2016E-PDF ISBN 978-0-660-05376-9 doi:10.4095/298705

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2016

Natural Resources Ressources naturelles Canada

CANADIAN GEOSCIENCE MAP 220 SURFICIAL GEOLOGY

BUFFALO LAKE

Northwest Territories NTS 85-B 1:250 000



HOLOCENE O/GLb HOLOCENE / LATE WISCONSINAN b O/GLb **PRE-QUATERNARY** Where the surficial cover forms a complex pattern and the map units are too small to be mapped individually, yet constitutes a significant aerial extent of the total polygon, a dot (".") separates the first dominant map unit designator from the less abundant secondary unit (e.g. L.GLb designates an area of marl with numerous small deposits of glaciolacustrine blanket). A stratigraphic relationship is shown with a maximum of two map unit designators separated by a slash ("/") (e.g. O/GLb designates organics overlying a glaciolacustrine blanket). Hinor meltwater channel, abandoned channel or ephemeral channel, direction unknown • • • • • • Major moraine ridge, end moraine <><><><> Esker ridge, direction unknown Bedrock scarp O/GLb 6**60**000 m E.

Preliminary

Geological Survey of Canada Canadian Geoscience Maps

116°00'

Author: Geological Survey of Canada Geology by D.S. Lemmon, 1989, 1990, 1991. Additional field data from B.G. Craig, collected in 1957. Geology conforms to Surficial Data Model v. 2.1 Data conversion by D.E. Kerr, 2015 Geomatics by M. Kremer and S. Eagles Cartography by A. Galloway and E. Everett

Initiative of the Geological Survey of Canada, conducted under

the auspices of Natural Resources Canada's Geo-mapping

for Energy and Minerals (GEM) program

Preliminary

BUFFALO LAKE Northwest Territories NTS 85-B 1:250 000

CANADIAN GEOSCIENCE MAP 220

SURFICIAL GEOLOGY

Preliminary Map projection Universal Transverse Mercator, zone 11

North American Datum 1983 Base map at the scale of 1:250 000 from Natural Resources Canada, with modifications. Elevations in metres above mean sea level Magnetic declination 2016, 16°57'E, decreasing 17.4' annually. Readings vary from 17°34'E in the NW corner to 16°18'E in the SE corner of the map.

This map is not to be used for navigational purposes. The Geological Survey of Canada welcomes corrections or additional information from users.

Preliminary

114°00'

Preliminary

QUATERNARY

Preliminary

NONGLACIAL ENVIRONMENT

ALLUVIAL SEDIMENTS: sand, silt, and clay; 1 to 10 m thick; forming

floodplain, including the active delta of Slave River.

been extensively reworked by eolian processes.

primarily from glaciolacustrine and deltaic sediments.

floodplains and terraces.

lateral accretion.

Anthropogenic deposits: mine waste, tailings, reworked overburden, and

settling ponds; associated with Pine Point open pit mine operation (suspended 1991).

Organic deposits, undifferentiated: greater than 1 m thick; dominantly fen, bog.

Alluvial floodplain sediments: sand and silt; 1 to 5 m thick; on seasonally active

Alluvial terraced sediments: sand, silt, and clay; stratified; 1 to 10 m thick; adjacent to seasonally active floodplain and related to fluvial incision and/or

LACUSTRINE SEDIMENTS: sand, silt, and clay; 1 to greater than 15 m thick;

Lacustrine deltaic sediments: clay, silt, and sand; coarsening upwards; 2 to greater than 15 m thick; capped by thin alluvial deposits; forming an inactive delta plain which has been incised by the present-day river; locally, sand has

Lacustrine veneer: silt and clay, organic rich; 1 to 2 m thick; modern lake sediments; also deposited in shallow-water environments during the late Holocene.

Lacustrine sediments, undifferentiated: marl; variable thickness; abundant small marl lakes; may constitute more than 50% of polygons with GLb.

GLACIOLACUSTRINE AND LACUSTRINE SEDIMENTS: gravel, sand, silt, and clay; deposited in offshore, deltaic, and shoreline environments of glacial Lake McConnell and other basins peripheral to the Laurentide Ice Sheet.

important source of coarse aggregate in region; represents extensive reworking of till, moraines, glaciofluvial sediments, and bedrock.

and silt; generally less than 1 m and commonly only a few clasts thick;

Glaciolacustrine beach sediments: gravel and sand; generally plane bedded; 1 to 5 m thick; forming ridges and swales with local relief up to 1.5 m; most

Glaciolacustrine littoral and nearshore sediments: beach gravel, minor sand

overlying bedrock on isolated topographic highs; clasts almost exclusively of

Glaciolacustrine veneer: medium-to fine-grained sand, silt, and clay; usually

River the veneer is discontinuous, and rock outcrop may constitute up to 50%

Glaciolacustrine blanket: medium-to fine-grained sand, silt, and clay; massive

Glaciofluvial sediments, undifferentiated: sand and bouldery gravel; weakly to

to well laminated; with scattered coarse clasts (ice-rafted debris); 1 to greater

than 5 m thick over till or bedrock; generally poorly drained with extensive

well stratified; greater than 3 m thick; deposited by flowing water in contact

GLACIAL SEDIMENTS (TILL): unsorted glacial diamicton; slightly stony to stony with silty matrix; 1 to greater than 30 m thick; characteristics strongly

End moraine complex: diamicton and gravel to clay; consisting of till and ice-contact stratified drift; variable thickness; ridges up to 20 m high; forming end moraine; deposited subaqueously during ice retreat; commonly mantled

Till veneer: diamicton; less than 2 m thick; washed, with one or more of the following characteristics: 1) a discontinuous coarse lag produced through wave erosion; 2) isolated ridges of beach gravels generally less than 3 m thick; 3) a veneer of lacustrine deposits (generally less than 1 m thick); and 4) pockets of fine-grained lacustrine sediments up to 2 m thick; may occur over bedro **Fill blanket:** diamicton; greater than 2 m thick; washed, with one or more of the

following characteristics: 1) a discontinuous coarse lag produced through

wave erosion; 2) isolated ridges of beach gravels generally less than 3 m thick; occurs over bedrock; generally forms a plain of limited relief but locally

with or near glacier ice; most commonly forming small eskers and subaqueous

GLACIAL ENVIRONMENT

organic cover; eolian veneer also common

influenced by the nature of the local bedrock.

moulded into flutings.

Geological contact:

by fine-grained glaciolacustrine sediments or beaches.

Bedrock, sedimentary: Paleozoic sedimentary rocks.

Small, with paleowind direction unknown

Terrace scarp, distributary channel

Beach crest, spit and offshore bar

Iceberg scour, lake ice scour

Drumlinoid or fluting

Sinkhole, small

Outcrop, small

Sample location

Striation, direction known

Station location, ground observation

Recommended citation

scale 1:250 000. doi:10.4095/298705

massive; forming veneers less than 2 m thick over bedrock; east of Slave

NONGLACIAL - PROGLACIAL ENVIRONMENT **Eolian dune sediments:** medium- to fine-grained sand; 2 to greater than 15 m thick; commonly forming parabolic dunes and ridges; sediment is derived

deposited in nearshore and deltaic environments, forming a flat to low-relief plain.

data for more information about this publication This publication is available for free download through GEOSCAN (http://geoscan.nrcan.gc.ca/).

Data may include additional observations not portraved on this

map. See map info document accompanying the downloaded

Preliminary publications in this series have not been

2nd EDITION

Geological Survey of Canada, 2016. Surficial geology, Buffalo Lake, Northwest Territories, NTS 85-B; Geological Survey of Canada, Canadian Geoscience Map 220 (2nd edition, preliminary, Surficial Data Model v. 2.1 conversion of Map 1906A),

CANADIAN GEOSCIENCE MAP 220 SURFICIAL GEOLOGY BUFFALO LAKE Northwest Territories

Canada

scientifically edited.