

- SURFICIAL GEOLOGY**
LEGEND
- QUATERNARY**
- POSTGLACIAL DEPOSITS**
15. ORGANIC DEPOSITS: mainly muck and peat in bogs, fens, muskegs, swamps, and poorly drained areas; 15a, string bogs
- MODERN AND RECENT ALLUVIAL DEPOSITS: stratified sand, silty sand, silt, minor gravel, and clay;
 14. Alluvium on floodplains of present rivers; 14a, alluvium of river terraces in main river valleys; 14b, alluvium of abandoned river channels and fluvial plains;
 13. Alluvium of fan deposits of small tributary streams
- WIND DEPOSITS: uniform, medium to fine grained, buff sand; derived from older glacioluvial and glaciolacustrine sediments deposited at or near former ice front positions; includes areas of blowouts and areas of hummocky or ridged dune topography
- GLACIOLUVIAL AND GLACIOLACUSTRINE DEPOSITS**
- DELTA DEPOSITS: well sorted and bedded, medium to fine grained, buff sand and gravel built into glacial lakes by spillway and glacial meltwaters
- LAKE DEPOSITS: clay, silty clay, silt, and sand thick enough to mask underlying topography; occur as flat or gently undulating plains;
 10. Coarse sand, silty sand, and minor silt; 10a, sand and gravel 1 to 3 m (3 to 10 ft) thick, of possible shoreline or near shore origin;
 9. Fine silt, silty clay, clay, and minor sand; 9a, pitted or kettled silt and clay plain
- COLLAPSED GLACIOLACUSTRINE DEPOSITS: silt, silty clay, clay, and minor sand; ridged and kettled lake sediments resulting from deposition over and adjacent to bodies of glacial ice and disrupted by the melting of underlying ice; includes moraine and dead-ice plateaus;
 8. Hummocky topography strongly developed - 10 to 40 m (32 to 131 ft) local relief; 8a, sand, fine sand, and minor silt;
 7. Hummocky topography moderately or weakly developed - 2 to 10 m (6 to 32 ft) local relief; 7a, sand, fine sand, and minor silt
- GLACIOLUVIAL (ICE CONTACT AND ICE FRONT) DEPOSITS:** gravel and sand, poorly to well sorted and bedded, mainly coarse to medium grained, with numerous cobbles, boulders, and lenses of silt;
 6. Outwash deposits: well sorted and bedded sand and gravel in flat plains and terraces deposited at the ice front in ice marginal positions by glacial meltwaters; includes pitted and nonpitted outwash plains, valley trains, and kame terraces;
 5. Hummocky or ridged ice contact deposits: well to poorly sorted and bedded sand and gravel in steep-sided mounds and ridges; includes kames and eskers
- GLACIAL DEPOSITS**
- MORAINAL DEPOSITS: till, with minor sand, gravel, and silt; knob and rimmed kettle topography with many stagnant and dead-ice features;
 4. Hummocky topography strongly developed - 10 to 40 m (32 to 131 ft) local relief; 4a, ridged (characterized by sharp ridges and rimmed kettles);
 3. Hummocky topography moderately or weakly developed - 2 to 10 m (6 to 32 ft) local relief; 3a, locally covered by a thin veneer of sand not thick enough to mask underlying topography; 3b, morainal deposits washed and channelled by meltwater
- DRUMLIN DEPOSITS: till, with minor sand, gravel, and silt; unsorted material ranging from sand and pebbles to cobbles and boulders in a clayey to silty matrix; includes streamlined features such as drumlins, drumlinoids, flutings, grooves and furrows resulting from moulding by active glacier ice movement or remoulding during ice readvance
- GROUND MORAINAL DEPOSITS: till; unsorted material ranging from pebbles and sand to cobbles and boulders in a clayey to silty matrix; topography undulating to gently rolling; 1a, locally covered by a thin and commonly discontinuous veneer of sand not thick enough to mask underlying topography; 1b, washed and channelled by glacial meltwater and includes lag gravel and sand; 1c, locally modified by lakewater and commonly bevelled
- QUATERNARY AND CRETACEOUS**
- R. VALLEYSIDE OUTCROPS OF BEDROCK: shale, sandy shale, sandstone, coal seams, bentonite; includes colluvium and landslide material derived from bedrock, glacial, glacioluvial, and glaciolacustrine deposits; in many places covered by thin slumps, alluvium, or drift

- Symbols in red may form geological boundaries
- Geological boundary:
- Ice flow ridges: individual or groups of straight, parallel till ridges or furrows, 1 to 15 m (3 to 50 ft) high, parallel to ice flow direction; includes drumlins, drumlinoid ridges, flutings, grooves, furrows, gouges, ice flow markings (symbols) represents actual length of feature
- Morainal ridges: straight to arcuate till ridges, 5 to 20 m (16 to 65 ft) high, mainly transverse to ice flow direction; includes ice-thrust ridges, recessional moraines, and ridged and moraines
- Washboard moraine ridges: successions of minor, straight to arcuate, parallel till ridges, 1 to 5 m (3 to 16 ft) high, mainly transverse to ice flow direction and displaying a characteristic topography
- Ice-disintegration ridges: fields of minor, straight to curved till ridges commonly cutting each other at right angles, 1 to 8 m (3 to 26 ft) high, mainly oblique to ice flow direction, and resulting from the melting of ice by downwasting; includes crevasse fillings
- Circular rim ridges: areas of numerous small closed depressions present in morainal and glacioluvial and glaciolacustrine deposits; the material of these circular ridges is usually the same as that of the deposit in which they occur; includes pitted outwash plains and kame terraces and collapsed glaciolacustrine deposits and rim ridges of ice-block depressions and moraine plateaus
- Glacial meltwater channels: includes spillways, wind gaps, ice marginal and ice front channels, and inlets and outlets of glacial lakes (major, minor)
- Crest lines of large sand dunes in areas of wind deposits
- Escarpment in bedrock or unconsolidated materials; mainly present-day or abandoned river valley walls and lakeshore bluffs
- Fossil locality; commonly vertebrate bones or freshwater shells
- Gravel, sand, or clay pit
- Locality of radiocarbon-dated specimen

Geology by S.H. Richard, 1968-69

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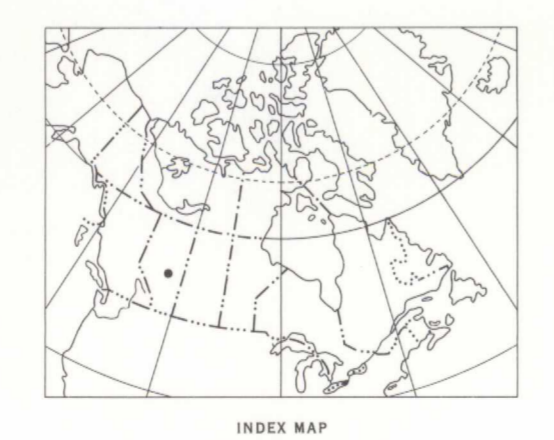
Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Base map reduced and assembled from 1:50 000 scale sheets published by Surveys and Mapping Branch in 1973

Approximate magnetic declination 1979, 22°52' East, decreasing 6.1' annually

Copies of the topographical edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa

Elevations in feet above mean sea level



MAP 1-1979
SURFICIAL GEOLOGY
DAPP CREEK
 WEST OF FOURTH MERIDIAN
 ALBERTA

Scale 1:100,000

Kilometres 2 0 2 4 6 8 Kilometres
 Miles 2 0 2 4 Miles

Universal Transverse Mercator Projection
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83/13	83/14	83/15	83/16
83/12	83/11	83/10	83/9
83/8	83/7	83/6	83/5
83/4	83/3	83/2	83/1

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MAP 1-1979
DAPP CREEK
 ALBERTA

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