



- LEGEND**
- QUATERNARY POSTGLACIAL**
- NONGLACIAL ENVIRONMENTS**
- ORGANIC DEPOSITS:** peat and muck; 1 to 3 m thick; formed by the accumulation of plant material in various stages of decomposition; generally occurs as flat, wet terrain over poorly drained substrates; organic deposits too small to be shown at this map scale occur within other units.
- Ob** Bog peat: sphagnum or forest peat; may be treed or treeless; includes hummocky, wet terrain, in places underlain by ground ice and discontinuous permafrost.
 - Of** Fen peat: peat derived from sedges and partially decayed shrubs; forms relatively open peatlands with a mineral-rich water table that persists seasonally near the surface; commonly covered with low shrubs and sparse trees.
 - O** Undifferentiated bog and fen peat.
- ALLUVIAL DEPOSITS:** sorted gravel, sand, silt, and organic detritus deposited by flowing water; commonly stratified.
- Ap** Floodplain sediments: sand, silt, and organic detritus, horizontally stratified, underlain, in many places, by gravel; occur as flat surfaces close to river level; form active floodplain with meander channels and scrolls; >1 m thick.
 - At** Terrace sediments: stratified sand and gravel overlain by a veneer of sand and silt; form terraces well above flood level; >2 m thick.
 - Ad** Deltaic sediments: stratified sand and gravel underlain by fine sand, silt, and clay; occur at the mouth of streams entering lakes; >2 m thick.
 - Af** Fan sediments: poorly sorted gravel, sand, silt, and organic detritus; form fans at the toe of slopes; generally 2 to 15 m thick.
 - A** Alluvial sediments, undifferentiated: dominantly a mixture of floodplain and terrace sediments.
- COLLUVIAL DEPOSITS:** nonsorted to poorly sorted, massive to stratified debris deposited by direct, gravity-induced movement; composition dependent on source material.
- Ch** Landslide and slump debris: diamicton with a high matrix and low clast content, with a texture dependent on source materials; form active and inactive landslides, with a hummocky topography; generally 1 to 10 m thick, but may exceed 10 m near the toe of large landslides.
 - Cv** Colluvial veneer: thin cover of slumped material; overlies bedrock or till; occurs on steep (>40°) slopes; generally 1 to 2 m thick.
- POSTGLACIAL OR LATE WISCONSINAN**
- PROGLACIAL AND GLACIAL ENVIRONMENTS**
- GLACIOLACUSTRINE DEPOSITS:** fine sand, silt, and clay, deposited in glacially-dammed lakes in valleys or along the margin of the retreating Laurentide Ice Sheet.
- Lb** Glaciolacustrine blanket: well sorted sand, silt, and clay; generally overlain by organic deposits in lowlands with level topography; locally stratified; >2 m thick.
 - Lv** Glaciolacustrine veneer: well sorted sand, silt, and clay; occurs near limits of former glacial lakes; includes minor till; 1 to 2 m thick.
- GLACIOFLUVIAL DEPOSITS:** sand and gravel with minor diamicton; well to poorly sorted, and commonly stratified; deposited by glacial meltwater.
- Gt** Glaciofluvial terrace sediments: sand and gravel, stratified to massive; form flat surfaces perched well above alluvial deposits; commonly associated with meltwater channels; 1 to 10 m thick.
 - Gh** Ice contact deposits: sand and gravel, stratified to massive and commonly faulted; form hummocky and kilted surfaces relating to meltout of underlying ice; generally greater than 3 m thick.
 - Gp** Outwash plain sediments: sand and gravel, stratified to massive; generally 1 to 5 m thick.
- GLACIAL ENVIRONMENT**
- TILL:** nonsorted diamicton consisting of pebbles, cobbles, and boulders in a generally clayey matrix; deposited directly by glaciers (Laurentide Ice Sheet); clast content is low; clasts can be striated and of various lithologies, including many Canadian Shield erratics.
- Tb** Till blanket: continuous till cover forming undulating, hummocky, and ridged topography that locally obscures underlying units; >2 m thick.
 - Tv** Till veneer: discontinuous till cover; underlying bedrock topography is discernible; <2 m thick.
- NOTE:** In areas where the surficial cover forms a complex pattern, the area is coloured according to the dominant unit and labelled in descending order of area (e.g. O-Gp).
- Geological boundary (defined)**
- Landslide scar
 - Paleocurrent direction
 - Meltwater channel, small (flow direction known, unknown)
 - Meltwater channel, large (flow direction known, unknown)
 - Kettle
 - Esker (flow direction known, unknown)
 - Moraine
 - Crevasse filling
 - Glacial fluting
 - Crag-and-tail
 - Drumlin (flow direction known, unknown)
 - Relict permafrost
 - Outcrop
 - Gravel pit
 - Field observation site (with, without sample)

EUB/AGS Map 315 Zama Lake Area	EUB/AGS Map 316 Hay Lake Area
GSC OF4754 Hay River	GSC OF4637 Bassett Lake

Figure 1. NTS 84 L showing EUB/AGS (Alberta Energy and Utilities Board/Alberta Geological Survey) and GSC (Geological Survey of Canada) maps.



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OPEN FILE 4637
SURFICIAL GEOLOGY
BASSETT LAKE
ALBERTA

Scale 1:100 000/Échelle 1/100 000

Universal Transverse Mercator Projection
 North American Datum 1983
 © Her Majesty the Queen in Right of Canada 2004

Projection transversale universelle de Mercator
 Système de référence géodésique nord-américain, 1983
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The digital elevation model supplied by Geomatics Canada
 Illumination: azimuth 315°, altitude 45°, vertical factor 3x

This map was produced from processes that conform to the ESS Info Publishing Services
 Subdivision Quality Management System, registered to the ISO 9001:2000 standard

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

Digital base map from data compiled by Geomatics Canada, modified by ESS Info

Mean magnetic declination 2004, 22°03'E, decreasing 16.5" annually.
 Readings vary from 22°06'E in the SW corner to 21°59'E in the NE corner of the map

Elevations in metres above mean sea level

84 F	84 M	84 N
84 I	84 L	84 K
84 H	84 E	84 J

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

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