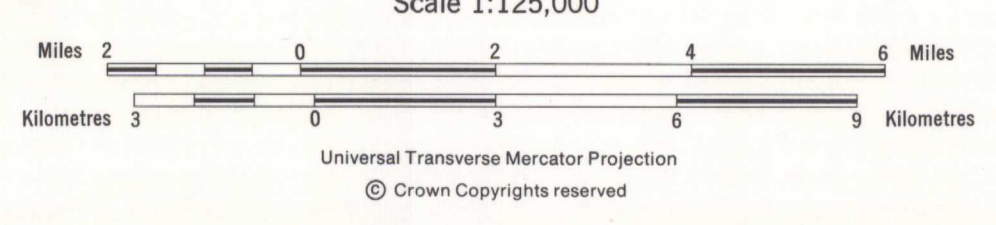


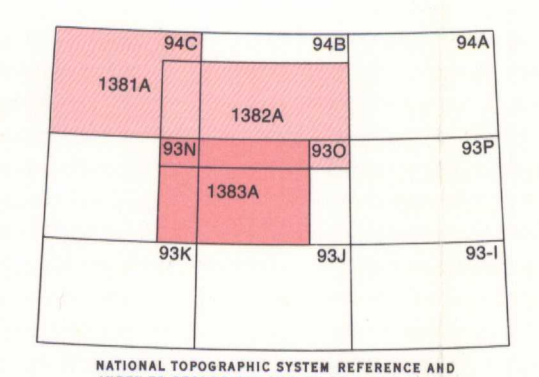
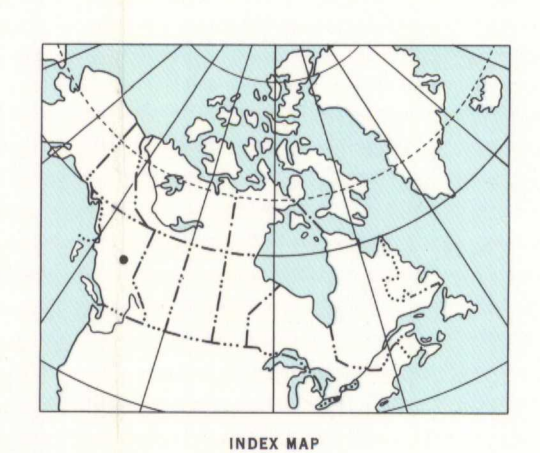
MAP 1383A
SURFICIAL GEOLOGY AND LANDFORMS
WILLISTON LAKE AREA
(MAP 3)
BRITISH COLUMBIA
Scale 1:125,000



LEGEND

LITHOLOGY	TOPOGRAPHIC EXPRESSION	TOPOGRAPHIC SITUATION	ENGINEERING NOTES
Ap Modern Alluvium: gravel and sand, silt, and minor muck and peat at or near present base level (recently deposited and channel deposits)	Flat, low terrace levels; includes terraces up to 20 feet above modern floodplain	Bordering major rivers and tributaries	Floodplains unsuitable for location of structures because of flooding risk and generally poor subsoil drainage; low terraces suitable where cover of silt is thin or lacking; good source of aggregate
Al Fan Deposits (including associated contiguous sediments): poorly sorted gravel, sand, silt, and clay	Low angle (< 15°) fans, some irregularly shaped	Valley sides at abrupt changes of stream gradient	Generally offer well-drained building sites, but sudden channel shifting may cause damage; good source of aggregate
O Organic Deposits: muck, mucky peat, peat, and marl	Flat, irregularly shaped areas generally cover < 10 square miles	Flat poorly drained areas (mainly on broad valley bottoms)	Unsuitable for location of structures because of low bearing capacity and poor drainage
Ce Slump Deposits: clay, silt, sand, and minor gravel (developed or earth flow in unconsolidated material)	Ridges and hummocks generally organized in annular bands	Bordering rivers and streams	Unsuitable for location of structures, because in most places these deposits are being undercut by the local stream and are continually subject to further movement
Ca Colluvial Deposits: mainly bedrock rubble (pieces of rockfalls or landslides in consolidated material; includes lavas)	Hummocks, closed depressions; high angle (20°-37° above base (slopes))	Base of steep slopes	Location and stability of deposits results in unsuitable structure locations; may be poor source of local bedrock aggregate
Ft Fluvial Deposits: gravel and sand, and minor silt; terraces intermediate in time and space between modern or near modern terraces and terraces associated with deposition	Flat, intermediate, level terraces; up to 50 feet above modern floodplain	Bordering major rivers and tributaries	Suitable for location of structures where silt cover is thin or lacking; good source of aggregate
E Ancient Deposits: sand and minor silt; mainly in dune form overlying lacustrine deposits	Irregularly shaped mounds and ridges of low (< 20 feet) relief	Broad valley bottoms	Subject to wind erosion where vegetation mat is removed; location of structures limited by the nature of underlying material
Lp Lacustrine Deposits: clay, silt, and sand; minor gravel near former shorelines; Lp deposits generally over 12 feet thick that mask underlying topography; Lv, thin veneer generally less than 12 feet thick not masking underlying topography	Flat to gently rolling when thickness < 12 feet; gently rolling when thickness > 12 feet	Broad valley bottoms	Generally unsuitable for location of structures because of poor bearing capacity and drainage characteristics; improves near former shorelines where gravel is present; this unit is subject to slumping along shorelines of Williston Lake
Fm Fluvial Deposits, Non-Ice Contact: gravel, sand, and silt; fine, shaly, or silty; generally associated with fluvial deposition; Fu, silted, unconformable by relatively flat surfaces broken by closed depressions	Flat, high terrace levels with surfaces up to 550 feet above modern floodplain; where settled, flat is broken by isolated or clustered closed depressions	Valley bottoms	Suitable for location of structures where silt cover is thin or lacking; but subject to large scale landsliding at shoreline of Williston Lake; good source of aggregate
Fh Fluvial Deposits, Ice Contact: gravel, sand, and silt; mainly poorly sorted, some silty and lacustrine deposits; includes kames, same terraces, crevasse fillings, eskers and one "wet meadow" ridge located between Portage and Bullhead Mts	Hummocks, elongated and sinuous ridges, flat terraces, closed depressions	Mainly major valley bottoms; sides and bottoms of minor valleys	Suitable for location of structures, but subject to large scale landsliding at shoreline of Williston Lake; good source of aggregate
Fu Fluvial Deposits, Undifferentiated: gravel, sand, and silt	Subdued hummocks, closed depressions	Valley bottom	Suitable for location of structures where mainly gravel and sand; good source of aggregate
Mm Moraine Deposits (undisturbed): silt and minor contiguous and enclosed glacialfluvial deposits; Mh, hummocky; Md, drummed	Hummocks, closed depressions, streamlined ridges and depressions	Valley bottom	Well-drained hummocks and ridges and minor areas of gravel and sand offer good but generally areally restricted structure locations; excellent fill for embankment construction but generally unsuitable for aggregate unless washed
Mr Moraine Deposits (disturbed): thin till, reworked, eroded, and masked by colluvium; minor fluvial, esker and lacustrine deposits; includes scattered bedrock exposures	Features or having general form of underlying bedrock topography	Mainly on steep (10°-37°) valley slopes	Material is generally suitable for bearing structures but steep slopes limit the availability of suitable locations; generally unsuitable as aggregate unless washed
D Glacial Drift, Undifferentiated: mainly thin till, gravel, sand, and silt over bedrock	Gently rolling, hummocks, closed depressions, streamlined ridges and depressions, flat terraces	Bedrock controlled, low angle (< 10°) slopes near base of major valley sides	Because of composition and thickness variability of areas included in this unit, it is not feasible to generalize on the availability of construction sites or the suitability of these materials as aggregate
R Rock and near surface rock: cover where present, generally consists of colluvium, glacial erratics, and distributed till	Variable; commonly exposed forming steep (> 37°) slopes	Upper parts of major valleys; summit areas of mountains; along river banks	Suitable for structure locations; carbonate rocks suitable for rip-rap and crushed aggregate

Geological boundary (defined, approximate, assumed)
Trend of downfolded or streamlined feature, see section across (usually one symbol represents several features in an area)
Lacustrine equipment
Major terrace escarpment
Esker (projection of stream flow lines, unobscured)
Moraine ridge, marginal moraine channel, or break in slope indicating the upper limit of ice during a certain advance
Meltwater channel, abandoned or with underlying stream
Minor meltwater channel (unobscured)
Minor meltwater channel
Dune
Circus
Unit identification uncertain



Geology by N.W. Rutter, 1968-69
Geological cartography by H.A. Thompson, Geological Survey of Canada
Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada
Topographical base prepared prior to the creation of Williston Lake
Base map from part of maps 83 and 83-D copyrighted by 1950, 2000 scale by the Army Survey Establishment, R.C.E.
Magnetic declination 18° 4' west from 27° 00' westerly at centre of east edge to 27° 27' westerly at centre of west edge. Mean annual change 3.6'
Elevations in feet above mean sea level

1383A (MAP 3 of 3)

1383A

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1383A

MAP 1383A
WILLISTON LAKE AREA
(MAP 3)
BRITISH COLUMBIA

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