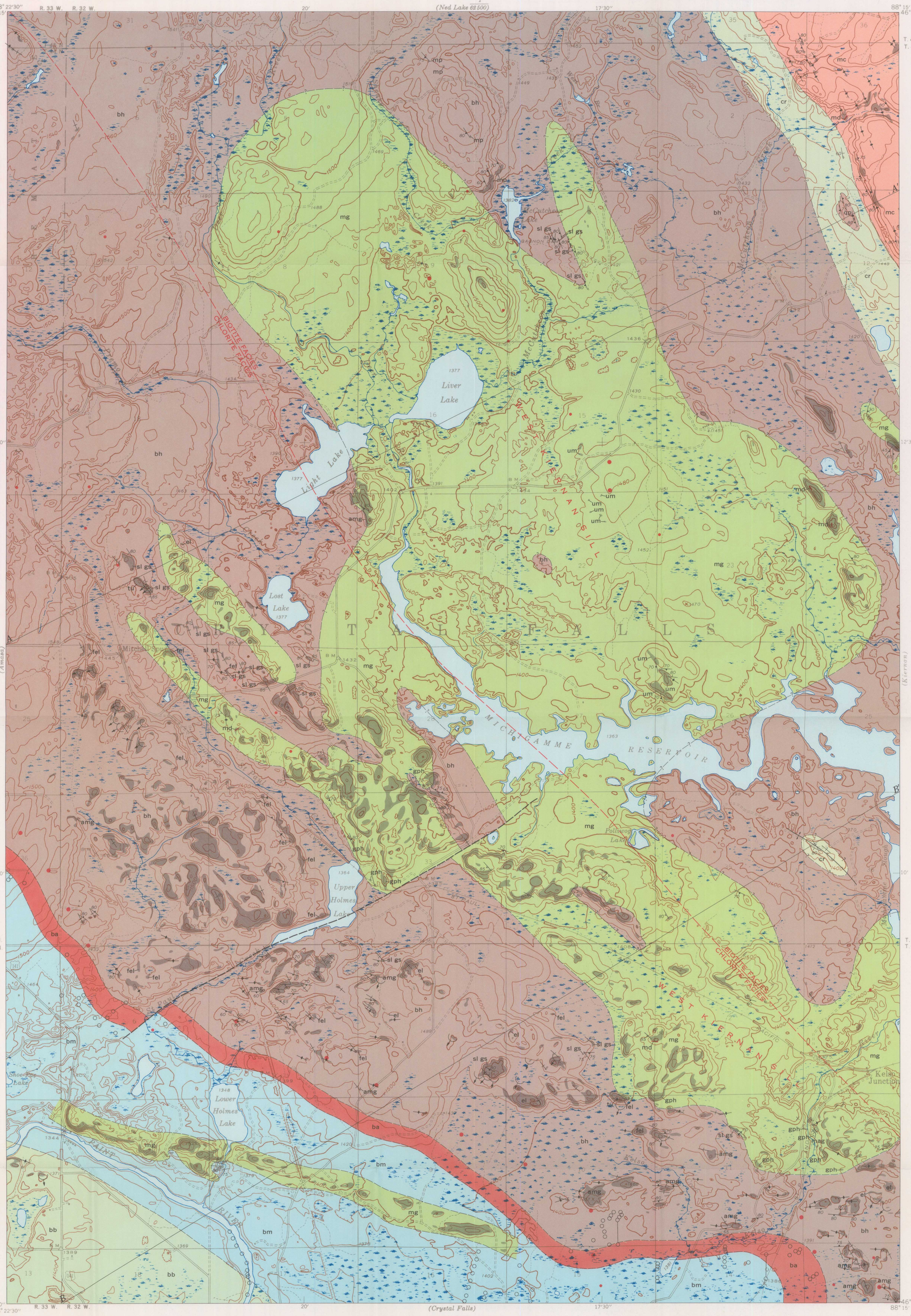
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
GEOLOGICAL SURVEY DIVISION
MICHIGAN DEPARTMENT OF CONSERVATION

BULLETIN 1226
PLATE 1



EXPLANATION

Outcrop areas shown by darker shades

md — Metadiabase
Fine grained. Forms thin dikes in Margeson Creek Gneiss, West Kiernan sill, and Hemlock Formation. Age unknown

qp — Quartz porphyry
Light-colored dense felsic rock containing opalescent quartz phenocrysts

mg — Metagabbro
Forms differentiated West Kiernan sill and related intrusives. Mainly normal metagabbro but includes ultramafic rock (um), granophyric rock (gph), and magnetite-rich differentiate (mag), which are shown locally in outcrop only. Also may include enclosed areas of greenstone of the Hemlock Formation. Exact age not known

bb — Badwater Greenstone
Outcrops are massive fine-grained metabasaltic flows, in part ellipsoidal

bm — Michigamme Slate
Outcrops are gray and green slate. Exploration records show mainly gray, green, red, and black slate interbedded with fine- to medium-grained graywacke. Locally includes cherty carbonate slate, ferruginous slate, graphitic slate, and possibly tuffs and flows

UNCONFORMITY

ba — Amasa Formation
Known only from exploration records. Mainly slaty iron-formation interbedded with ferruginous slate and minor cherty or cherty carbonate beds. Locally martitic and oolitic. Not magnetic within quadrangle

bh — Hemlock Formation
Mainly metabasaltic volcanic rocks. Upper part interbedded flows and pyroclastics; lower part predominantly flows. Flows commonly massive and in part amygdaloidal (amg) and ellipsoidal (el). Includes minor metarhyolitic porphyry flows (mp), slaty greenstone (sl gs), tuffaceous beds (tu), and felsic pyroclastics (fel). Pyroclastics and flows are strongly magnetic locally

UNCONFORMITY

cr — Randville Dolomite
Poorly exposed. In part light-buff to pink dense finely crystalline dolomite and in part gray impure dolomite containing much clastic quartz

UNCONFORMITY

mc — Margeson Creek Gneiss
Mainly gray to pink banded granitic gneiss and nonbanded granitic rock

Middle Precambrian
Animikie Series
Baraga Group
Chocolay Group
Lower Precambrian (Kiernan)
PRECAMBRIAN

Contact
Solid where approximately located; dashed where inferred; queried where position or existence doubtful

Inferred fault

Anticline
Approximate position of trace of axial plane

Strike and dip of beds

Strike of vertical beds

Strike and dip of foliation or schistosity

Strike of vertical foliation or schistosity

Strike and dip of rhythmic layering

Direction of top of bed shown by graded bedding

Top direction
Shown by ellipsoidal structures in flows

Test pit

Drill hole

Line of drill holes too closely spaced to be shown individually at map scale

300–1000 >1000
Crests of aeromagnetic anomaly
Values in gammas of total intensity

BIOTITE FACIES
CHLORITE FACIES
Metamorphic isograd, approximately located

Base by U.S. Geological Survey, 1945

Geology mapped in 1956–59

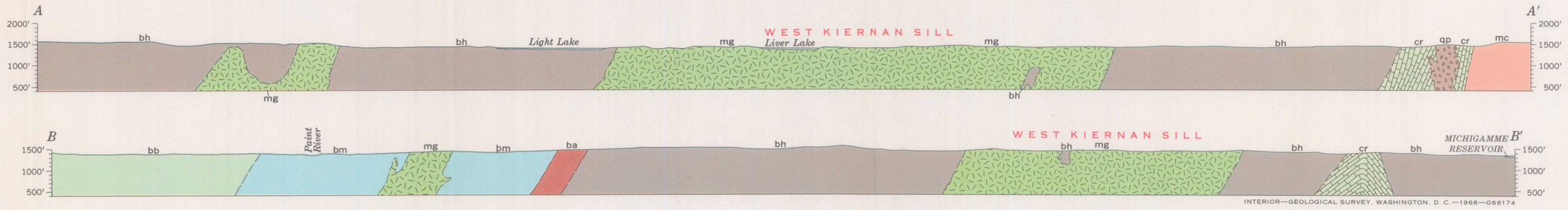
SCALE 1:24 000

1 ½ 0 1 MILE

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

0° TRUE NORTH MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1966



INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1966—G66174

GEOLOGIC MAP OF THE KELSO JUNCTION QUADRANGLE, IRON COUNTY, MICHIGAN