

SURFICIAL GEOLOGY OF BURKE COUNTY
 by T. F. Freers

EXPLANATION

THIS MAP SHOWS TWO PRIMARY GEOLOGIC ASPECTS:
 (1) LITHOLOGY OR COMPOSITION OF THE MATERIAL AND
 (2) GEOMORPHOLOGY OR NAMES OF FEATURES BASED
 ON THEIR ORIGINS.

QUATERNARY

HOLOCENE

ALL SHADES OF GRAY ARE ALLUVIAL DEPOSITS.
 ALLUVIAL DEPOSITS CONSIST OF LAYERS OF SORTED
 SAND, SILT, CLAY AND SOME GRAVEL.

- HAI ALLUVIUM ON RIVER BOTTOMS.
- HA2 ALLUVIUM KNOWN TO OVERLIE COLEHARBOR
 FORMATION SAND AND GRAVEL DEPOSITS.

PLEISTOCENE

WISCONSINAN

Coleharbor Formation
 ALL SHADES OF GREEN ARE BOULDER-CLAY DEPOSITS
 OF THE COLEHARBOR FORMATION. BOULDER-CLAY IS A
 MIXTURE OF APPROXIMATELY EQUAL PARTS OF CLAY,
 SILT AND SAND WITH A SMALL AMOUNT OF PEBBLES,
 COBBLES AND BOULDERS.

- CGM GROUND MORAINÉ—A GENTLY UNDULATING
 PLAIN WITH MANY LOW KNOBS AND SHALLOW
 DEPRESSIONS RESULTING FROM THE COLLAPSE
 OF A THIN LAYER OF SUPERGLACIAL DEBRIS.
- C&GM STREAM ERODED GROUND MORAINÉ—INCLUDES
 AREAS OF EROSION OF GLACIAL FEATURES
 FROM THE MISSOURI COTEAU ESCARPMENT
 AND STREAM VALLEYS. THE AREA ALONG THE
 UPPER DES LACS LAKE HAS SCATTERED
 DEPOSITS OF SAND, GRAVEL AND COBBLES.
- Co DEAD-ICE MORAINÉ, NORTH OF THE DASHED
 LINE—HIGH RELIEF, STEEP-SLOPE DEPOSIT OF
 COLLAPSED SUPERGLACIAL TILL; SOUTH OF
 THE DASHED LINE—LOW TO MEDIUM RELIEF,
 MODERATE SLOPE DEPOSIT OF COLLAPSED
 SUPERGLACIAL TILL.

ALL SHADES OF YELLOW ARE SAND AND GRAVEL
 DEPOSITS OF THE COLEHARBOR FORMATION.

- Co OUTWASH PLAINS, VALLEY TRAINS AND COLLAPSED
 OUTWASH DEPOSITS—VERTICAL LINES
 INDICATE OUTWASH TERRACES. SORTING IN
 THESE DEPOSITS IS GENERALLY GOOD.
- C1c ICE-CONTACT FEATURES SUCH AS ESKERS
 AND KAMES. THE SORTING OF THESE DEPOSITS
 IS WIDELY VARIABLE.

ALL SHADES OF BLUE ARE SILT AND CLAY DEPOSITS
 OF THE COLEHARBOR FORMATION.

- CPL PROGLACIAL LAKE PLAINS—LAKE SEDIMENTS
 DEPOSITED BEYOND OR NEXT TO THE
 GLACIER MARGIN.
- CIL ICE-WALLED LAKE PLAINS—LAKE SEDIMENTS
 DEPOSITED WITHIN THE MARGIN OF THE
 STAGNANT GLACIER.

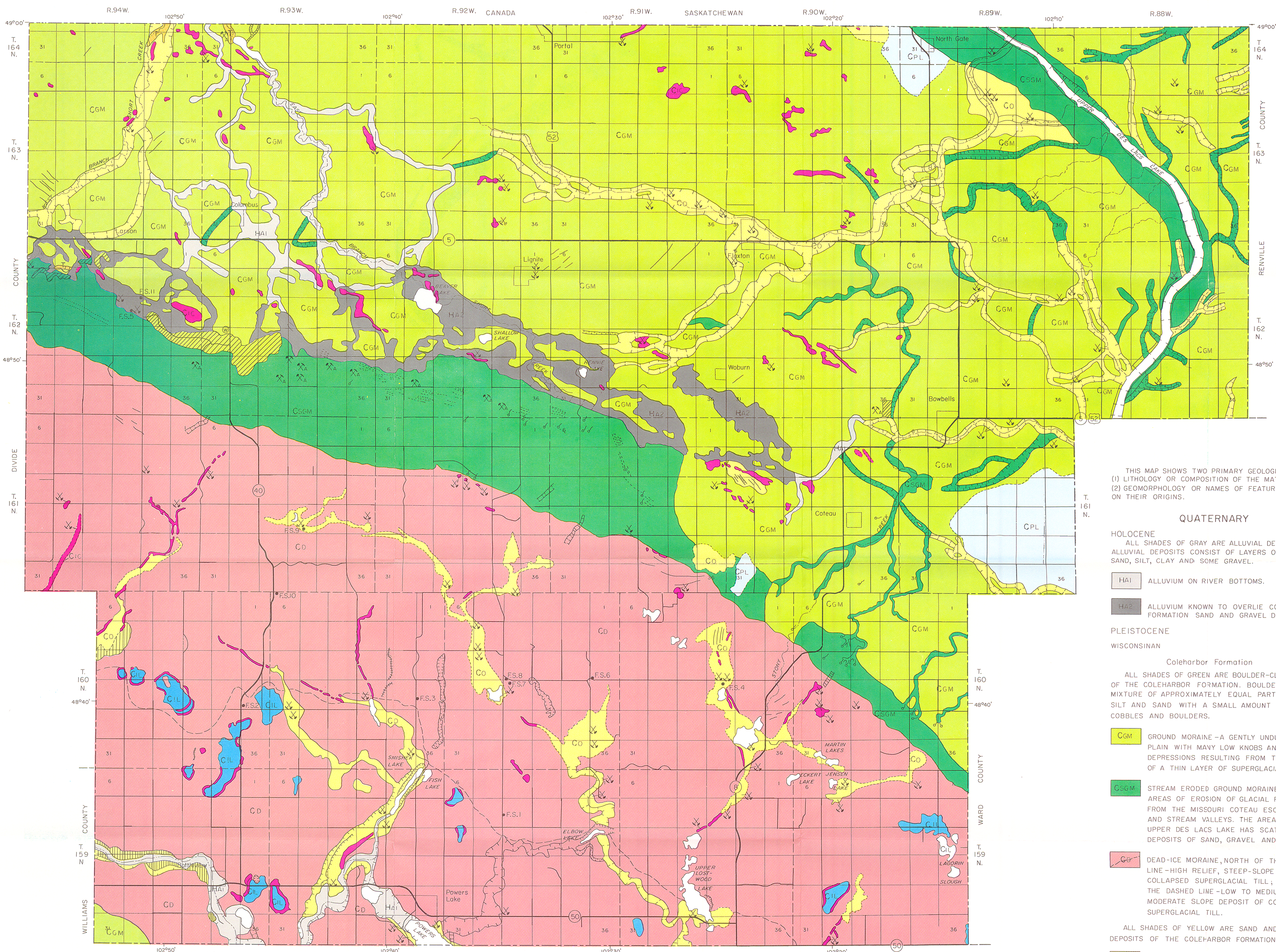
TERTIARY

PALEOCENE

- T SENTINEL BUTTE—TONGUE RIVER FORMATIONS.

SYMBOLS

- SURFACE LINEATIONS IN AREA OF DISTURBED
 BEDROCK.
- ICE DISINTEGRATION RIDGES COMPOSED OF
 BOULDER-CLAY.
- LINEATIONS OF GLACIAL ORIGIN SEEN ON AERIAL
 PHOTOGRAPHS.
- RELICT MELT-WATER CHANNEL.
- DISINTEGRATION TRENCHES.
- KETTLE CHAINS.
- MELT-WATER CHANNELS.
- PARTLY BURIED OR OLDER MELT-WATER CHANNELS.
- STEEP ICE-CONTACT SCARPS.
- POST GLACIAL STREAM CHANNELS.
- FS.4 FOSSIL COLLECTION SITE.
- GRAVEL PIT.
- COAL MINE.
- ABANDONED COAL MINE.
- STRIP MINE SPOIL PILES.
- INTERMITTENT STREAM.
- SPRING.
- FLOWING WELL.



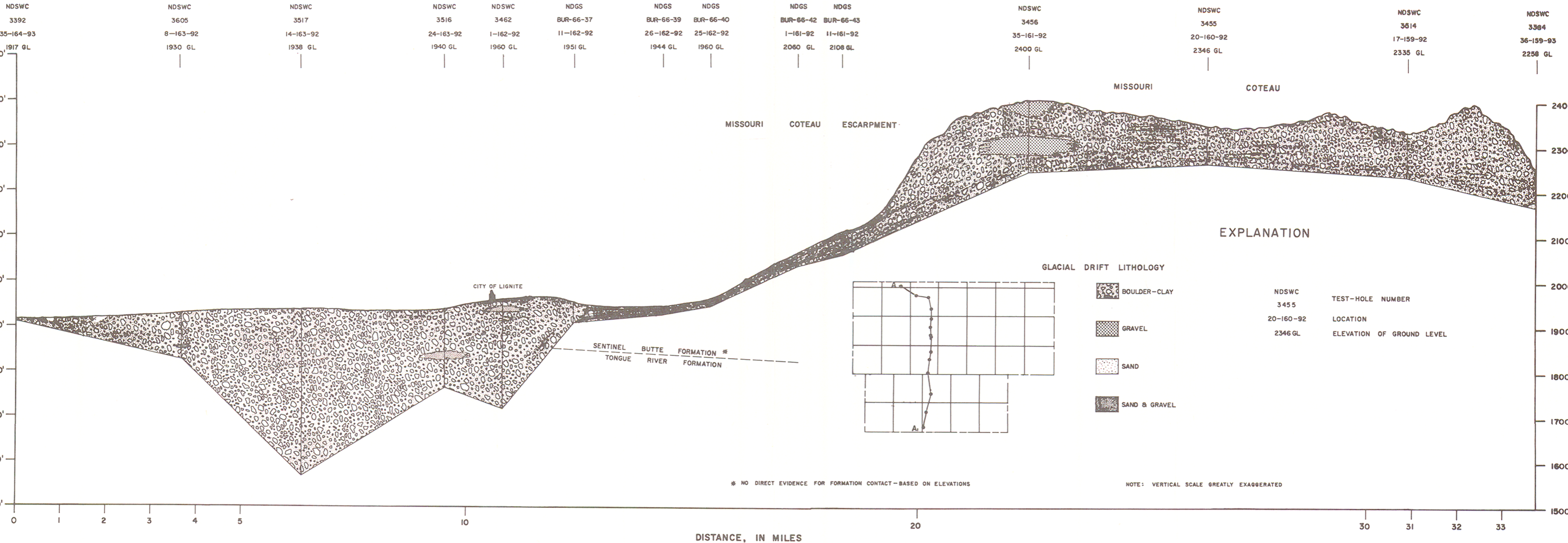
BASE PREPARED FROM NORTH DAKOTA HIGHWAY DEPARTMENT COUNTY HIGHWAY MAPS



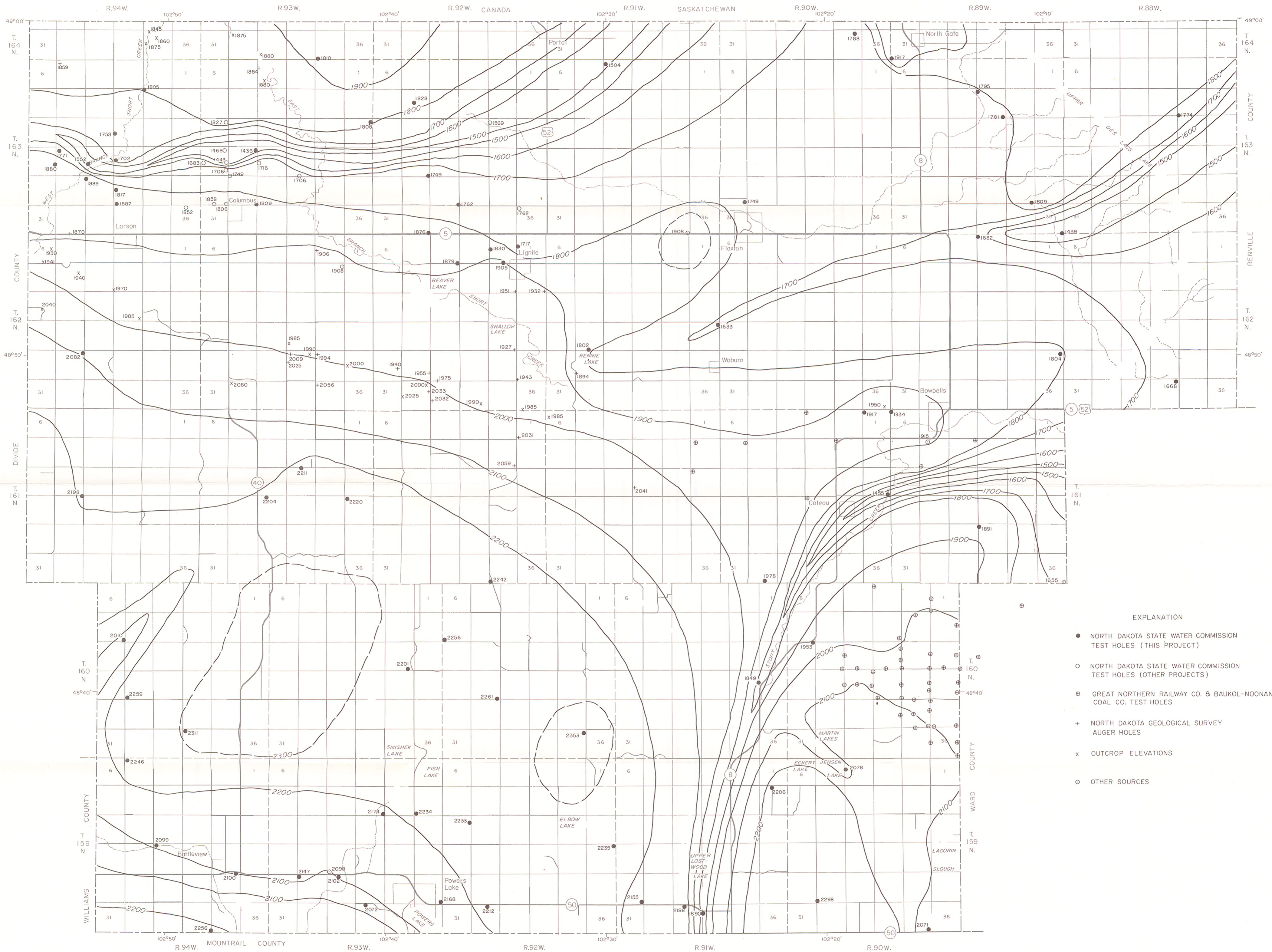
NORTH DAKOTA GEOLOGICAL SURVEY
 NORTH DAKOTA STATE WATER COMMISSION

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GEOLOGY CROSS SECTION OF CENTRAL BURKE COUNTY
by T. F. Freers



- EXPLANATION
- NORTH DAKOTA STATE WATER COMMISSION TEST HOLES (THIS PROJECT)
 - NORTH DAKOTA STATE WATER COMMISSION TEST HOLES (OTHER PROJECTS)
 - ⊕ GREAT NORTHERN RAILWAY CO. & BAUKOL-NOONAN COAL CO. TEST HOLES
 - + NORTH DAKOTA GEOLOGICAL SURVEY AUGER HOLES
 - x OUTCROP ELEVATIONS
 - OTHER SOURCES

BASE PREPARED FROM NORTH DAKOTA HIGHWAY DEPARTMENT COUNTY HIGHWAY MAPS

0 1 2 3 4 5 6 MILES