

Surface Geology Casselton Quadrangle, North Dakota

Fred J. Anderson

2022

EXPLANATION

QUATERNARY SYSTEM

HOLOCENE EPOCH

OAHE FORMATION

Hal

ALLUVIUM
Brown-gray, bedded to massive, sands, silts, gravels, and clays deposited as reworked and recent channel alluvium and overbank deposits. Constrained to areas within the Lower Rush River and older meander belts and tributary drainages on the Lake Agassiz plain.

SHERACK FORMATION

Hs

GLACIOLACUSTRINE OFFSHORE SEDIMENT
Yellow-gray, laminated to obscurely bedded, silt, clay, and silty-clay, cohesive. Commonly near 30-feet in thickness within the quadrangle. Glaciolacustrine sediments deposited in offshore environments of Glacial Lake Agassiz.

PLEISTOCENE EPOCH

COLEHARBOR GROUP

Qcr

COMPACTION RIDGE: GLACIOFLUVIAL SEDIMENTS
Approximate boundary of glaciofluvial channel compaction ridge sediments as mapped from topographic expression in LIDAR surface model. Brown-gray, water-bearing, silts, sands, and gravels of the Poplar River Formation up to 20-feet thick.

BRENNA FORMATION

Qb

GLACIOLACUSTRINE OFFSHORE SEDIMENT
Not Exposed in Map Area, Shallow Subsurface Unit
Brown to very dark-gray, slightly laminated to unbedded, soft, slickensides. Directly underlies the Sherack Formation throughout the quadrangle. Depth and thickness values shown at available test hole/well locations.

HIGH STAND LINE

Approximate demarcation of former Lake Agassiz water level high-stand interpreted from LIDAR elevation topographic sections. Parallel with Campell Beach lineations to the west.

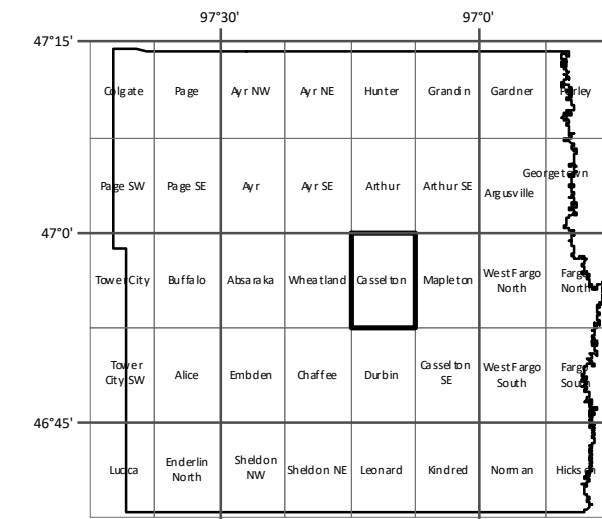
LINEATIONS

Interpreted from aerial photographs. Lines mark the long axis of the feature. Difficult to distinguish from the ground. Possible ice-drag markings.

Geologic Symbols

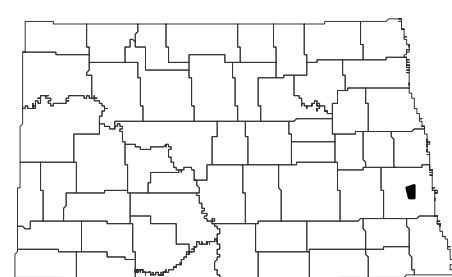
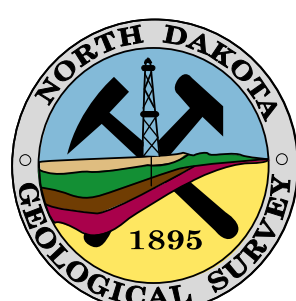
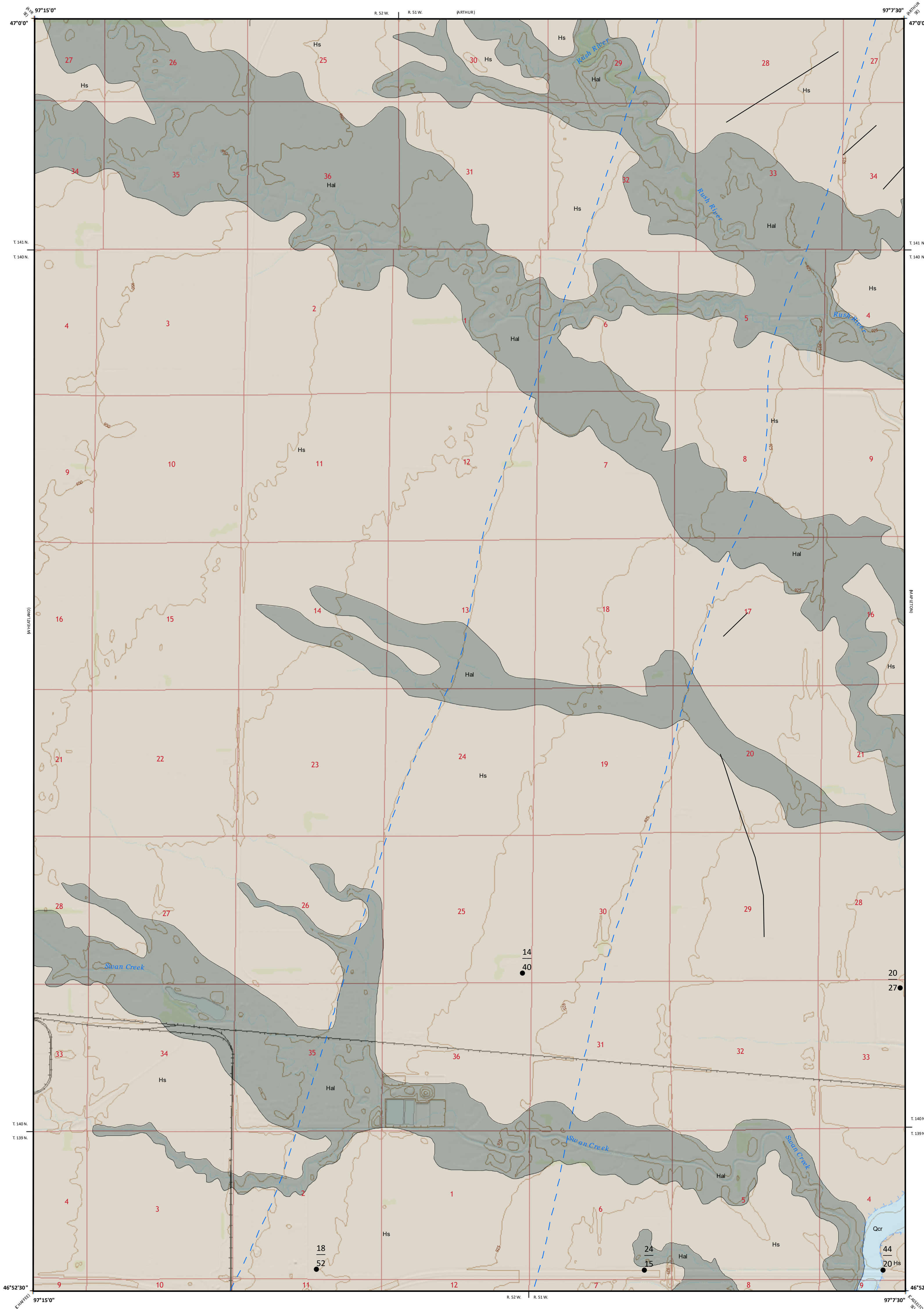
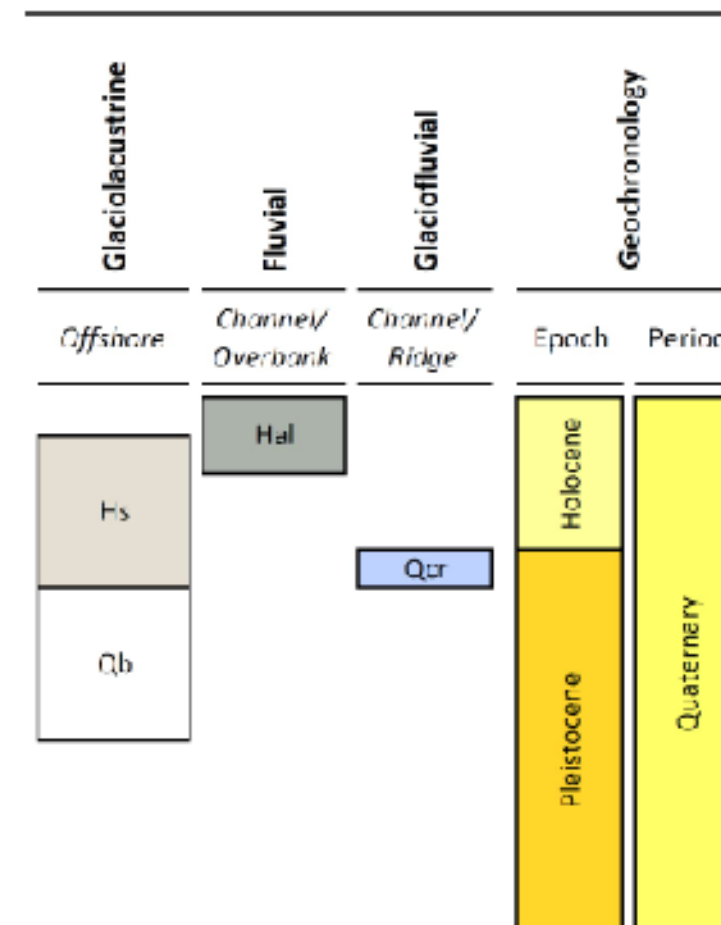
Geologic contact (Known)

BRENNA FORMATION
Test hole/Well Location ● 20' Depth (FT)
27' Thickness (FT)

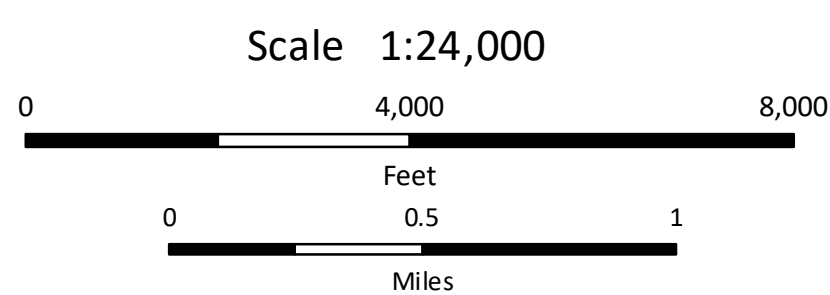


Index to 1:24,000 Quadrangles, Cass County

CORRELATION OF MAP UNITS



Casselton Quadrangle, North Dakota



Lambert Conformal Conic Projection
North American 1983 Datum
USGS 7.5 Minute Topo Map
Standard Parallels 46°52'30"N, 47°0'0"N
NGVD 1988
2019 Magnetic North
Declination at Center of Sheet