

SOUTH DAKOTA
GEOLOGICAL SURVEY

Bulletin 28-Plate I

Bedrock geologic map of
Hand and Hyde Counties,
South Dakota.



by Ronald Helgerson
and
George E. Duchossois, 1987

Contours of bedrock surface, in
feet above sea level.
Contour interval = 50 feet
Dashed where approximate.

Control point; number is eleva-
tion of bedrock surface in feet
above sea level. A minus sign
(-) indicates elevation is less
than number shown. Test hole
data available on file at South
Dakota Geological Survey,
Vermillion, South Dakota.

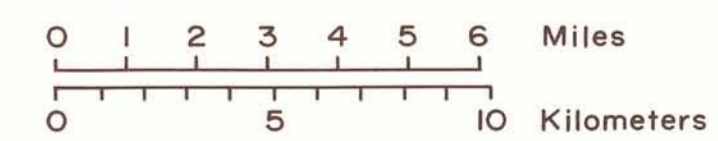
Bedrock outcrop; number is
elevation in feet above
sea level.

CRETACEOUS

-  Pierre Shale; outcrop area shaded.
-  Niobrara Formation

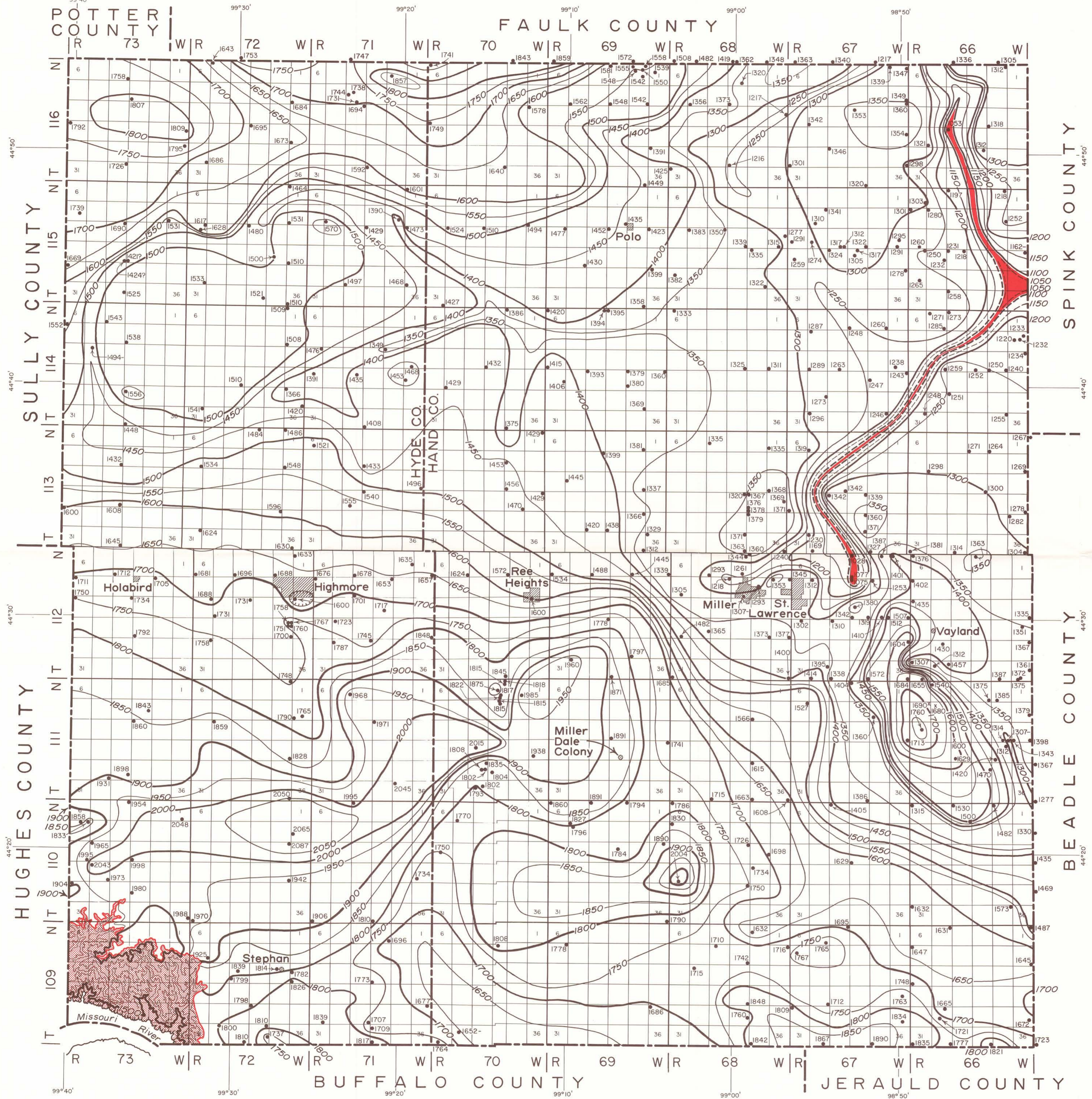
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

SECTIONIZED TOWNSHIP

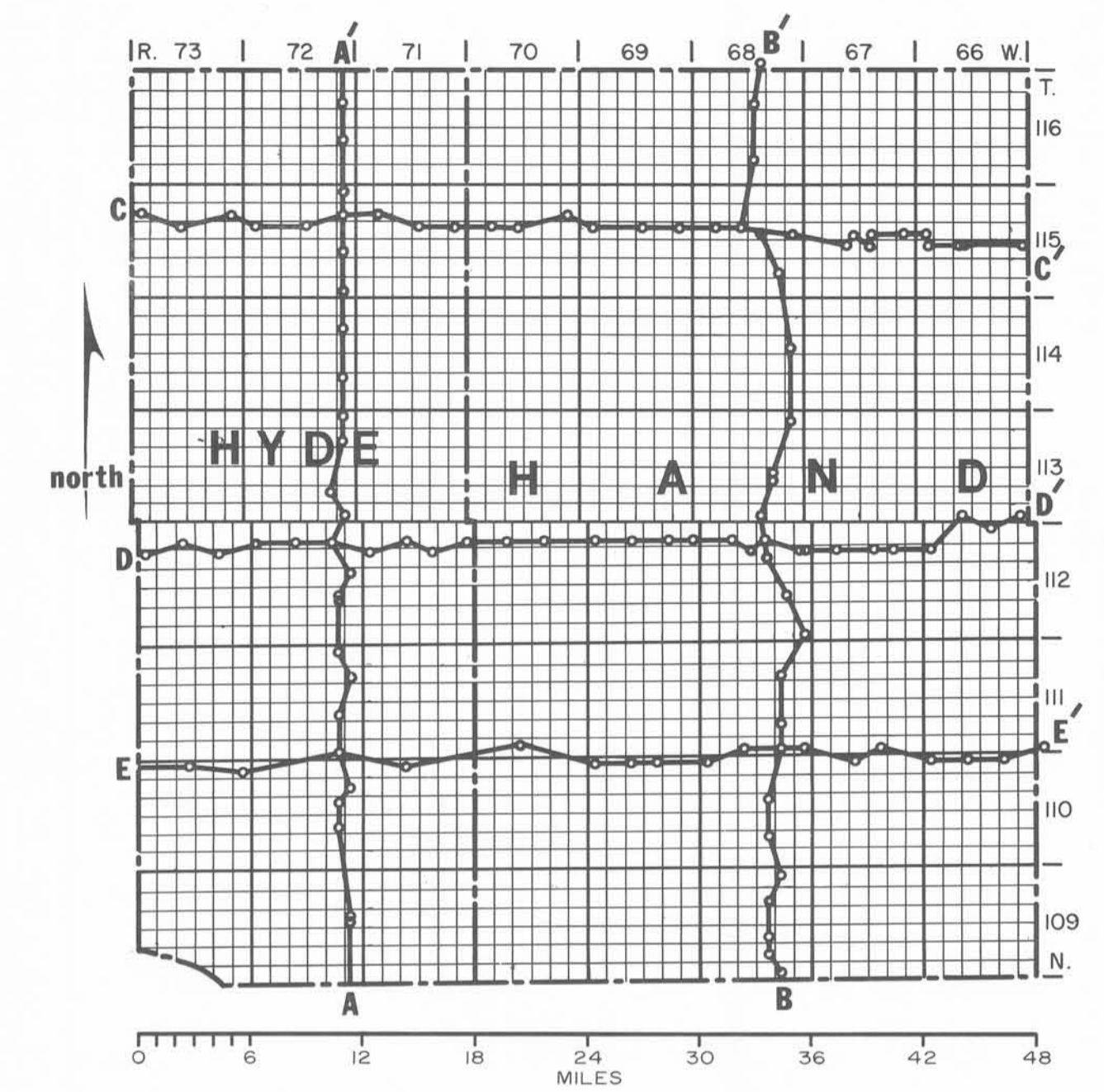
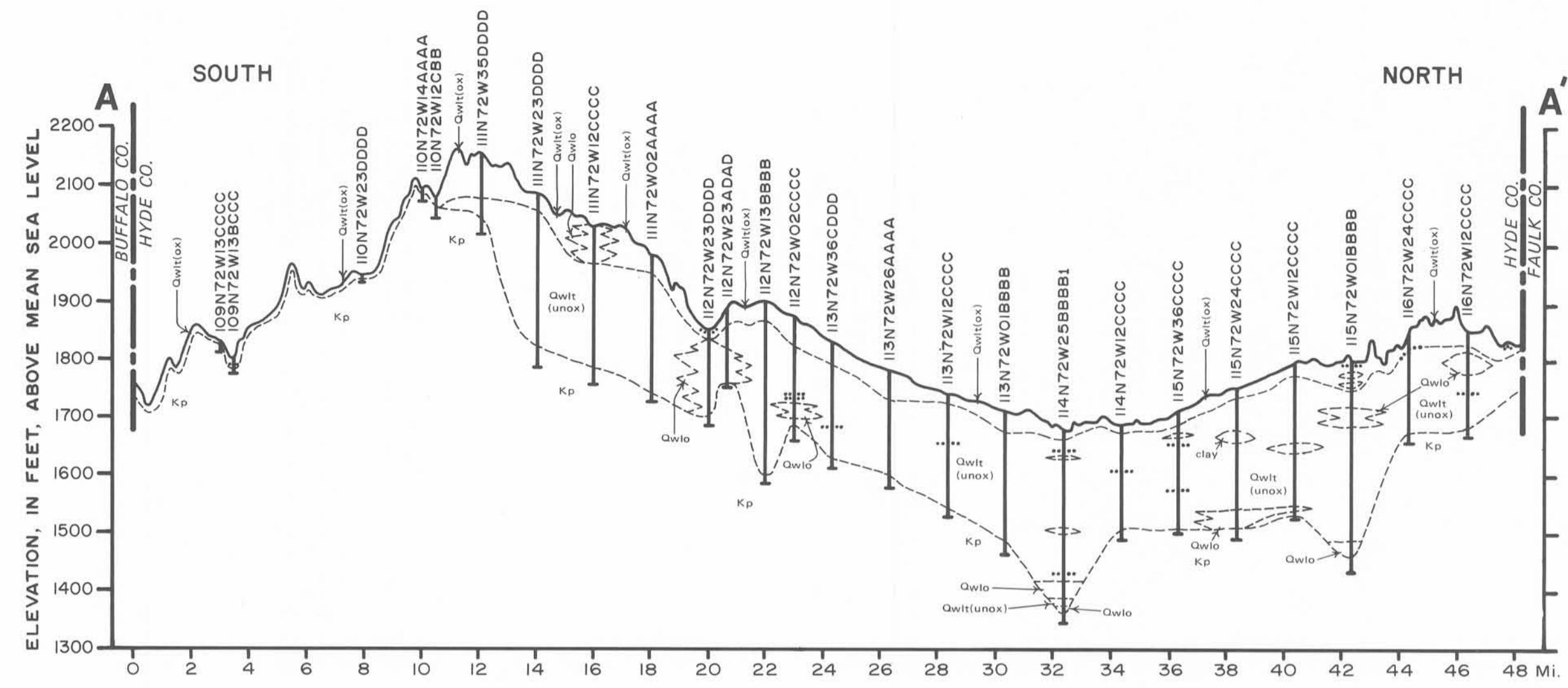


SCALE

North



by Ronald Helgerson and George E. Duchossois, 1987.



EXPLANATION

QUAT. Qal...alluvium
 Qwlo...outwash
 Qwlt(ox)...till, oxidized
 Qwlt(unox)...till, unoxidized

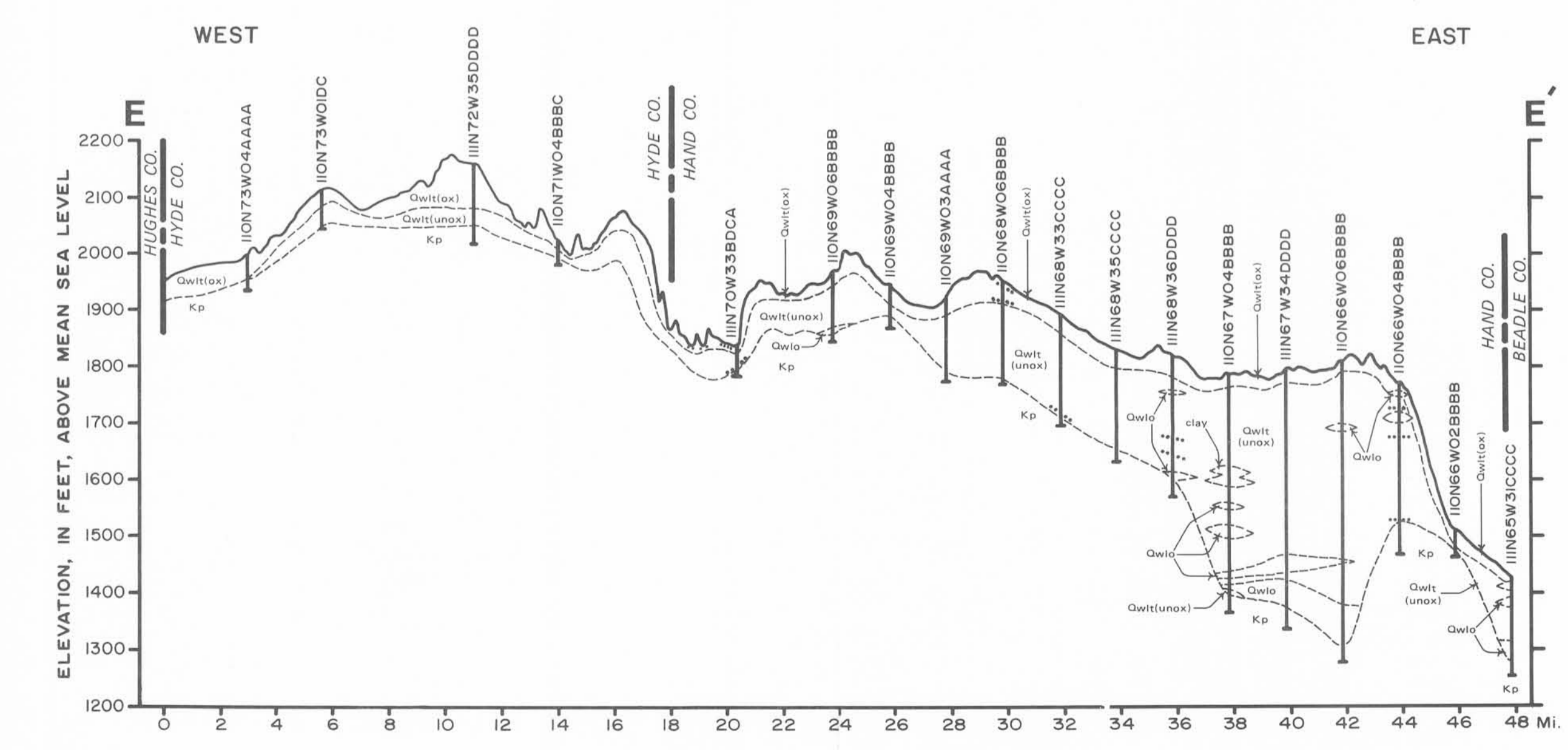
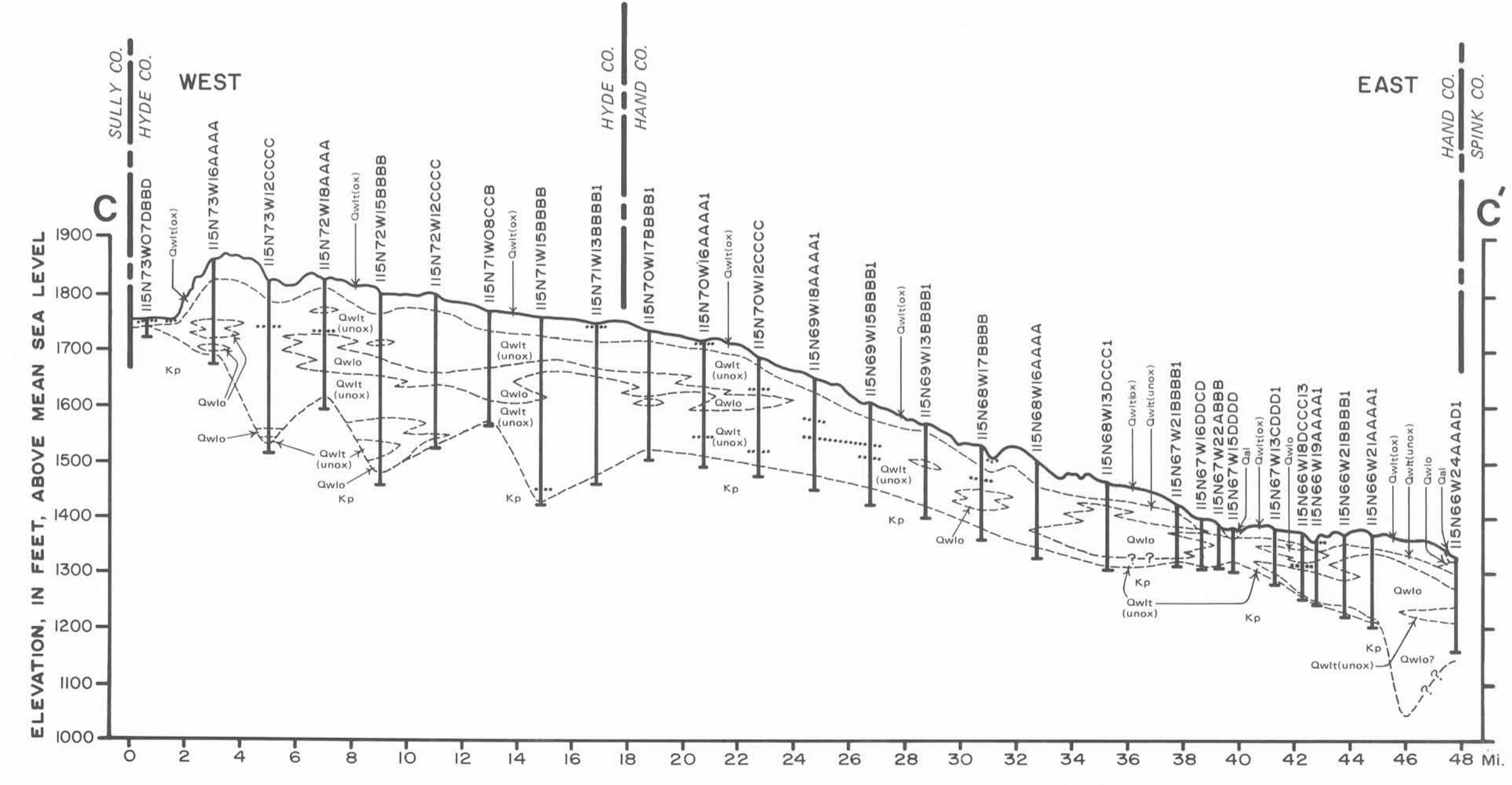
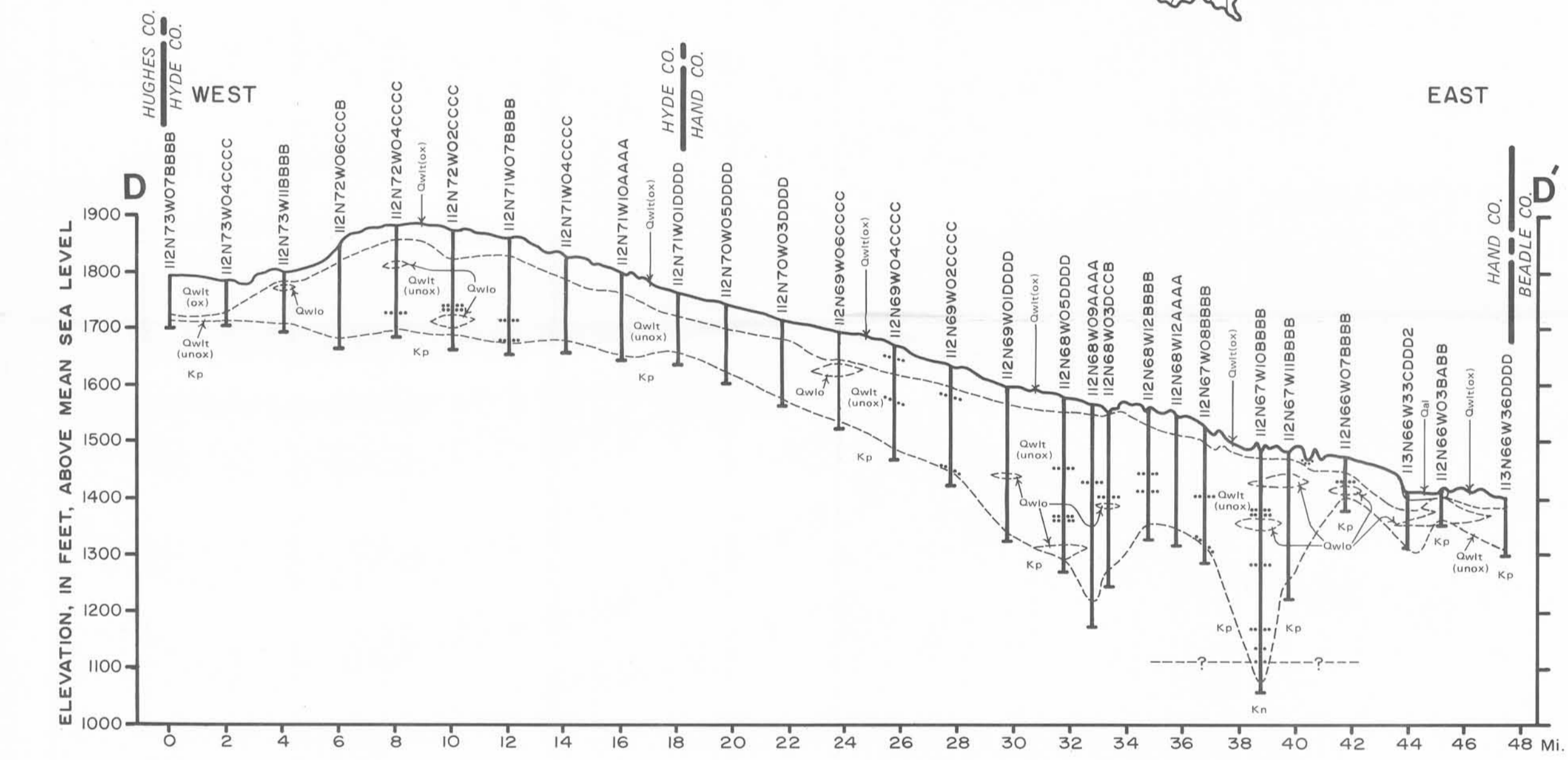
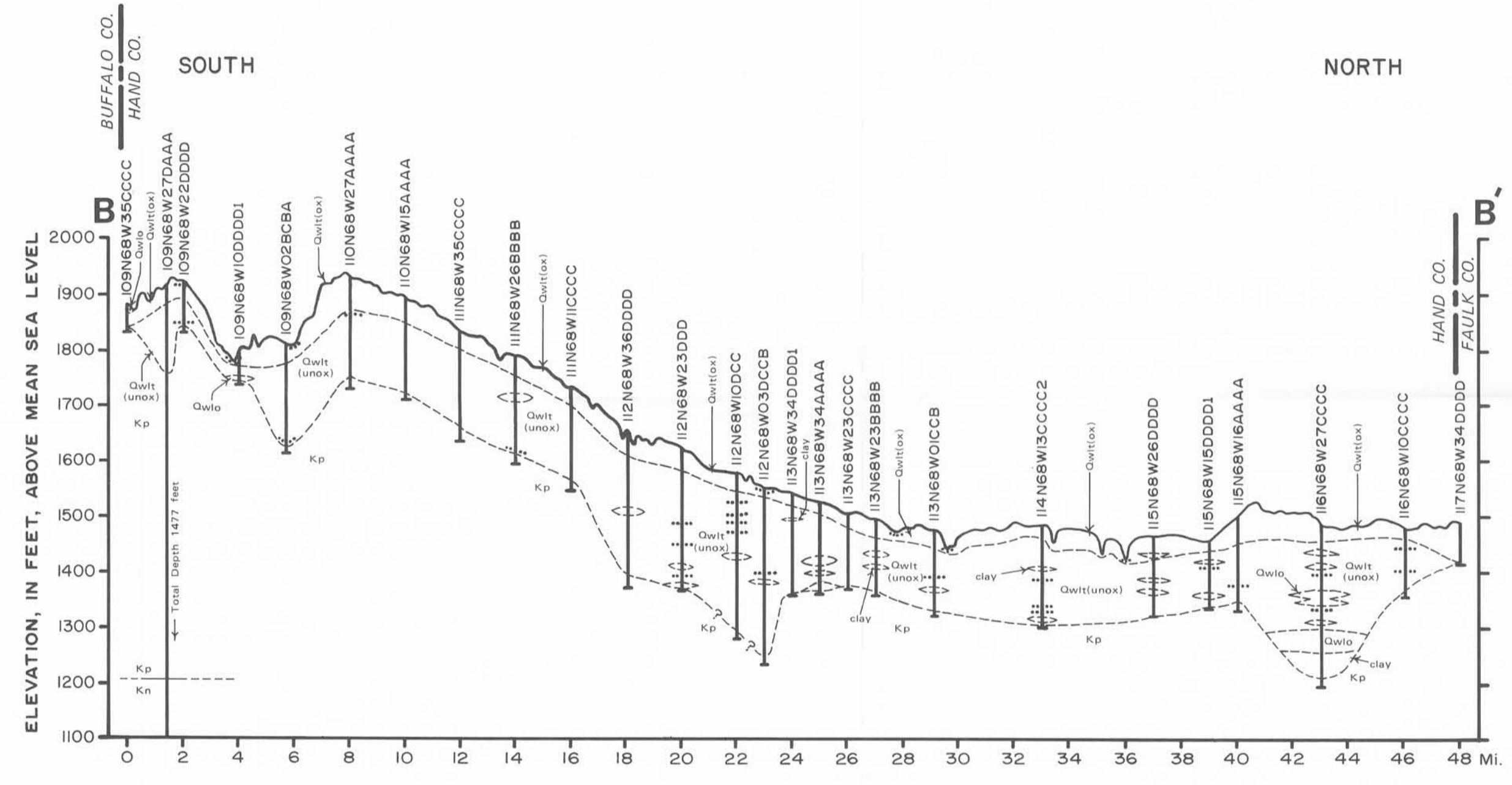
PLEIST. HOLO. Qwlt(ox)
 WISC. Qwlt(unox)

CRET. Kp...Pierre Shale
 Kn...Niobrara Formation

--- Sand and gravel layers less than 10 feet and greater than 1 foot thick.
 Qwlo
 - - - Approximate geologic contact.

Logs of all test holes are available in open file at South Dakota Geological Survey.

Well Vertical exaggeration ≈ 100x



SOUTH DAKOTA GEOLOGICAL SURVEY

Bulletin 28-Plate 3

Surficial geologic map of
Hand and Hyde Counties,
South Dakota.

by Ronald Helgerson
and
George E. Duchossois, 1987

Explanation

- | | | | |
|---------------|---------------|----------------------|---|
| QUATERNARY | HOLO-
CENE | Qal | Alluvium/Outwash Complex (Surficial alluvium deposits of dark-brown silts and clays grading into outwash deposits of sand and gravel.) |
| | | Qcs | Coteau Slope Colluvium (Heterogeneous deposit of clay, silt, sand and gravel.) |
| | PLEISTOCENE | Qwlov | Outwash, Valley Train (Sand and gravel deposited by meltwater streams.) |
| | | Qwloc | Outwash, Collapsed (Sand and gravel deposits with numerous closed depressions.) |
| | | Qwlot | Outwash, Terrace (Clay- to gravel-sized outwash with flat to gently sloping surfaces.) |
| | | Qwite | End Moraine (Till with linear features and closed depressions.) |
| | | QwltsI | Stagnation Moraine (Ablation till with numerous closed depressions; QwltsI - high level - fewer, larger closed depressions; QwltsII - low level - many smaller closed depressions.) |
| | | Qwltw | Washboard Moraine (Till with many small, linear, sub-parallel ridges.) |
| | | Qwltw | Glacially Modified Bedrock (Glacially modified bedrock surface where most or all of the till has been removed by post-glacial erosion.) |
| | | Kp | Pierre Shale (Medium- to very dark-gray noncalcareous claystone.) |
| CRET.
LATE | Kp | Pierre Shale Outcrop | |
-
- | | |
|--|------------------------------|
| Lakes | End moraine crest |
| Closed depressions (Intermittent lake) | Esker |
| Intermittent stream | Disintegration ridges |
| Meltwater channels | Approximate geologic contact |

6	5	4	3	2	1
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SECTIONIZED TOWNSHIP



INDEX MAP OF SOUTH DAKOTA
SHOWING LOCATION OF HAND AND
HYDE COUNTIES.

