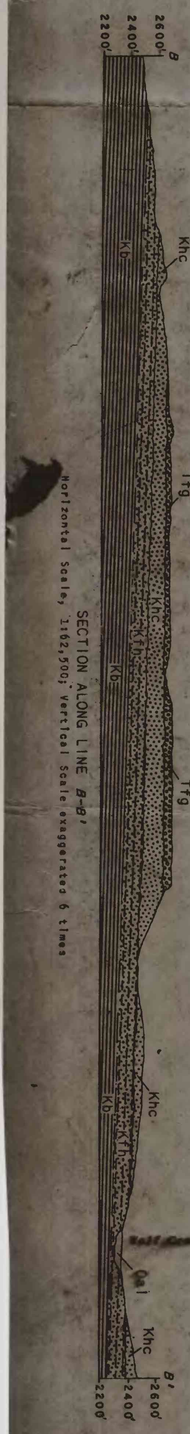
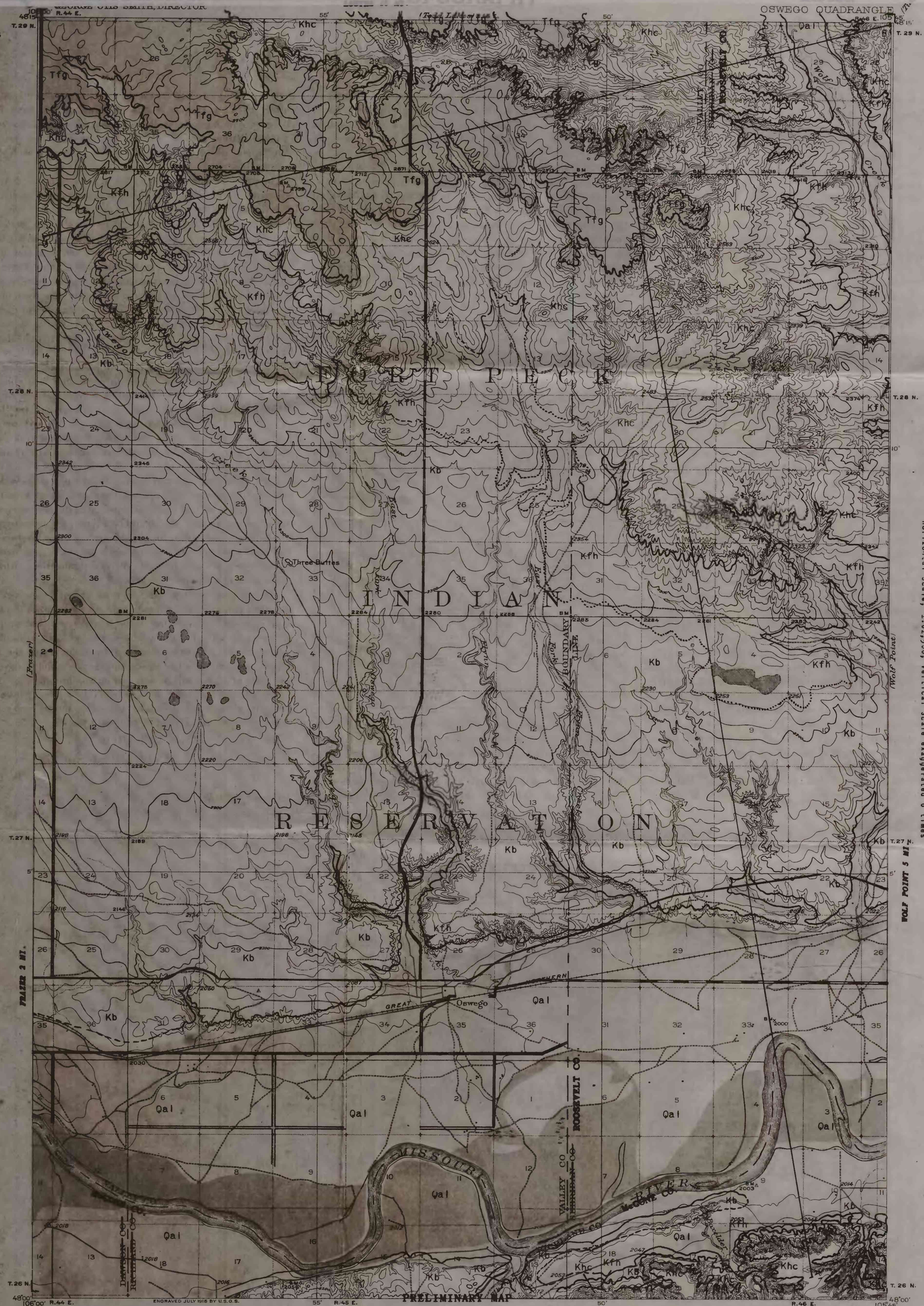
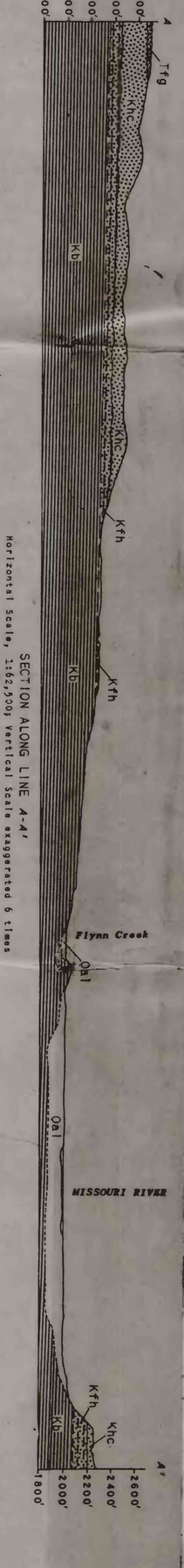
BEDROCK GEOLOGY OF THE OSWEGO QUADRANGLE, MONTANA

EXPLANATION
For crosssections

- Qal — Alluvium
- Tfg — Flaxville gravel
- Khc — Hell Creek formation
- Kfh — Fox Hills Sandstone
- Kb — Bearpaw shale







EXPLANATION

Qal

Alluvium

Fine to locally coarse-grained flood plain deposits of Missouri River and major tributaries. Mainly silt with local gravel lenses. Deposits average about 30 feet thick but may be over 130 feet thick under Missouri River floodplain.

Tfg

Flaxville gravel

Rounded brown sand and gravel 90 percent of which is brown and red quartzite and argillite. Caps highlands; 30 to 50 feet thick. Well-bedded and sorted consisting of approximately 5 percent silt, 35 percent sand, 60 percent pebbles and a few cobbles.

Khc

Hell Creek formation

Generally well-stratified sequence of shales, siltstones, sandstones, and carbonaceous shales about 200 feet thick in quadrangle. Overall appearance is one of somber greenish gray colors. Weathered surfaces of many bentonitic shale beds have spongy texture. Lower 50 to 100 feet predominantly medium tan sand or where cemented, sandstone. Contains vertebrate remains, usually ceratopsian. A few quartzite pebbles found in basal 50 feet.

Kfh

Fox Hills sandstone

Consists of upper sandstone unit 50 to 80 feet thick underlain by transitional marine unit 35 feet thick. Lower unit consists of thin-bedded well-laminated shale grading to silt toward top. Upper predominating sandstone contains numerous concretions.

Kb

Bearpaw Shale

Dark olive-gray much jointed marine shale approximately 1,100 feet thick. Only upper 400 feet exposed. Contains abundant fossiliferous calcareous and limonitic concretions. Upper hundred feet contains a few brownish sandy clay-shale beds. Thin bentonitic seams are present and bentonite is disseminated through some shale of certain zones.

Quaternary — Recent — Qal
Tertiary — Miocene-Pliocene — Tfg, Khc
Cretaceous — Upper Cretaceous — Montana Group — Kfh, Kb

Contact
Contact, approximate or gradational
Contact, inferred
Paved road
Graded road
Secondary road
Trail or unimproved road

PRELIMINARY MAP

R.B. Marshall, Chief Geographer.
Sledge Tatum, Geographer in charge.
Topography by the General Land Office and C.P. McKinley.
Control by the Missouri River Commission and the General Land Office.
Surveyed in 1908-1910 and 1913.

ENGRAVED JULY 1915 BY U.S.G.S.

Scale 62500
1 0 1 2 3 4 Miles
1 0 1 2 3 4 5 Kilometers
Contour interval 20 feet.
Datum is mean sea level.

Edition of Nov. 1915.
GEOLOGY MAPPED IN 1950 BY ROGER B. COLTON ASSISTED BY CLARENCE LOHMAN, JR.

APPROXIMATE MEAN DECLINATION 1913.

OSWEGO, MONT.