

LEGEND

(continued)

IGNEOUS ROCKS

(Areas of igneous rocks are shown by patterns of triangles and rhombs)

Nrp

Rhyolite-porphyry

Ngr

Castle granite

Ndl

Robinson diorite

Edi

Loco diorite

Egr

Crazy Mt. granite

Eap

Andesite-porphyry

Etp

Trachyte-porphyry

Eth

Theralite

Faults

Sections

A-B

C-D

E-F

G-H

I-J

K-L

M-N

O-P

Q-R

S-T

U-V

W-X

Y-Z

AA-BB

CC-DD

EE-FF

GG-HH

II-JJ

KK-LL

MM-NN

OO-PP

QQ-RR

SS-TT

UU-VV

WW-XX

YY-ZZ

AAA-BBB

DDD-EEE

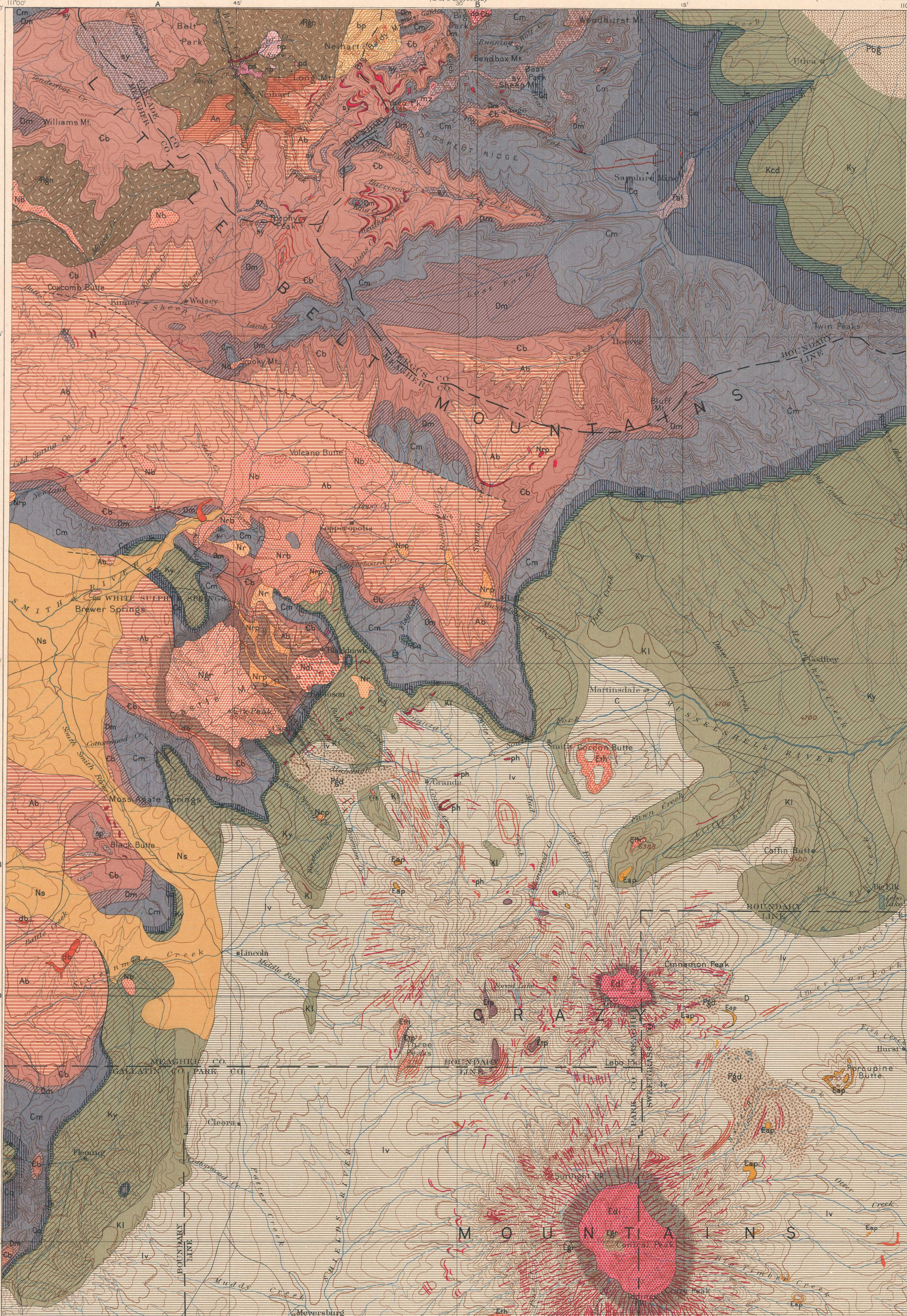
U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

HISTORICAL GEOLOGY SHEET

(Fort Benton)

MONTANA

LITTLE BELT MTS. QUADRANGLE



E. M. Douglas, Topographer in charge.
Triangulation by Northern Transcontinental Survey.
Topography by Northern Transcontinental Survey
and R. H. Chapman.
Surveyed in 1882-96.

RHC
NTS Survey

(Livingston)
Scale 250,000
Contour interval 200 Feet
Datum is mean sea level.
Edition of Feb. 1899.

Geology by Walter Harvey Weed.
Assisted by Louis V. Pirsson.
Surveyed in 1892-94 and 1897.

LEGEND

SURFICIAL ROCKS

(Areas of surficial rocks are shown by patterns of dots and circles)

Pal

Alluvium

Pbg

Bench gravels

Pgd

Glacial drift and moraines

SEDIMENTARY ROCKS

(Areas of sedimentary rocks are shown by patterns of parallel lines)

Ns

Smith River lake beds

(sand, conglomerate, clay, and volcanic ash)

lv

Livingston formation

(sandstone, conglomerate, and soft, locally calcareous material, with sandstone and shale above; beds are probably Pliocene beds at the top)

Kl

Laramie formation

(sandstone and shale, containing several workable coal seams)

Ky

Yellowstone formation

(shale, containing limestone concretions with sandstone at the base and top)

Kcd

Cascade formation

(sandstone and shale with coal seam at the top)

Je

Ellis formation

(limestone grading upward into sandstone, and with pebbly sandstone at the base)

Cc

Quadrant formation

(sandstone, green and red shales, and white limestone)

Cm

Madison limestone

(thinly bedded limestone)

Dm

Monarch formation

(brown and black granular limestone capped by shale)

Cb

Barker formation

(limestone and micaceous shale, containing beds of limestone conglomerate, and quartzite at the base)

Ab

Belt formation

(clay slate, shale, and impure limestone)

An

Neihart quartzite

(basal member of the Belt formation)

Legend is continued on the left margin.