

(Devils Tower)

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

AREAL GEOLOGY

WYOMING—SOUTH DAKOTA
SUNDANCE QUADRANGLE

LEGEND

LEGEND (continued)

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

Phonolite
Tp

Bostonite
Tb

Monzomite and syenite porphyries
Tm

Dikes and sheets of various composition
(part of a large system of dikes, few of which are shown on map)

Pseudo-leucite porphyry
(much altered and cut by many dikes probably mainly nepheline)

Nepheline-syenite
(cut by dikes of porphyry; marginal products perovskite, vesuvianite, and corundum)

Granite and pegmatite
Ag

Amphibolite-schist
(dikes in mass schist)

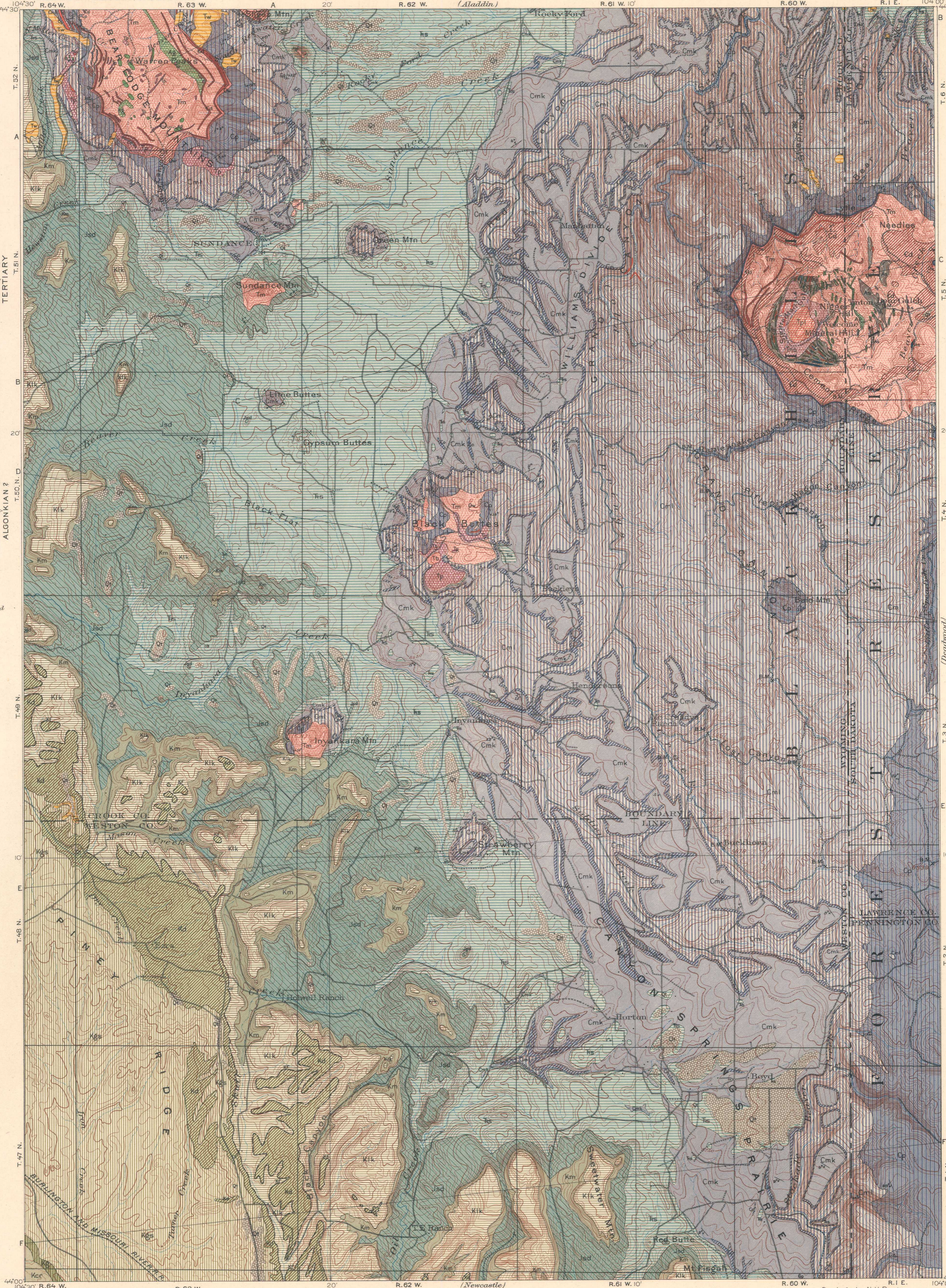
Faults

Metamorphic

Strikes and dip of stratified rocks

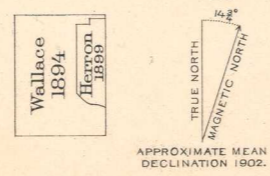
Sections

A
B
C
D
E
F



Period	Formation	Description
QUATERNARY	Pleistocene	Older terrace deposits (gravel and loam)
	Tertiary	Sand, gravel, and conglomerate (possibly of White River age)
CRETACEOUS	UNCONFORMITY	
	Upper Cretaceous	Carlile formation (gray shale and thin sandstone)
	Greenhorn limestone (impure shaly limestone)	
	Graneros shale (dark shaly shale)	
	Dakota sandstone (brownish sandstone, mostly massive)	
	Fuson formation (shale and sandstone)	
	Lakota sandstone (massive buff sandstone with coal bed locally near base)	
	Morrison shale (massive sandy shale, gray greenish, and maroon)	
	UNCONFORMITY?	
	Lower Cretaceous	Sundance formation (buff sandstone and red and grayish-gray shale)
JURASSIC	UNCONFORMITY	
	Spearfish formation (red sandy shale with beds of iron, lead, and zinc)	
CARBONIFEROUS	Minnelaha limestone (very thin bedded gray limestone)	
	Opeche formation (bright red sandy shale)	
	Minnelusa sandstone (gray red, and buff tan sandstone with red shale at base)	
	Pahasapa limestone (massive gray limestone)	
	Englewood limestone (pink limestone)	
ORDOVICIAN	UNCONFORMITY	
	Whitewood limestone (hard, massive, buff limestone)	
CAMBRIAN	Deadwood formation (brown sandstone and sandy shale)	
	UNCONFORMITY	
ALGONKIAN	Mica-schist	

Henry Gannett, Chief Topographer.
Jno. H. Renshaw, Topographer in charge.
Control by W. S. Post.
Topography by H. S. Wallace and W. H. Herron.
Surveyed in 1894 and 1898.



Scale 125000
1 inch = 1 mile
1 centimeter = 1 kilometer
Contour interval 50 feet.
Datum is mean sea level.
Edition of July 1905

DIAGRAM OF TOWNSHIP

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

Geology by N. H. Darton,
assisted by W. S. Tangler Smith.
Surveyed in 1900-1903.

Legend is continued on the left margin.