

(Devils Tower)

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

ECONOMIC 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)

Monzonite 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-lenticite porphyry (much altered and cut by many dikes, mostly Kelpathite) (Tpi)

Nepheline-syenite (cut by dikes of porphyry material, products of syenite, vesiculation, and compaction) (Tns)

Granite and pegmatite (Gg)

Amphibolite-schist (dikes in mica schist) (As)

Faults

10° Strike and dip of stratified rocks

Sections

Known productive areas

Outcrop of coal horizon (coal occurs in local basins in lower portion of Lakota formation)

Areas underlain by workable coal

Gypsum (Spearfish formation contains several beds of gypsum)

Limestone (Pahasapa, Mimbekaha, Whitewood, and Englewood limestones)

Tin-bearing pegmatite (in vicinity of Sugar Hill)

R. Mines

X. Fluorite mines

○. Prospects

c. Coal

g. Gold

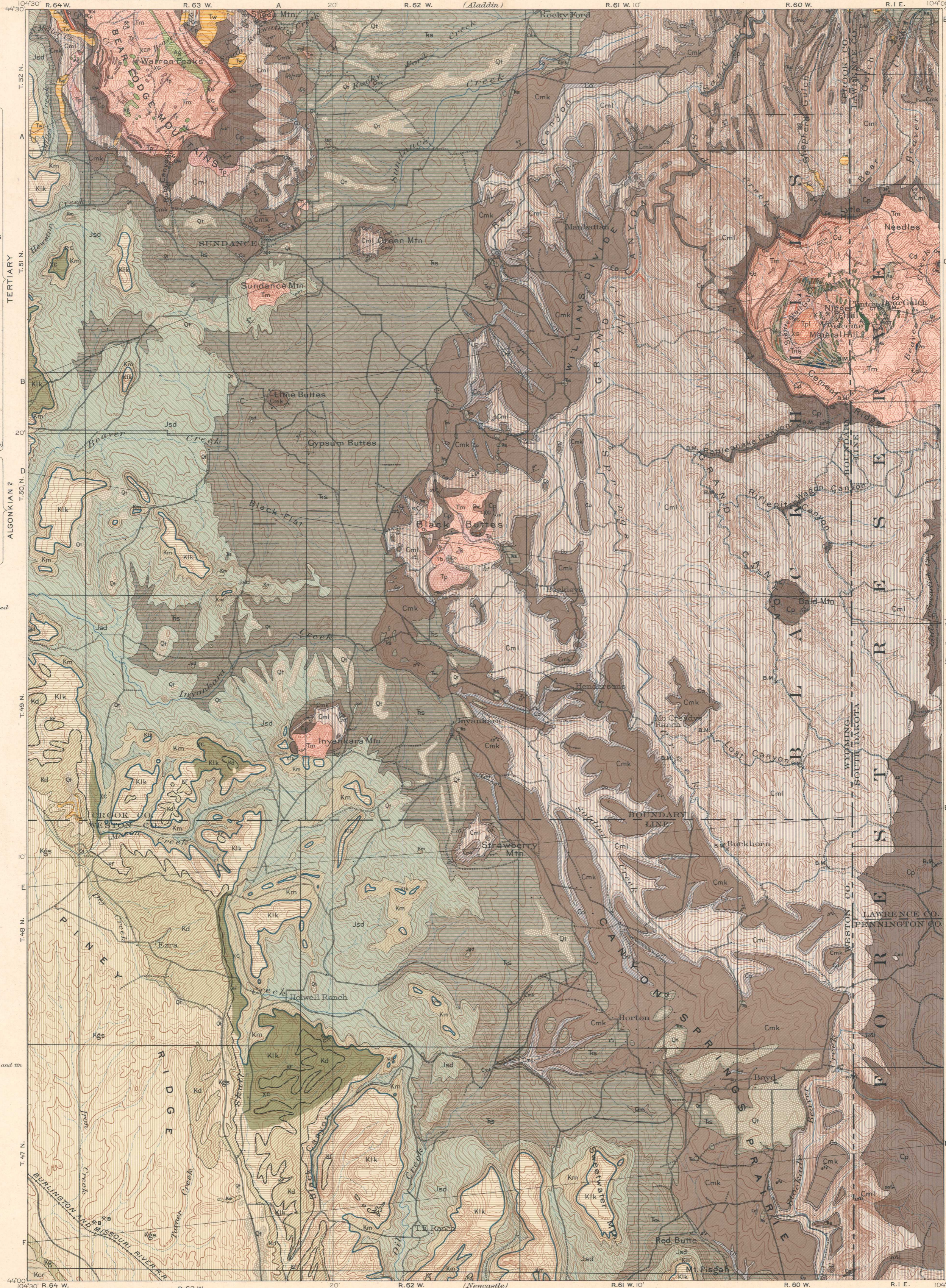
cp. Copper

t. Tin

sl. Silver-lead

st. Gold and tin

a. Bentonite



SEDIMENTARY ROCKS

(Areas of subaqueous deposits are shown by patterns of parallel lines, subaerial deposits by patterns of dots and circles)

Older terrace deposits (gravel and loam) (Qt)

Sand, gravel, and conglomerate (possibly of White River age) (Tw)

UNCONFORMITY

Carille formation (gray shale and thin sandstone) (Kcr)

Greenhorn limestone (impure stony limestone) (Kg)

Graneros shale (dark shaly shale) (Kgs)

Dakota sandstone (brownish sandstone, mostly massive) (Kd)

Fuson formation (shale and sandstone) (Kf)

Lakota sandstone (massive buff sandstone with coal bed locally near base) (Klk)

Morrison shale (massive sandy shale, gray, greenish, and maroon) (Km)

UNCONFORMITY?

Sundance formation (buff sandstone and red and greenish-gray shale) (Jsd)

UNCONFORMITY

Spearfish formation (red sandy shale with beds of gypsum, red beds) (Js)

Mimbekaha limestone (very thin bedded gray limestone) (Cm)

Opeche formation (light red sandy shale) (Ce)

Mimelusa sandstone (gray red, and buff fine sandstone with red shale at base) (Cml)

Pahasapa limestone (massive gray limestone) (Cp)

Englewood limestone (pink limestone) (Ce)

UNCONFORMITY

Whitewood limestone (hard, massive, buff limestone) (Ow)

Deadwood formation (brown sandstone and sandy shale) (Cd)

METAMORPHIC ROCKS OF UNKNOWN ORIGIN

(Areas of metamorphic rocks of unknown origin are shown by hachures)

Mica-schist (As)

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Mica-schist (As)

Mica-schist (As)

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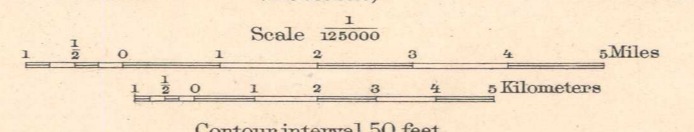
Mica-schist (As)

Mica-schist (As)

Mica-schist (As)

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 1899.

Walcott 1894
Herron 1899



Contour interval 50 feet.
Datum is mean sea level.
Edition of July 1905

DIAGRAM OF TOWNSHIP

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

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

Legend is continued on the left margin.