

EXPLANATION

Geology

Quaternary

- Qal, alluvium
- Qc, colluvium and slope wash
- Qt, talus
- Qu, surficial deposits, wind-ferretillated
- Qv, older valley-fill
- Qp, pediment deposits
- Qov, landslide
- Qvl, slide or slump blocks of talus
- Qol, slide or slump blocks of limestone
- Qvg, terrace gravels
- Qpr, older pediment remnants
- Qlr, older landslide(?) remnant

Tertiary

- Tio, Tuff of Osiris
- Tws, Wasatch Formation
- Twp, white limestone member
- Tpw, pink limestone member
- Tph, Pine Hollow Formation
- TKcp, Canaan Peak Formation
- Kk, Kaiparowits Formation
- Kw, Wahweap Formation
- Ksdj, Straight Cliffs Formation
- Kss, Straight Cliffs Formation

Cretaceous

- Unconformity
- Unconformity
- Unconformity
- Unconformity

Structural Features

- Coal beds
- Burned coal bed
- Contact
- Fault
- Structure contours, approximately located
- Anticline
- Syncline
- Anticlinal bend
- Synclinal bend
- Strike and dip of beds
- Horizontal beds
- Coal mine
- Line of measured section

Scale

SCALE 1:24,000

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

INTRODUCTION

The Griffin Point quadrangle lies in central Garfield County in southern Utah. Most of the work in the area was done in the summers of 1965 and 1966 as part of the U.S. Geological Survey's program for classifying Federal lands withdrawn for coal. Mapping was done on U.S. Geological Survey topographic maps at a scale of 1:24,000 with the aid of Geological Survey aerial photographs at a scale of 1:49,000.

GEOGRAPHY

The area lies on the northern margin of the Kaiparowits Plateau about 8 miles west of the town of Escalante, Utah, and includes the eastern edge of the higher Table Cliff Plateau and the southern end of the Aquarius Plateau. Altitudes range from about 6,000 feet in the southeast to more than 10,500 feet on the high plateaus. Much of the area is cut by steep narrow-walled canyons tributary to Main Canyon and North Creek, both of which carry permanent streams from the slopes of the high plateaus. Maintained gravel roads along North Creek, Main Canyon, and Corn Creek provide access to the area from paved Utah Highway 54 between Escalante and Henrieville. The nearest railroad is at Marysvale, Utah, about 80 miles to the northwest. Most of the quadrangle is within the Dixie National Forest. Piñon and juniper forests on the lower slopes give way to pine, fir, and aspen at higher altitudes. The climate is mostly semiarid but varies considerably with altitude.

STRATIGRAPHY

Sedimentary rocks exposed in the quadrangle total about 7,900 feet in thickness and range in age from Late Cretaceous to early Tertiary. About 9,500 feet of sedimentary rocks are present in the subsurface. The exposed sedimentary rocks are capped by a few hundred feet of middle Tertiary volcanic rocks. Large areas of the quadrangle are covered by Quaternary surficial deposits.

STRUCTURE

The major structural feature in the quadrangle is the Dutton monocline (Upper Valley monocline of Kelley, 1955), a northwest-trending flexure with dips as much as 40° westward on the steep flank. Structural relief on the fold is more than 3,500 feet. The monocline extends northward beneath Tertiary rocks of the high plateaus in the northwestern part of the quadrangle. Tertiary rocks are thickest in the structural basin west of the monocline and thin eastward by unconformable overlap of the monocline.

ECONOMIC GEOLOGY

The coal-bearing John Henry Member of the Straight Cliffs Formation (Peterson, 1969) is widely exposed over the eastern part of the quadrangle, in the structural basin in the western part of the area, separated by barren intervals commonly consisting of massive sandstone. Coal zones may contain several coal beds ranging in thickness from a few inches to 14 feet and separated by carbonaceous mudstone, or marl, and thin sandstone beds. Coal zones are probably equivalent to the Christensen zone and zones of a and probably equivalent to the Alvey zone in the Canaan Creek quadrangle (Zeller, 1973).

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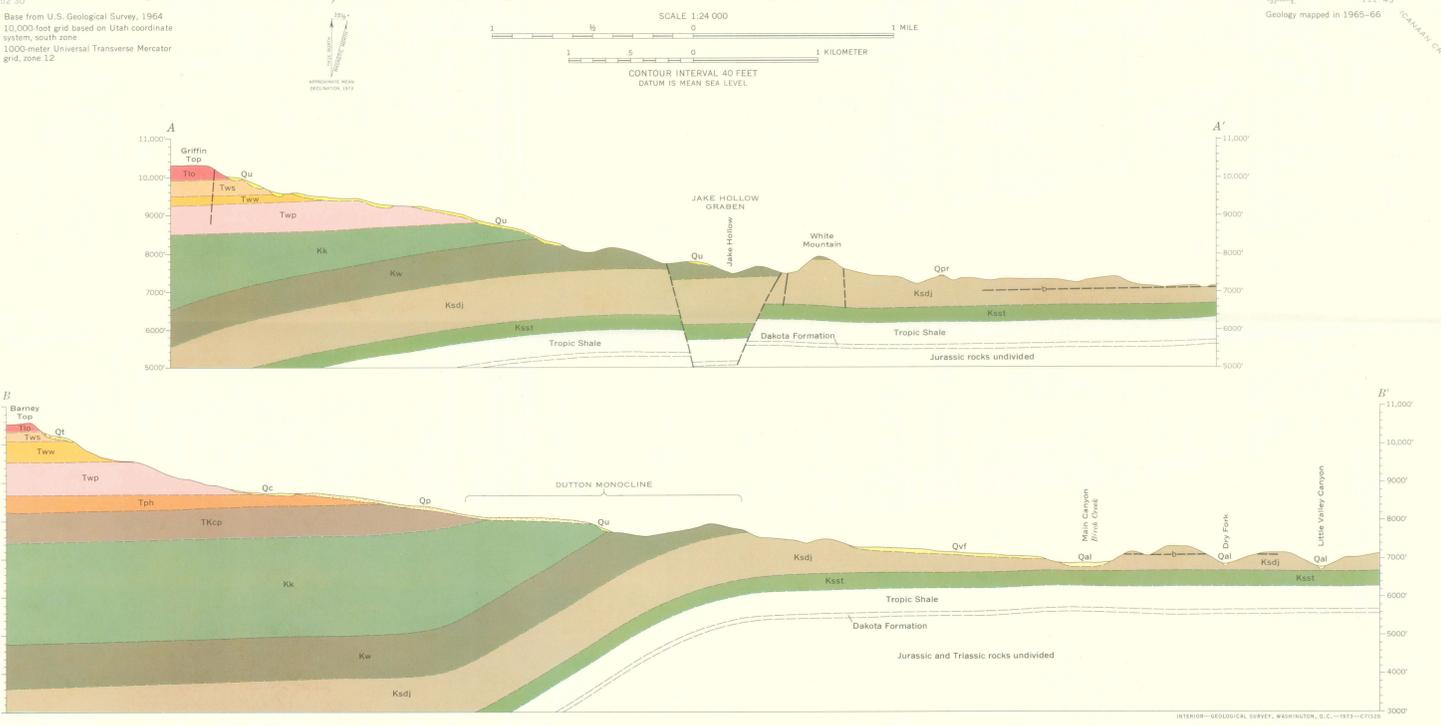
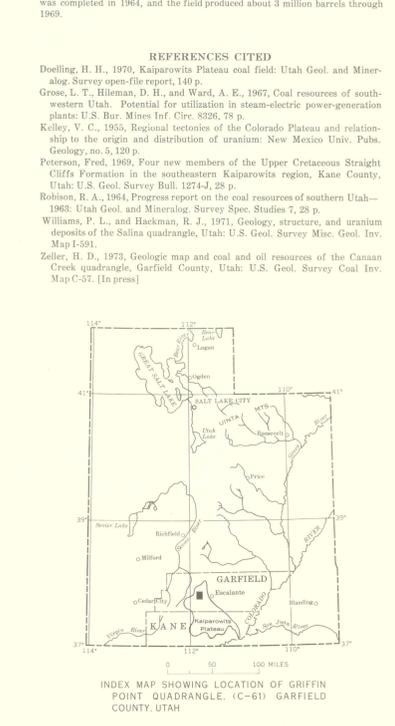


TABLE 1.—INFERRED RESOURCES, IN MILLIONS OF SHORT TONS, OF TOTAL COAL IN THE JOHN HENRY MEMBER OF THE STRAIGHT CLIFFS FORMATION IN BEDS MORE THAN 1 FOOT THICK AT DEPTHS LESS THAN 2,000 FEET

Sec.	T. 35 S., R. 1 E., Salt Lake meridian	
	Overburden (ft) <500	500-2,000
2	0.8	1.4
3	1.4	4.7
4	0.9	4.2
5	0.9	5.3
6	0.9	4.2
7	1.4	15.5
8	15.9	15.5
9	2.8	4.9
10	2.8	4.9
11	2.1	4.9
12	2.8	4.9
13	2.8	4.9
14	18.1	9.9
15	15.7	1.4
16	0.7	34.0
17	15.7	8.2
18	4.9	4.9
19	6.4	6.4
20	11.3	11.3
21	6.0	4.2
22	0.9	8.2
23	2.5	4.9
24	3.9	4.9
25	17.7	17.0
26	1.7	17.0
27	1.7	17.0
28	17.0	14.3
29	4.1	4.0
30	0.9	17.0
31	3.9	14.3
32	4.1	4.0
33	3.9	4.0
34	3.9	4.0
35	2.5	4.0
Total	72.9	37.7

Sec.	T. 34 S., R. 1 E. (unsurveyed), Salt Lake meridian	
	Overburden (ft) <500	500-2,000
2	1.8	5.5
3	3.6	3.6
4	0.7	0.7
5	7.1	7.1
6	27.6	27.6
7	15.1	5.5
8	11.1	8.2
9	15.7	15.7
10	0.7	34.0
11	15.7	8.2
12	4.9	4.9
13	6.4	6.4
14	11.3	11.3
15	6.0	4.2
16	0.9	8.2
17	2.5	4.9
18	3.9	4.9
19	17.0	17.0
20	1.7	17.0
21	1.7	17.0
22	17.0	14.3
23	4.1	4.0
24	3.9	4.0
25	2.5	4.0
Total	104.8	171.3

1 Value of 1.75 tons per acre-foot used to compute tonnage.



GEOLOGIC MAP AND COAL RESOURCES OF THE GRIFFIN POINT QUADRANGLE, GARFIELD COUNTY, UTAH

By
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