

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECONNAISSANCE DRILLING DURING 1976 IN THE RATTLESNAKE BUTTE
QUADRANGLE, ROUTT COUNTY, COLORADO

By

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Open-File Report 78-364

1978

This report has not been edited for conformity
with Geological Survey editorial standards or
stratigraphic nomenclature.

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RECONNAISSANCE DRILLING DURING 1976 IN THE RATTLESNAKE BUTTE

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INTRODUCTION

Six holes were drilled in Tps. 4 and 5 N., Rs. 86 and 87 W., Rattlesnake Butte quadrangle, Routt County, Colorado (fig. 1), by the U.S. Geological Survey in the fall of 1976. This drilling was done to obtain information on the depth, thickness, and extent of coal in the area and is part of a project to evaluate and classify federally owned mineral lands in the public domain. The drilling equipment used is owned by the Survey.

The logging was done by Geo-Dynamics, Craig, Colorado, and the Water Resources Division of the U.S. Geological Survey, using geophysical methods. A summary of the drill-hole locations, depths drilled, and depths logged, is given in table 1, page 3, of this report.

PROCEDURE

Drill-hole locations, selected by Geological Survey personnel, met the following requirements:

- (1) geologically favorable for coal occurrence (both underground and strippable potential);
- (2) federally owned coal;
- (3) accessibility by existing roads or trails;
- (4) absence of archaeological or historic sites;
- (5) nearly level drill site with minimal reclamation problems; and
- (6) permission of the surface landowners.

All holes were reclaimed in accordance with Bureau of Land Management specifications for northwestern Colorado.

The logs were originally run at a vertical scale of 1 inch to 10 feet, but for convenience of reproducing this report, the logs were reduced in scale to 1 inch to 50 feet and the horizontal logging scales were reduced accordingly. All measurements are in feet; to convert to meters, multiply by 0.3048.

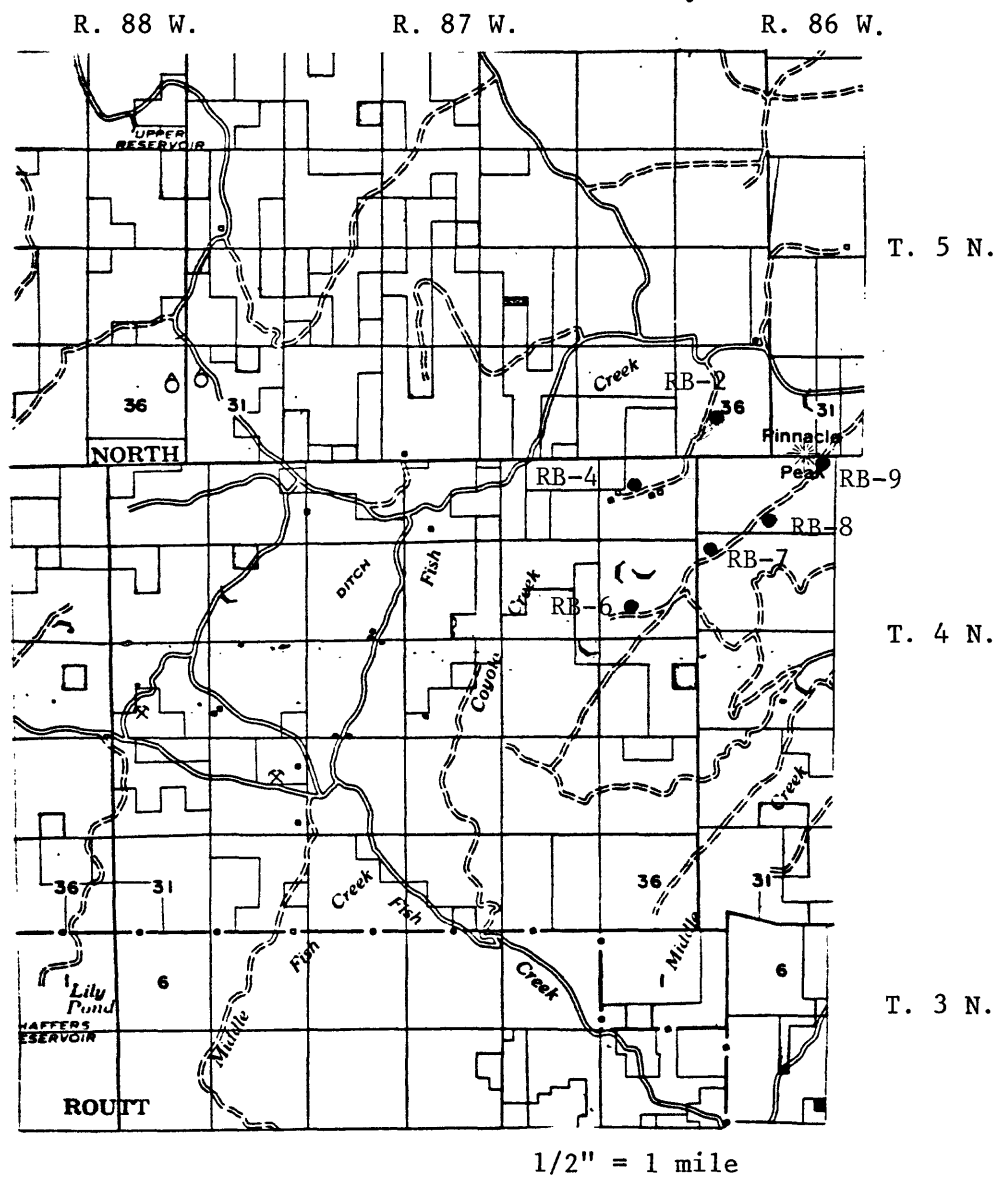


Figure 1.--Drill-hole locations, Rattlesnake Butte quadrangle, Routt County, Colorado.

Table 1.--Summary of information for six test holes drilled in the Rattlesnake Butte quadrangle, Routt County, Colorado

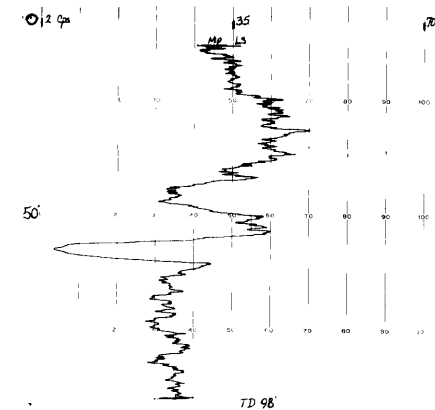
Drill-hole No.	Location	Depth drilled (feet)	Depth logged (feet)
RB-2	T. 5 N., R. 87 W., sec. 36, NE $\frac{1}{4}$ SW $\frac{1}{4}$	100	98
RB-4	T. 4 N., R. 87 W., sec. 12, SE $\frac{1}{4}$ NW $\frac{1}{4}$	150	145.5
RB-6	T. 4 N., R. 87 W., sec. 13, NE $\frac{1}{4}$ SW $\frac{1}{4}$	340	337
RB-7	T. 4 N., R. 86 W., sec. 18, NW $\frac{1}{4}$ NW $\frac{1}{4}$	500	497
RB-8	T. 4 N., R. 86 W., sec. 7, SW $\frac{1}{4}$ SE $\frac{1}{4}$	485	480.5
RB-9	T. 4 N., R. 86 W., sec. 7, NE $\frac{1}{4}$ NE $\frac{1}{4}$	400	387

**U.S. GEOLOGICAL SURVEY
DRILL-HOLE LOG; YAMPA COAL FIELD**

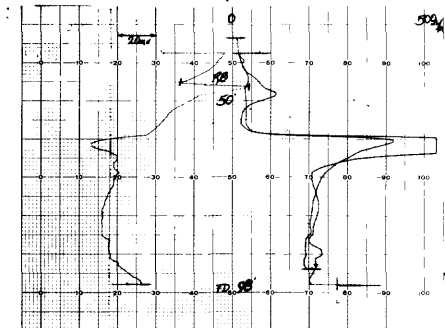
Hole No. RB-2 State Colorado County Routt Date logged 9/8/76 Elev.(ft) 7,180
 Location: T. 5 N., R. 87 W., sec. 36 NE $\frac{1}{4}$ SW $\frac{1}{4}$ Cored: ☐ Yes ☒ No
 Drilled depth 100' Logged depth 98' Drilling medium water Fluid level surface
Geophysical logs:

Spontaneous potential (SP): Scale 20 mv/in. Logging speed 15 fpm
 Resistance (RES): Scale 500 ohms/in. Logging speed 15 fpm
 Gamma (G): T.C. 4 Scale 50 cps/in. Logging speed 15 fpm
 Density (DEN): T.C. 4 Scale 1000 cps/in. Logging speed 17 fpm
 Remarks: _____

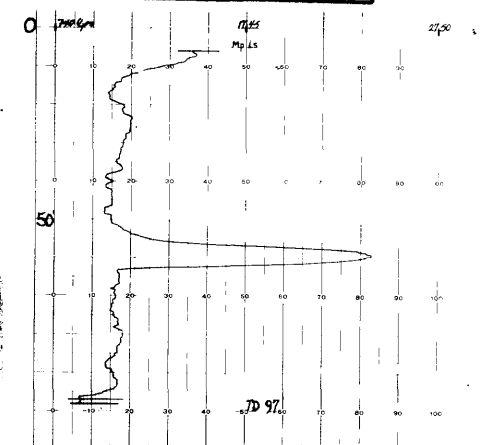
Geophysical Log
Gamma



Geophysical Log
SP Resistivity



Geophysical Log
Density



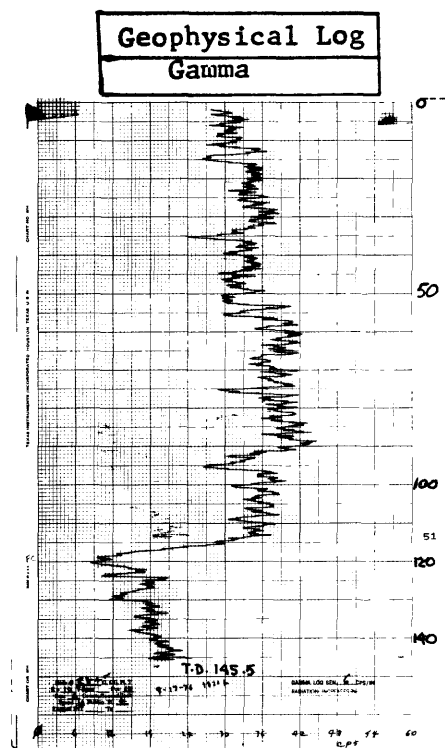
**U.S. GEOLOGICAL SURVEY
DRILL-HOLE LOG, YAMPA COAL FIELD**

Hole No. RB-4 State Colorado County Routt Date logged 9/13/76 Elev.(ft) 7,330
 Location: T. 4 N., R. 87 W., sec. 12 SE 1/4 NW 1/4 Cored: ☐ Yes ☒ No
 Drilled depth 150' Logged depth 145.5' Drilling medium Air Fluid level ----

Geophysical logs:

Spontaneous potential (SP): Scale _____ Logging speed _____ fpm
 Resistance (RES): Scale _____ Logging speed _____ fpm
 Gamma (G): T.C. 4 Scale 6 cps/in. Logging speed 10 fpm
 Density (DEN): T.C. _____ Scale _____ Logging speed _____ fpm

Remarks: _____



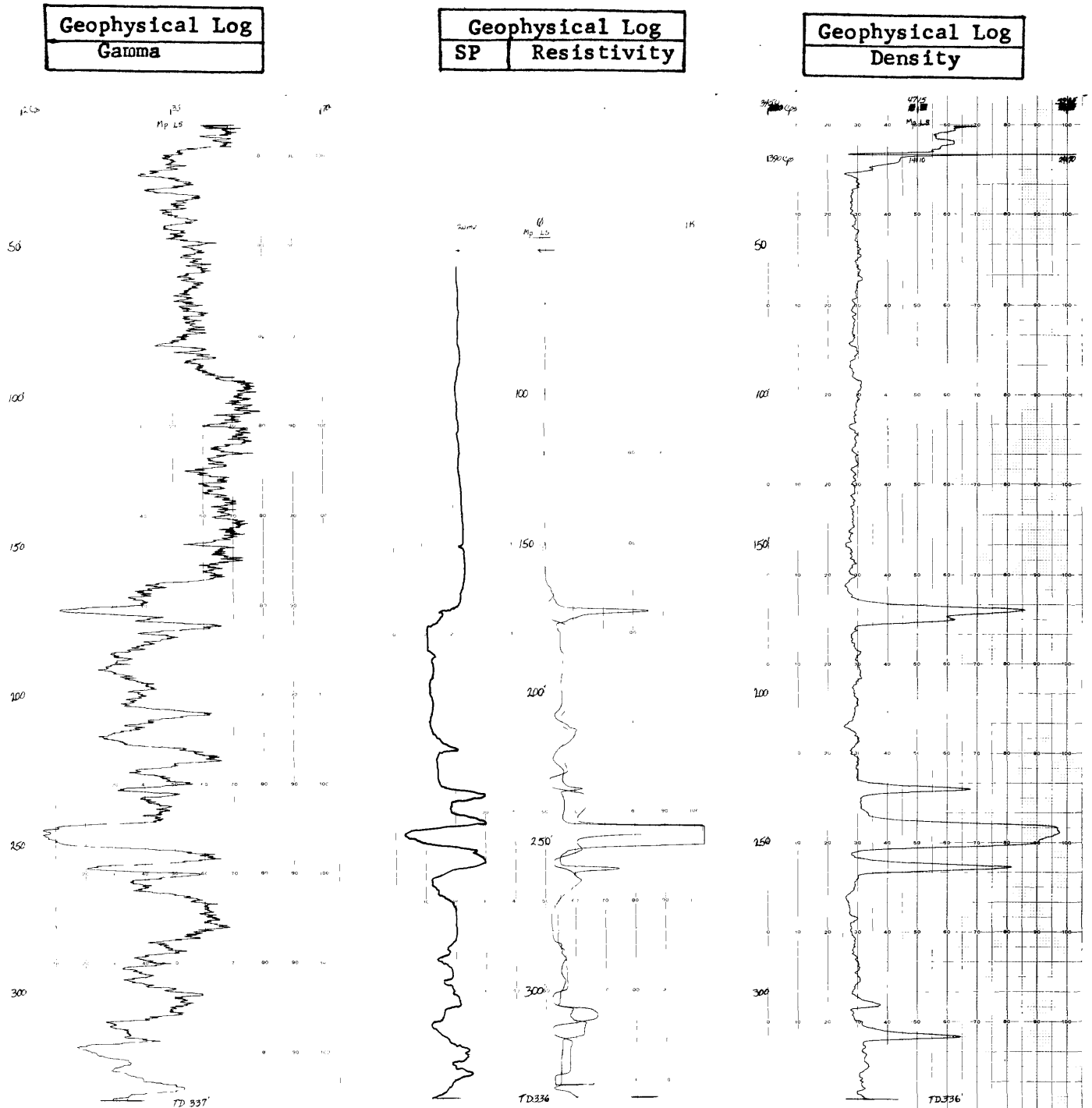
**U.S. GEOLOGICAL SURVEY
DRILL-HOLE LOG, YAMPA COAL FIELD**

Hole No. RB-6 State Colorado County Routt Date logged 10/5/76 Elev. (ft) 7,180
 Location: T. 4 N., R. 87 W., sec. 13 NE $\frac{1}{4}$ SW $\frac{1}{4}$ Cored: ☐ Yes ☒ No
 Drilled depth 340' Logged depth 337' Drilling medium water Fluid level 20.5'

Geophysical logs:

Spontaneous potential (SP): Scale 20 mv/in. Logging speed 20 fpm
 Resistance (RES): Scale -- Logging speed 20 fpm
 Gamma (G): T.C. 4 Scale 50 cps/in. Logging speed 20 fpm
 Density (DEN): T.C. 4 Scale 500 cps/in. Logging speed 17 fpm

Remarks: _____



U.S. GEOLOGICAL SURVEY
DRILL-HOLE LOG, YAMPA COAL FIELD

Hole No. RB-7 State Colorado County Routt Date logged 9/30/76 Elev.(ft) 7160
Location: T. 4 N., R. 86 W., sec. 18 NW $\frac{1}{4}$ NW $\frac{1}{4}$ Cored: ☐ Yes ☒ No
Drilled depth 500' Logged depth 497' Drilling medium water Fluid level 67.5'

Geophysical logs:

Spontaneous potential (SP): Scale 20 mv/in. Logging speed 20 fpm

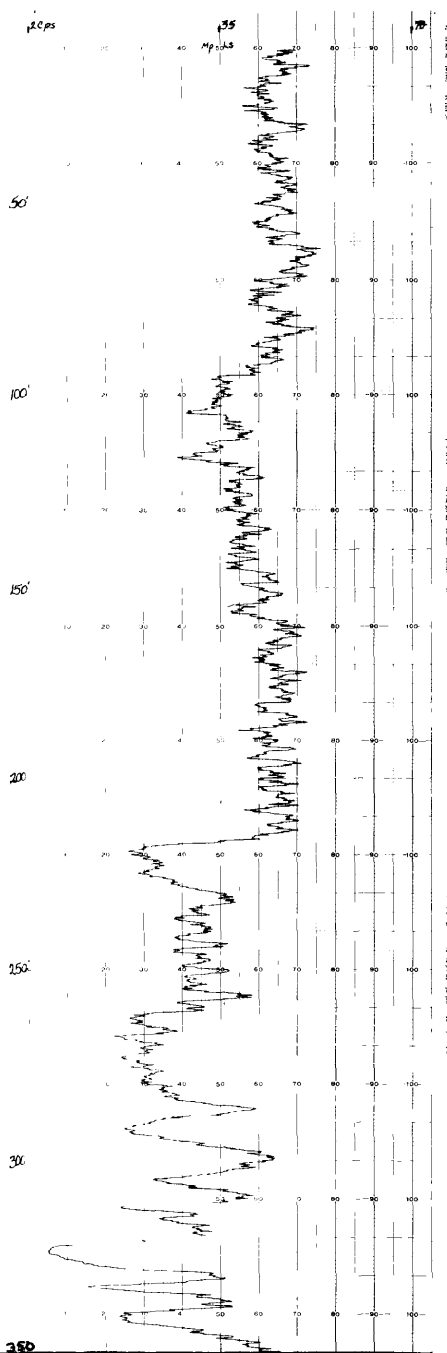
Resistance (RES): Scale 500 ohms/in. Logging speed 20 fpm

Gamma (G): T.C. 4 Scale 50 cps/in. Logging speed 15 fpm

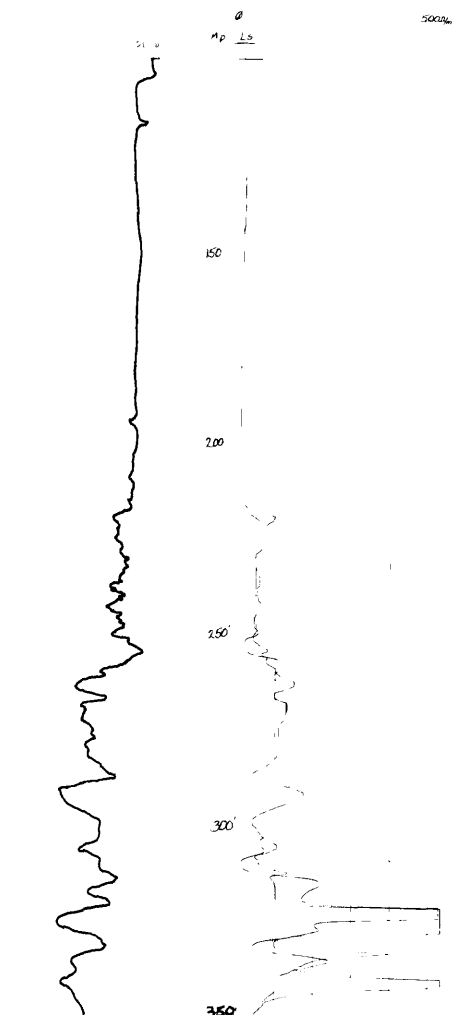
Density (DEN): T.C. 4 Scale 500 cps/in. Logging speed 17 fpm

Remarks: _____

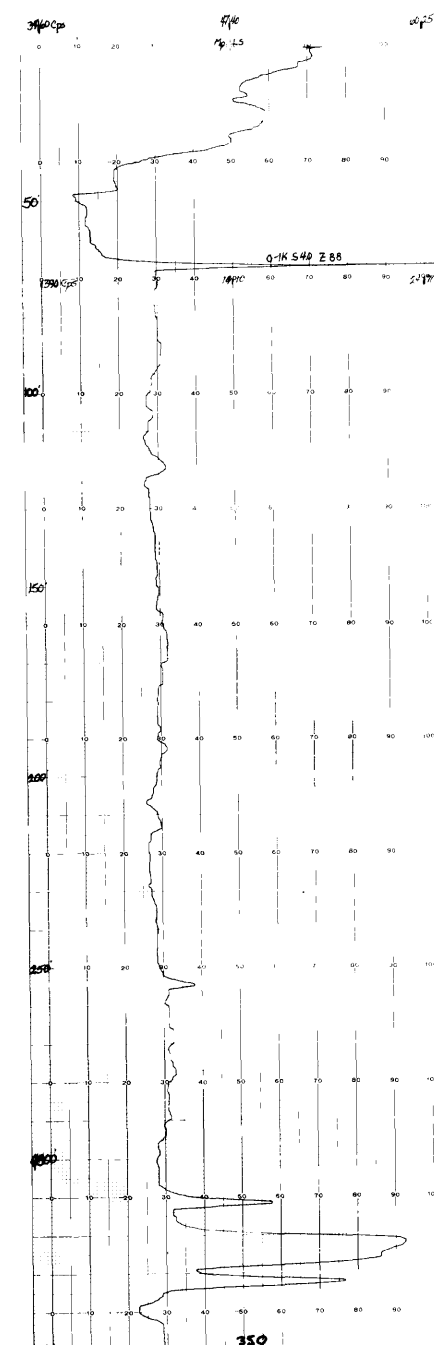
Geophysical Log
Gamma



Geophysical Log
SP Resistivity



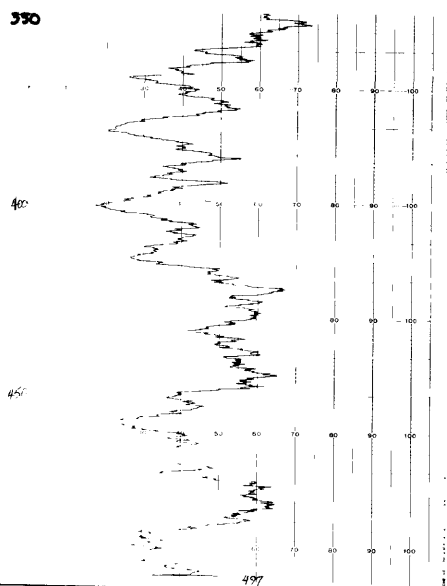
Geophysical Log
Density



U.S. GEOLOGICAL SURVEY

Hole No. RB-7 continued

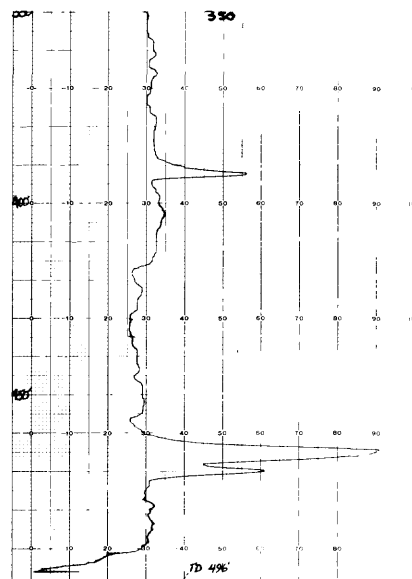
Geophysical Log Gamma



Geophysical Log SP Resistivity



Geophysical Log Density



**U.S. GEOLOGICAL SURVEY
DRILL-HOLE LOG, YAMPA COAL FIELD**

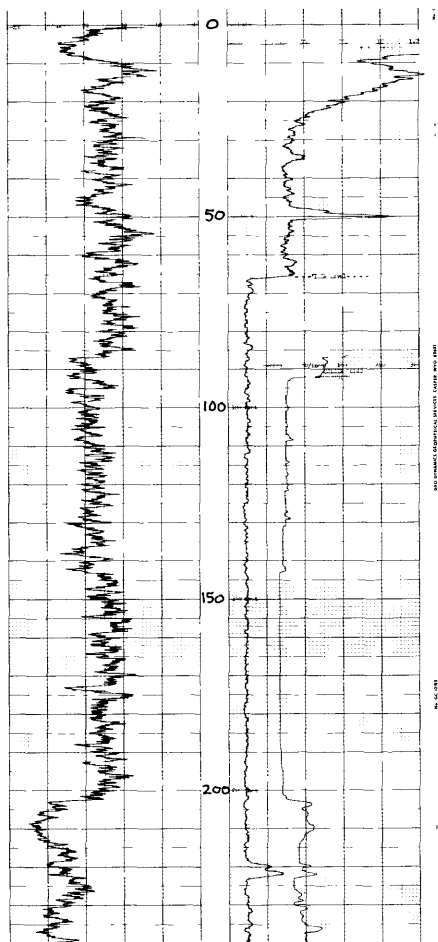
Hole No. RB-8 State Colorado County Routt Date logged 9/28/76 Elev.(ft) 7,030
 Location: T. 4 N., R. 86 W., sec. 7 SW $\frac{1}{4}$ SE $\frac{1}{4}$ Cored: ☐ Yes ☒ No
 Drilled depth 485' Logged depth 480.5' Drilling medium mud Fluid level 65.5'

Geophysical logs:

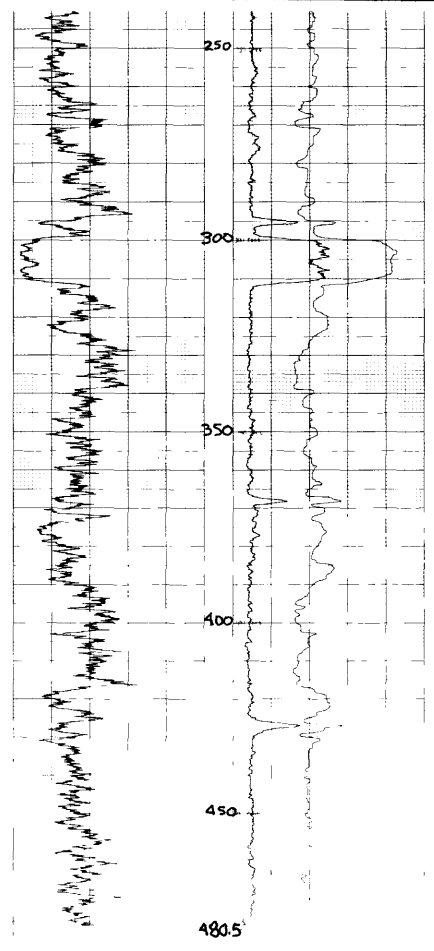
Spontaneous potential (SP): Scale _____ Logging speed _____ fpm
 Resistance (RES): Scale 80 ohms/in. Logging speed 20 fpm
 Gamma (G): T.C. 1 Scale 10 cps/in. Logging speed 20 fpm
 Density (DEN): T.C. 1 Scale 250 cps/in. Logging speed 20 fpm

Remarks: _____

Geophysical Log		
Gamma	Density	Resistance



Geophysical Log		
Gamma	Density	Resistance



**U.S. GEOLOGICAL SURVEY
DRILL-HOLE LOG, YAMPA COAL FIELD**

Hole No. RB-9 State Colorado County Routt Date logged 9/20/76 Elev.(ft) 7,020
 Location: T. 4 N., R. 86 W., sec. 7 NE $\frac{1}{4}$ NE $\frac{1}{4}$ Cored: ☐ Yes ☒ No
 Drilled depth 400' Logged depth 387' Drilling medium water Fluid level 30'

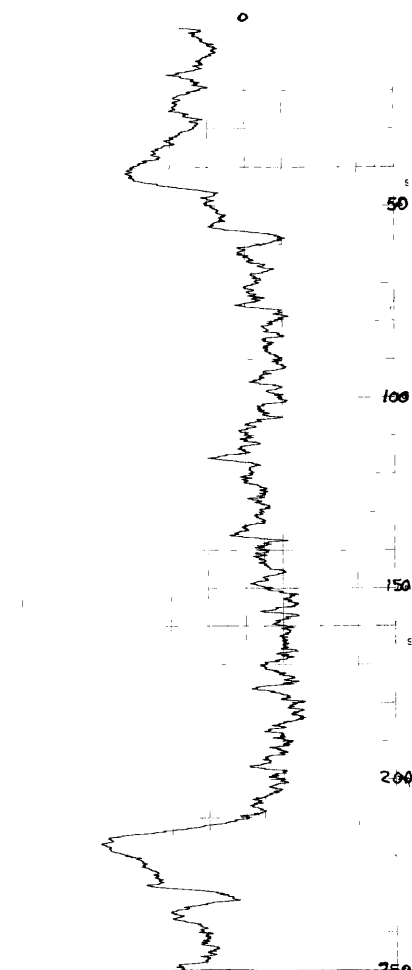
Geophysical logs:

Spontaneous potential (SP): Scale 20 mv/in. Logging speed 30 fpm
 Resistance (RES): Scale 200 ohms/in. Logging speed 30 fpm
 Gamma (G): T.C. 8 Scale 5 cps/in. Logging speed 15 fpm
 Density (DEN): T.C. 2 Scale 250 cps/in. Logging speed 30 fpm

Remarks: _____

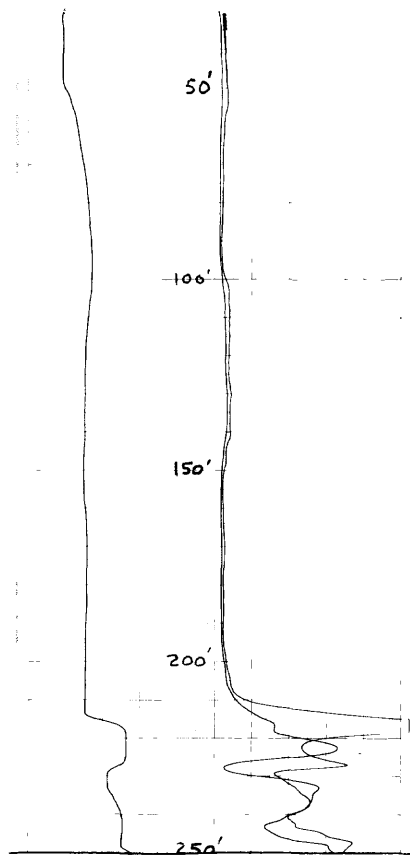
Geophysical Log

Gamma



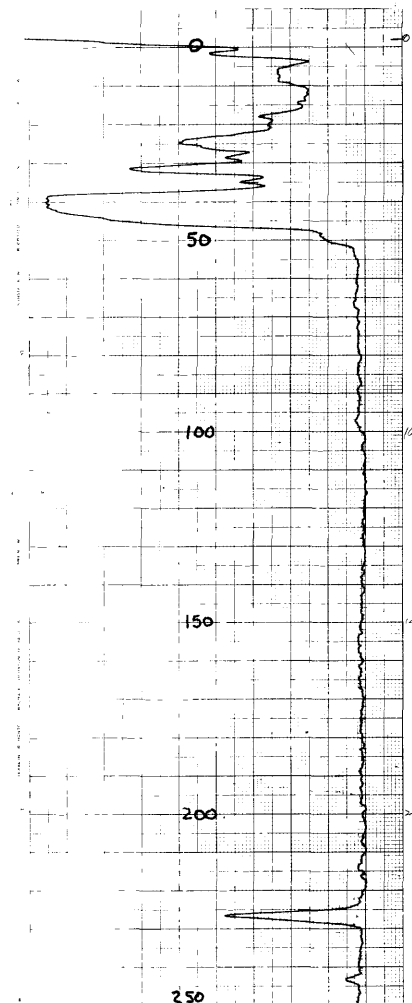
Geophysical Log

SP Resistivity



Geophysical Log

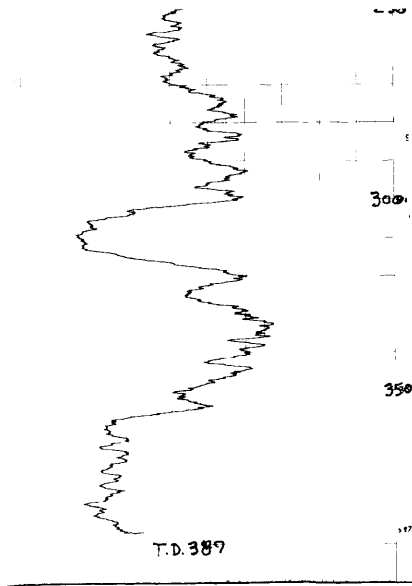
Density



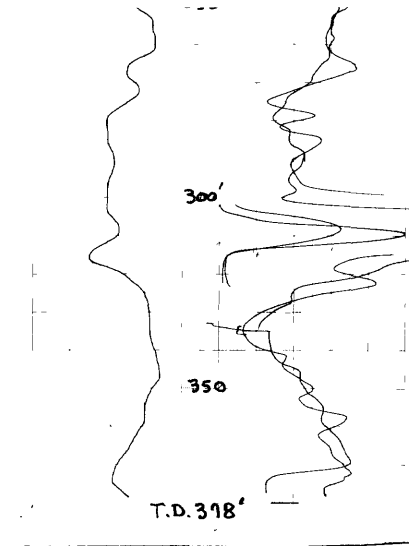
U.S. GEOLOGICAL SURVEY

Hole No. RB-9 continued

Geophysical Log
Gamma



Geophysical Log	
SP	Resistivity



Geophysical Log
Density

