

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

GEOPHYSICAL LOGS OF FIVE COAL TEST HOLES DRILLED IN THE  
KEMMERER COAL FIELD, UINTA AND LINCOLN COUNTIES, WYOMING

By

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

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INTRODUCTION

During the summer of 1978, the U.S. Geological Survey drilled five coal test holes on Federal lands in the Kemmerer coal field, Uinta and Lincoln Counties, Wyo. (T. 14 N., R. 118 W., T. 16 N., R. 118 W., T. 19 N., R. 117 W.). The purpose of this project was to obtain information on the thickness and lateral extent of coal beds for the classification and evaluation of federally owned coal lands. The holes were drilled by a U.S. Geological Survey crew using a truck-mounted drilling rig. Drilling fluids were air-water-biodegradable foam, and mud. Hole locations are shown in figures 1-3. Natural gamma, gamma-gamma density, and neutron logs were run in four holes; only natural gamma and neutron were run in 1 hole. The holes were logged by U.S. Geological Survey personnel. The holes tended to close soon after being drilled, making it necessary to run the logs through the drill pipe. These curves are attenuated, and spikes occur at pipe joints on the density logs. All coal beds are in the Upper Cretaceous Adaville and Frontier Formations.

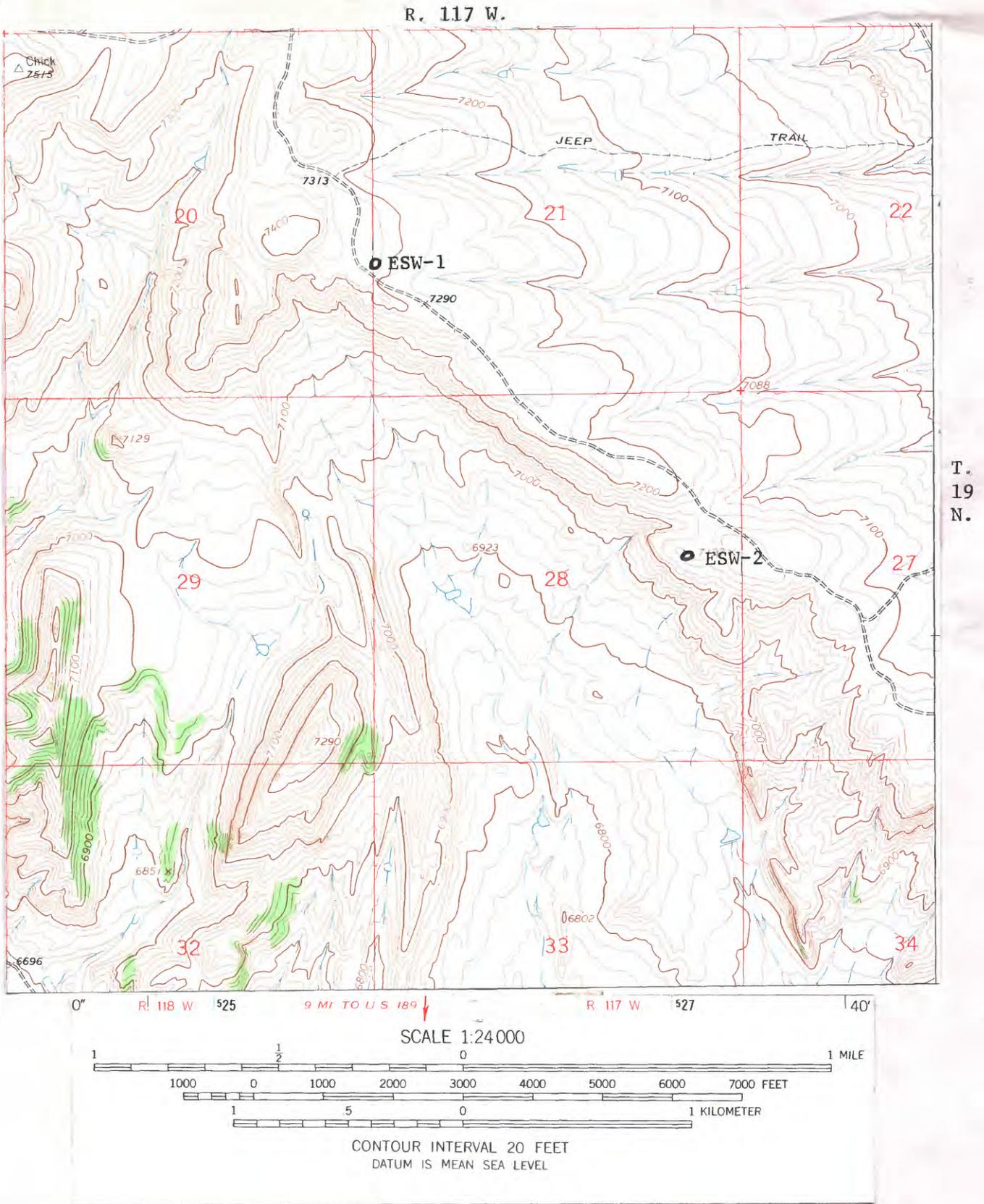


Figure 1.--Drill-hole locations in the northeast part of the Elkol SW quadrangle, Lincoln County, Wyo.





U.S. GEOLOGICAL SURVEY  
DRILL-HOLE LOG

HOLE No. ESW-1 STATE Wyoming COUNTY Lincoln DATE LOGGED 6/11/78 ELEV. 7323 ft.

LOCATION: T. 19 N., R. 117 W., SEC. 21 ; 0 FWL; 2000 FSL; DATE DRILLED 6/10/78

DRILLED DEPTH 435 LOGGED DEPTH 435 DRILLING MEDIUM Water FLUID LEVEL \_\_\_\_\_

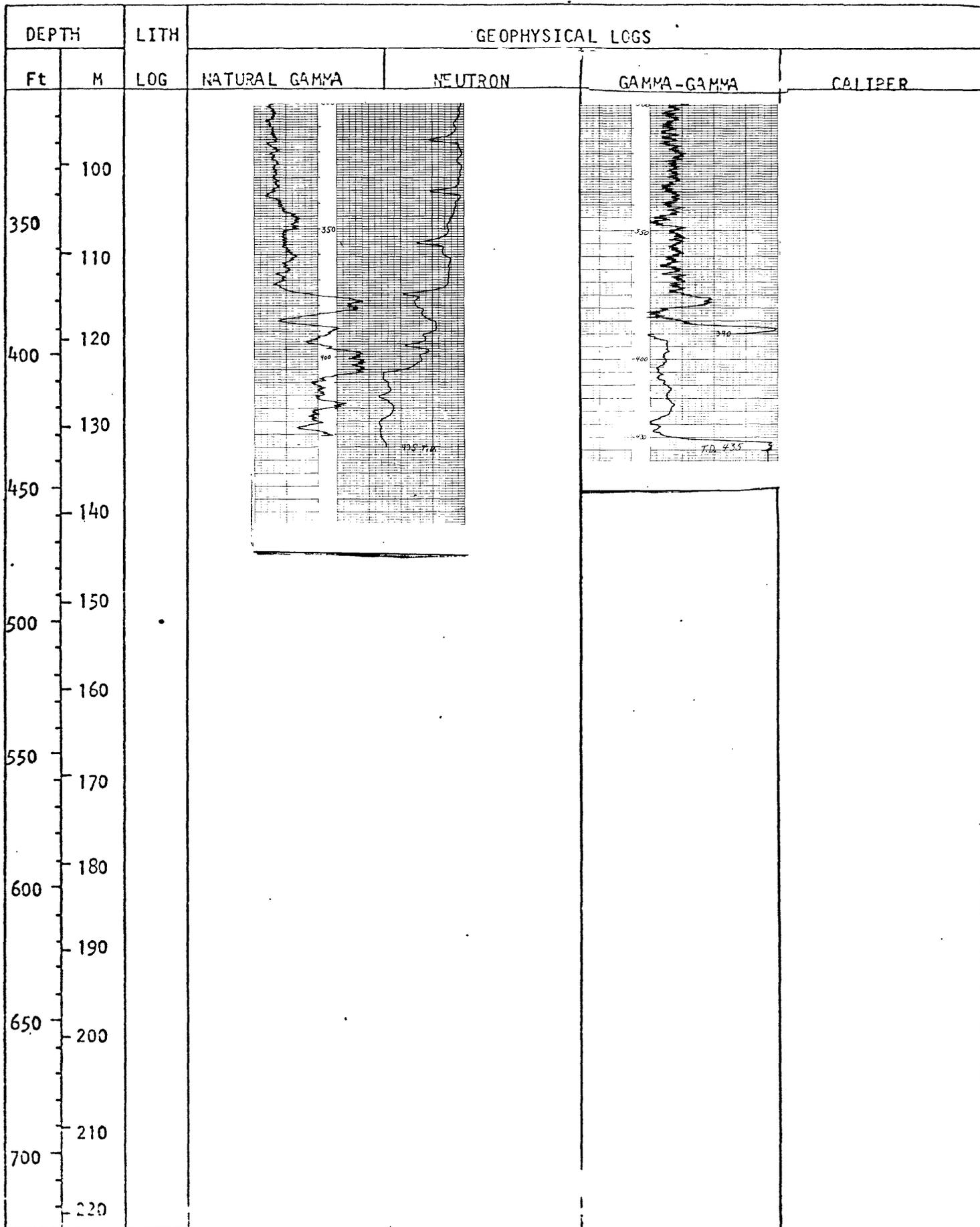
HOLE SIZE 5 1/8"

REMARKS: \_\_\_\_\_

DEPTH		LITH  LOG	NATURAL GAMMA	NEUTRON	GAMMA-GAMMA	CALIPER
Ft	M		T.C. <u>6 sec</u> SCALE <u>50</u> CPS SUPP. <u>9.94</u> SENS. <u>6.78</u> LOG SPEED <u>17</u> fpm	T.C. <u>4 sec</u> SCALE <u>1000</u> CPS SUPP. <u>10.00</u> SENS. <u>2.72</u> LOG SPEED _____ fpm	T.C. <u>3 sec</u> SCALE <u>5000</u> CPS SUPP. <u>6.25</u> SENS. <u>10.00</u> LOG SPEED _____ fpm	SCALE _____ LOG SPEED _____ fpm SUPP. _____
0	0					
10						
50						
20						
100	30					
40						
150						
50						
200	60					
70						
250						
80						
300	90					

U.S. GEOLOGICAL SURVEY

HOLE No. ESW-1 continued.



U.S. GEOLOGICAL SURVEY  
DRILL-HOLE LOG

HOLE No. ESW-2 STATE Wyoming COUNTY Lincoln DATE LOGGED 6/13/78 ELEV. 7165 ft.

LOCATION: T. 19 N., R. 117 W., SEC. 28; 800 F.L.; 2350 N.F.L.; DATE DRILLED 6/12/78

DRILLED DEPTH 505 LOGGED DEPTH 505 DRILLING MEDIUM Water FLUID LEVEL \_\_\_\_\_

HOLE SIZE 5-1/8"

REMARKS: \_\_\_\_\_

DEPTH		LITH	NATURAL GAMMA	NEUTRON	GAMMA-GAMMA	CALIPER
			T.C. <u>4</u> sec SCALE <u>100</u> CPS SUPP. <u>10</u> SENS. <u>10</u> LOG SPEED <u>17</u> fpm	T.C. <u>4</u> sec SCALE <u>500</u> CPS SUPP. <u>10.00</u> SENS. <u>10.00</u> LOG SPEED <u>17</u> fpm	T.C. _____ SCALE _____ CPS SUPP. _____ SENS. _____ LOG SPEED _____ fpm	SCALE _____ LOG SPEED _____ fpm SUPP. _____
Ft	M	LOG				
0	0					
10						
50						
20						
100	30					
40						
150						
50						
200	60					
70						
250						
80						
300	90					

U.S. GEOLOGICAL SURVEY

HOLE No. ESW-2 continued.

DEPTH		LITH LOG	GEOPHYSICAL LOGS			
Ft	M		NATURAL GAMMA	NEUTRON	GAMMA-GAMMA	CALIPER
	100					
350	110					
400	120					
	130					
450	140					
	150					
500	160					
	170					
550	180					
	190					
600	200					
	210					
650	220					

U.S. GEOLOGICAL SURVEY  
DRILL-HOLE LOG

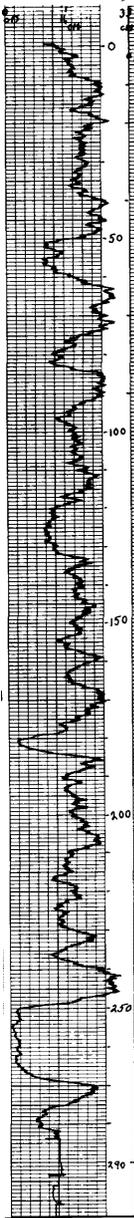
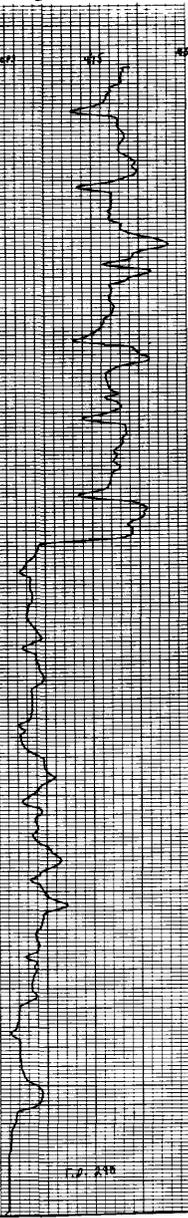
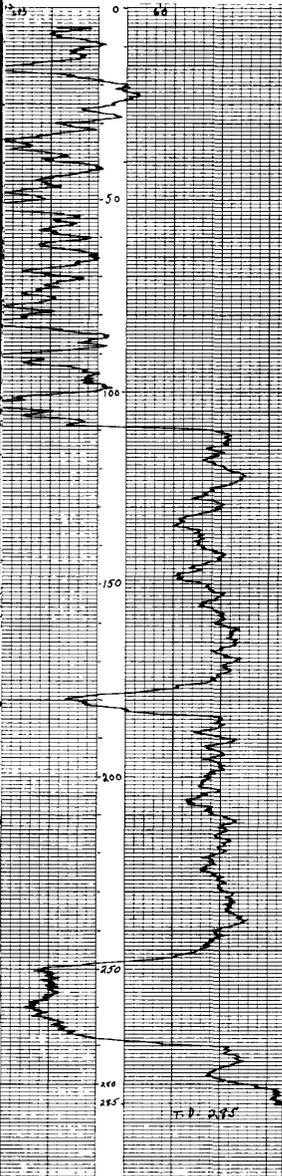
HOLE No. MD-20 STATE Wyoming COUNTY Uinta DATE LOGGED 6/20/78 ELEV. 6920 ft.

LOCATION: T. 16 N., R. 118 W., SEC. 10 ; 2450 FEL; 1150 FSL; DATE DRILLED 6/19/78

DRILLED DEPTH 295 LOGGED DEPTH 295 DRILLING MEDIUM water FLUID LEVEL \_\_\_\_\_

HOLE SIZE 5-1/8"

REMARKS: \_\_\_\_\_

DEPTH		LITH  LOG	NATURAL GAMMA	NEUTRON	GAMMA-GAMMA	CALIPER
Ft	M		T.C. <u>4 sec</u> SCALE <u>50</u> CPS SUPP. <u>10.00</u> SENS. <u>4.50</u> LOG SPEED <u>17</u> fpm	T.C. <u>4 sec</u> SCALE <u>500</u> CPS SUPP. <u>10.00</u> SENS. <u>2.50</u> LOG SPEED <u>17</u> fpm	T.C. <u>6 sec</u> SCALE <u>100</u> CPS SUPP. <u>9.00</u> SENS. <u>8.80</u> LOG SPEED _____ fpm	SCALE _____ LOG SPEED _____ fpm SUPP. _____
0	0					
10						
50						
20						
100	30					
40						
150						
50						
200	60					
70						
250	80					
80						
300	90					

U.S. GEOLOGICAL SURVEY  
DRILL-HOLE LOG

HOLE No. MD-21 STATE Wyoming COUNTY Uinta DATE LOGGED 6/22/78 ELEV. 6910 ft.

LOCATION: T. 16 N., R. 118 W., SEC. 10; 1950 FEL; 1100 BL; DATE DRILLED 6/21/78

DRILLED DEPTH 450 LOGGED DEPTH 450 DRILLING MEDIUM water FLUID LEVEL \_\_\_\_\_

HOLE SIZE 5-1/8"

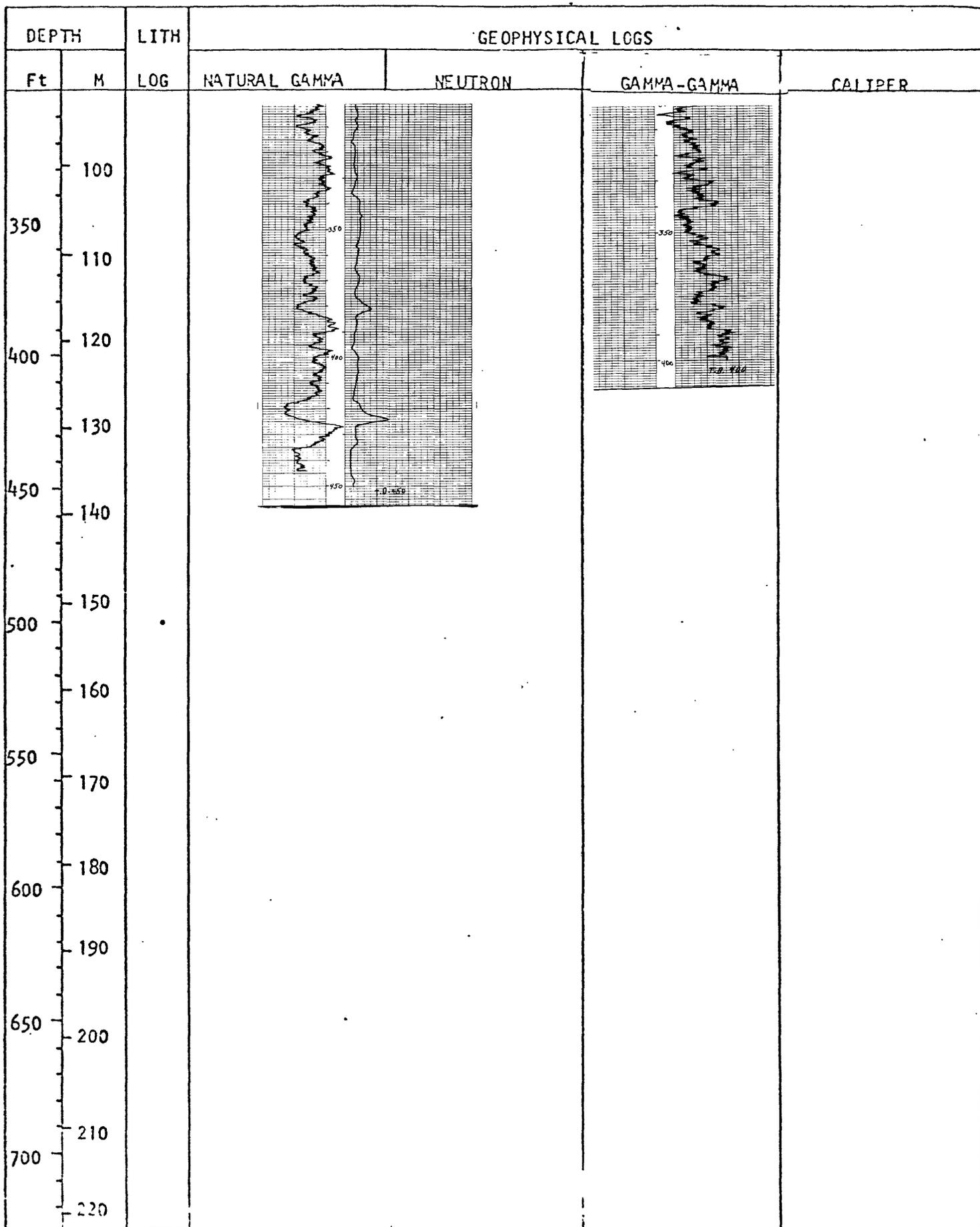
REMARKS: Gamma-Gamma Density settings are from 0-100 ft; below 100 ft, settings are

CPS 500; SUPP 9.00, other settings are the same

DEPTH		LITH	NATURAL GAMMA		NEUTRON		GAMMA-GAMMA		CALIPER	
			T.C. <u>4</u> sec	SCALE <u>50</u> CPS	T.C. <u>4</u> sec	SCALE <u>500</u> CPS	T.C. <u>6</u> sec	SCALE <u>500</u> CPS	SCALE _____	LOG SPEED _____ fpm
Ft	M	LOG	SUPP. <u>10.00</u>	SUPP. <u>10.00</u>	SUPP. <u>10.00</u>	SUPP. <u>9.75</u>	SUPP. <u>9.75</u>	SUPP. _____	SUPP. _____	SUPP. _____
			SENS. <u>5.00</u>	SENS. <u>2.50</u>	SENS. <u>2.50</u>	SENS. <u>8.90</u>	SENS. <u>8.90</u>	SUPP. _____	SUPP. _____	SUPP. _____
			LOG SPEED <u>17</u> fpm	SUPP. _____	SUPP. _____	SUPP. _____				
0	0									
10										
50										
20										
100	30									
40										
150										
50										
200	60									
70										
250	80									
80										
300	90									

U.S. GEOLOGICAL SURVEY

HOLE No. MD-21 continued.



U.S. GEOLOGICAL SURVEY  
DRILL-HOLE LOG

HOLE No. SCR-1 STATE Wyoming COUNTY Uinta DATE LOGGED 6/24/78 ELEV. 7765 ft.  
 LOCATION: T. 14 N., R. 118 W., SEC. 18; 3150 F.L.; 400 F.S.L.; DATE DRILLED 6/25/78  
 DRILLED DEPTH 572 LOGGED DEPTH 572 DRILLING MEDIUM water FLUID LEVEL \_\_\_\_\_  
 HOLE SIZE 5-1/8"

REMARKS: For Neutron settings, 0-308 ft. Below 308 ft. CPS 500, Supp. 9.78, other  
the same. Logged through steel

DEPTH		LITH  LOG	NATURAL GAMMA	NEUTRON	GAMMA-GAMMA	CALIPER
Ft	M		T.C. <u>4</u> sec SCALE <u>50</u> CPS SUPP. <u>9.18</u> SENS. <u>4.4</u> LOG SPEED <u>17</u> fpm	T.C. <u>4</u> sec SCALE <u>1000</u> CPS SUPP. <u>9.48</u> SENS. <u>1.84</u> LOG SPEED <u>17</u> fpm	T.C. <u>4</u> sec SCALE <u>100</u> CPS SUPP. <u>7.76</u> SENS. <u>2.88</u> LOG SPEED <u>17</u> fpm	SCALE _____ LOG SPEED _____ fpm SUPP. _____
0	0					
10						
50						
20						
100	30					
40						
150	50					
50						
200	60					
70						
250	80					
80						
300	90					

U.S. GEOLOGICAL SURVEY

HOLE No. SCR-1 continued

