



# Geological Report

BURTON-HAWKS EXPLORATION

#10-A Spaulding

Northwest Northeast

Section 28, Township 9 North, Range 81 West

Jackson County, Colorado

DVR	
FIP	
HUM	
JAM	
JJD	
GCM	
CCM	

*file*

C. S. CANNAN  
PETROLEUM GEOLOGIST



RECEIVED

AUG 23 1974

COLO. OIL & GAS CONS. COMM.

BURTON-HAWKS EXPLORATION

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TABLE OF CONTENTS

Statistical Well Data

Casing & Cementing

Bit Record

Daily Chronological Report

Mud Program

Deviation & Directional Surveys

Logging Program

Sample Description

Summary

# STATISTICAL WELL DATA

OPERATOR	BURTON-HAWKS EXPLORATION
Lease	#10-A Spaulding (Re-entry)
Location	NW NE Sec. 28 T9N R81W Jackson County, Colorado
Elevation	8204 KB 8197 GR
Contractor	George McGee Drilling Company
Pusher	Dick Dullman
Mud Company	Pro Mud
Engineer	Leon Ledbetter
Directional Drilling	Rocky Mountain Drilling Control
Engineer	John Isom
Drill top of plug	1/9/74 10:00 P.M.
Drill off plug	7/10/74 6:30 A.M.
Completed Drilling	7/17/74 6:35 A.M.
Completed Logging	7/17/74 2:00 P.M.
Set Production Casing	7/18/74 1:00 A.M.



# CASING & CEMENTING RECORD

Surface Pipe: Surface casing of #10 Spaulding.

Production Casing: 61 joints 4 1/2" K55 (2410.85') Set @ 2376.85KB.

with 80 sacks Halco light cement. 200 sacks 50-50

Posmix, 2% Gel, 15% salt, 6% Halad 9. Plug

down 1:00 A.M. 7/18/74.

## BIT RECORD

Bits size 7 7/8

No.	Make	Type	Depth In	Depth Out	Footage	
1	STC	DG-Retip	965	994	15	Feathering plug
2	STC	DG	994	1187	193	
3	STC	DG	1187	1325	138	
4	STC	DGT	1325	1682	357	
5	Reed	Y11R	1682	1964	282	
6	Reed	S4	1964	2165	201	
7	STC	V1	2165	2245	80	
8	HTC	W7	2245	2275	30	
9	STC	V2HJ	2275	2380	105	



# DAILY CHRONOLOGICAL REPORT

- 7/8/74 Moving in and rigging up.
- 7/9/74 Rigging up and nipple up. In hole with reamer and bit. Hit plug @ 965' drill to 980'. Circulate, clean pits.
- 7/10/74 Mix mud. Trip out pick up dyna drill. Trip in orient tool. Off plug @ 994'. Drill to 1186'. Trip out. Lay down dyna drill.
- 7/11/74 Pick up 6 point reamer, monel and string stabilizer plus one drill collar. Ream dyna drill hole. Trip out @ 1325'. Lay down bottom hole reamer. In with bit, monel, drill collar and string stabilizer @ (60').
- 7/12/74 Drilling 1570' @ 12:00 A.M. Trip for bit @ 1682'.
- 7/13/74 Finish trip. Drilling 1829' @ 12:00 A.M. Drill to 1934'. Waiting on new survey instrument.
- 7/14/74 Trip out @ 1964'. Lay down stabilizer. Pick up 6 point bottom hole reamer, short collar and string stabilizer. Trip in. Ream and wash to bottom. Drilling 1982' @ 12:00 A.M. Drilling 2071' @ 12:00 P.M.
- 7/15/74 Drilling 2159' @ 12:00 A.M. Trip for bit @ 2165'.
- 7/16/74 Trip for bit @ 2245'.
- 7/17/74 Completed drilling @ 6:35 A.M. In Lakota. T.D. 2380'. Completed logging @ 2:30 P.M. Schlumberger T.D. 2374'. In hole with drill pipe, come out laying down, ran casing and cementing.
- 7/18/74 Finish cementing. Plug down @ 1:00 A.M.



# MUD PROGRAM

Date	Depth	Vis.	Wt.	Filtrate	Solids	Cost
7/10/74	1076	34	8.8	22	3.4	\$ 28.00
7/11/74	1295	36	9.2	5	6.2	444.17
7/12/74	1652	54	9.5	4.8	8.5	741.77
7/13/74	1813	50	9.5	5.2	8.5	951.82
7/14/74	2056	35	9.4	6.0	7.8	1221.17
7/15/74	2161	35	9.4	5.2	7.8	1483.57
7/16/74	2275	50	9.9		11.2	1654.33
7/17/74	2380	59	9.8	4.8	10.5	1790.88



# ROCKY MOUNTAIN DRILLING CONTROL COMPANY

COMPANY \_\_\_\_\_ WELL \_\_\_\_\_ LOCATION \_\_\_\_\_ TYPE OF SURVEY \_\_\_\_\_ DISTRICT \_\_\_\_\_

JOB NO. \_\_\_\_\_ DATE \_\_\_\_\_

FIELD CREW \_\_\_\_\_

STA. NO.	MEASURED DEPTH	COURSE LENGTH	DRIFT ANGLE	VERTICAL DEPTH	TRUE VERTICAL DEPTH		COURSE DEV.	DRIFT DIRECTION	COORDINATE DIFFERENCES				RECTANGULAR COORDINATES						
									NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST			
	962				957	84		S 1 6 E						48	59			4	08
	994	32	15-3/4	30	80	988	64	8 69 S 1 4 E		8	43	2	11		57	02		1	97
	1030	36	13-3/4	34	97	1023	67	8 56 S 3 E		8	55		45					1	52
	1060	30	13	29	23	1052	90	6 75 S 7 W		6	70			82				2	34
	1091	31	13	30	21	1083	11	6 97 S 1 8 W		6	63			2	15			4	49
	1121	30	14	29	11	1112	22	7 26 S 2 7 W		6	47			3	30			7	79
	1152	31	15-1/4	29	94	1142	16	8 02 S 3 4 W		6	65			4	48			12	27
	1190	38	16	36	53	1178	69	10 47 S 4 4 W		7	53			7	28			19	55
	1251	61	16-3/4	58	41	1237	10	17 58 S 4 7 W		11	99			12	58			32	13
	1310	59	17	56	42	1293	52	17 25 S 4 8 W		11	55			12	82			44	95
	1367	57	16-3/4	54	53	1343	10	16 43 S 5 0 W		10	56			12	59			57	54
	1428	61	15-1/2	58	78	1406	88	16 30 S 5 0 W		10	47			12	49			70	03
	1488	60	15	57	68	1464	56	16 54 S 5 2 W		10	18			13	09			83	07
	1550	62	14	60	16	1524	72	15 S 5 6 W		8	39			12	44			95	51
	1611	61	14	59	19	1583	91	14 76 S 5 9 W		7	60			12	65			108	16
	1672	61	13-3/4	59	25	1643	16	14 50 S 5 8 W		7	69			12	29			120	45
	1734	62	13-1/2	60	29	1703	45	14 47 S 5 9 W		7	45			12	40			132	85
	1796	62	13-1/2	60	29	1763	69	14 47 S 6 1 W		7	02			12	65			145	50
	1857	61	13-3/4	59	25	1823	11	14 50 S 6 3 W		6	59			12	07			158	09
	1950	93	14-1/4	90	14	1913	25	22 89 S 6 2 W		10	75			20	21			178	30



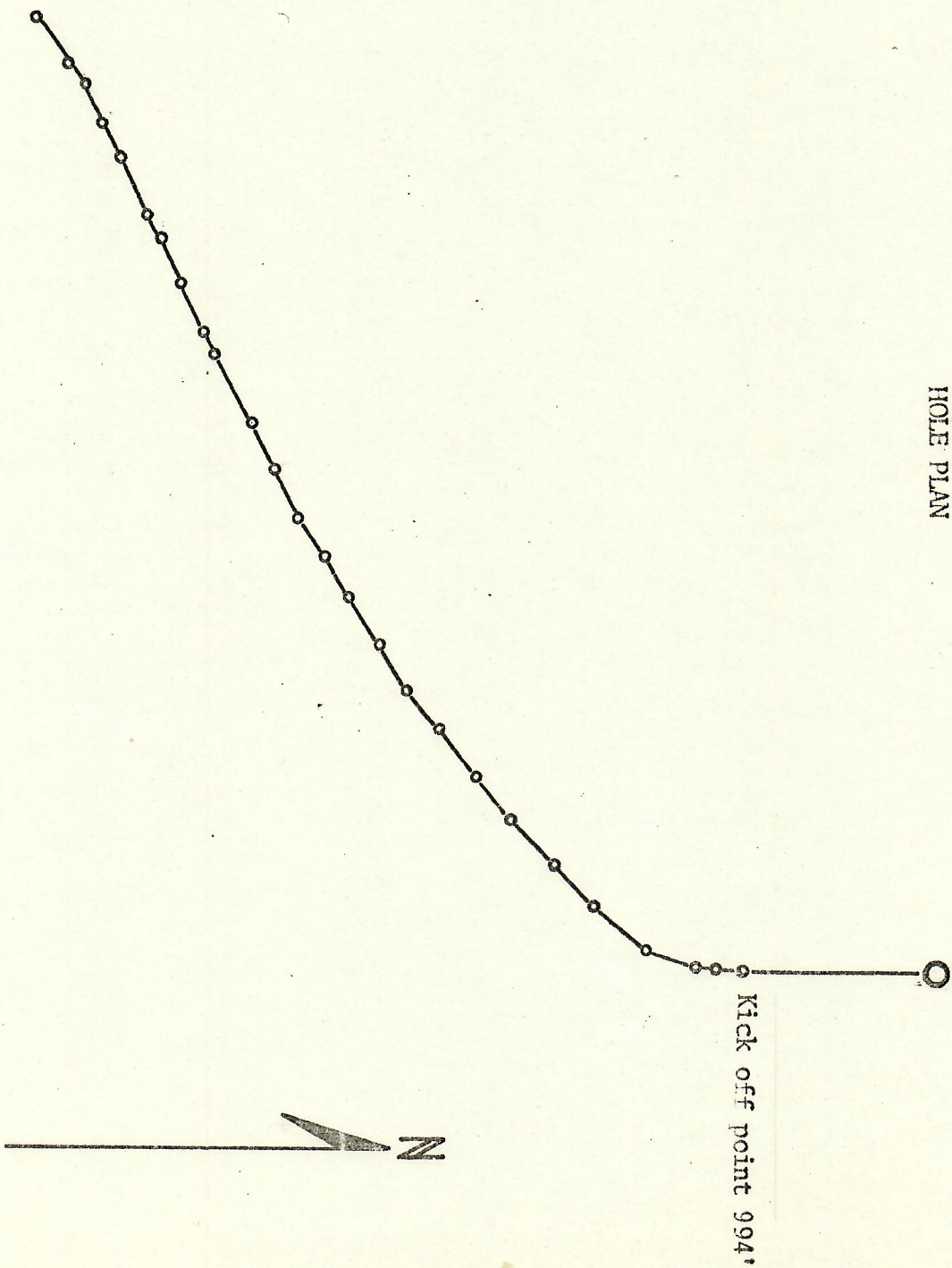
# ROCKY MOUNTAIN DRILLING CONTROL COMPANY

COMPANY \_\_\_\_\_ JOB NO. \_\_\_\_\_ DATE \_\_\_\_\_  
 WELL \_\_\_\_\_ FIELD CREW \_\_\_\_\_  
 LOCATION \_\_\_\_\_  
 TYPE OF SURVEY \_\_\_\_\_ DISTRICT \_\_\_\_\_

STA. NO.	MEASURED DEPTH	COURSE LENGTH	DRIFT ANGLE	VERTICAL DEPTH	TRUE VERTICAL DEPTH	COURSE DEV.	DRIFT DIRECTION	COORDINATE DIFFERENCES				RECTANGULAR COORDINATES			
								NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	1980	30	14-1/2	29 04	1942	29 7	51 S 6 4 W	3	29	6	75	212	51		185 05
	2040	60	14-1/2	58 09	2000	38 15	02 S 5 6 W	6	59	13	50	219	10		198 55
	2100	60	14-3/4	58 02	2058	40 15	28 S 6 4 W	6	70	13	73	225	80		212 28
	2131	31	14-3/4	29 98	2088	38 7	89 S 6 4 W	3	46	7	09	229	26		219 37
	2195	64	15	61 82	2150	20 16	56 S 6 4 W	7	26	14	88	236	52		234 25
	2241	46	15-1/4	44 38	2194	58 12	10 S 6 4 W	5	30	10	88	241	82		245 13
	2288	47	15-1/4	45 35	2239	93 12	36 S 6 4 W	5	42	11	11	247	24		256 24
	2317	29	14-3/4	28 04	2267	97 7	38 S 6 5 W	3	12	6	68	250	36		262 92
	2380	63	13-3/4	61 39	2329	36 14	17 S 6 7 W	5	54	13	05	255	90		275 97



HOLE PLAN





## LOGGING PROGRAM

Schlumberger - Induction Electrical Log

Compensated Formation Density Log

## ELECTRIC LOG FORMATION TOPS

Carlisle	1200'	+7004
Frontier	1523'	+6681
Fort Hays	1752'	+6462
Mowry	1995'	+6209
Muddy Zone	2130'	+6074
Dakota	2200'	+6004
Lakota	2277'	+5927







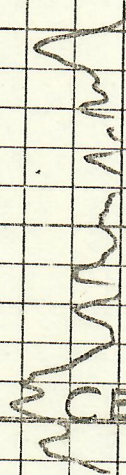
0800

0900

1000

1100

1200



CEMENT PLUG

CARLISLE





1300

1400

1500

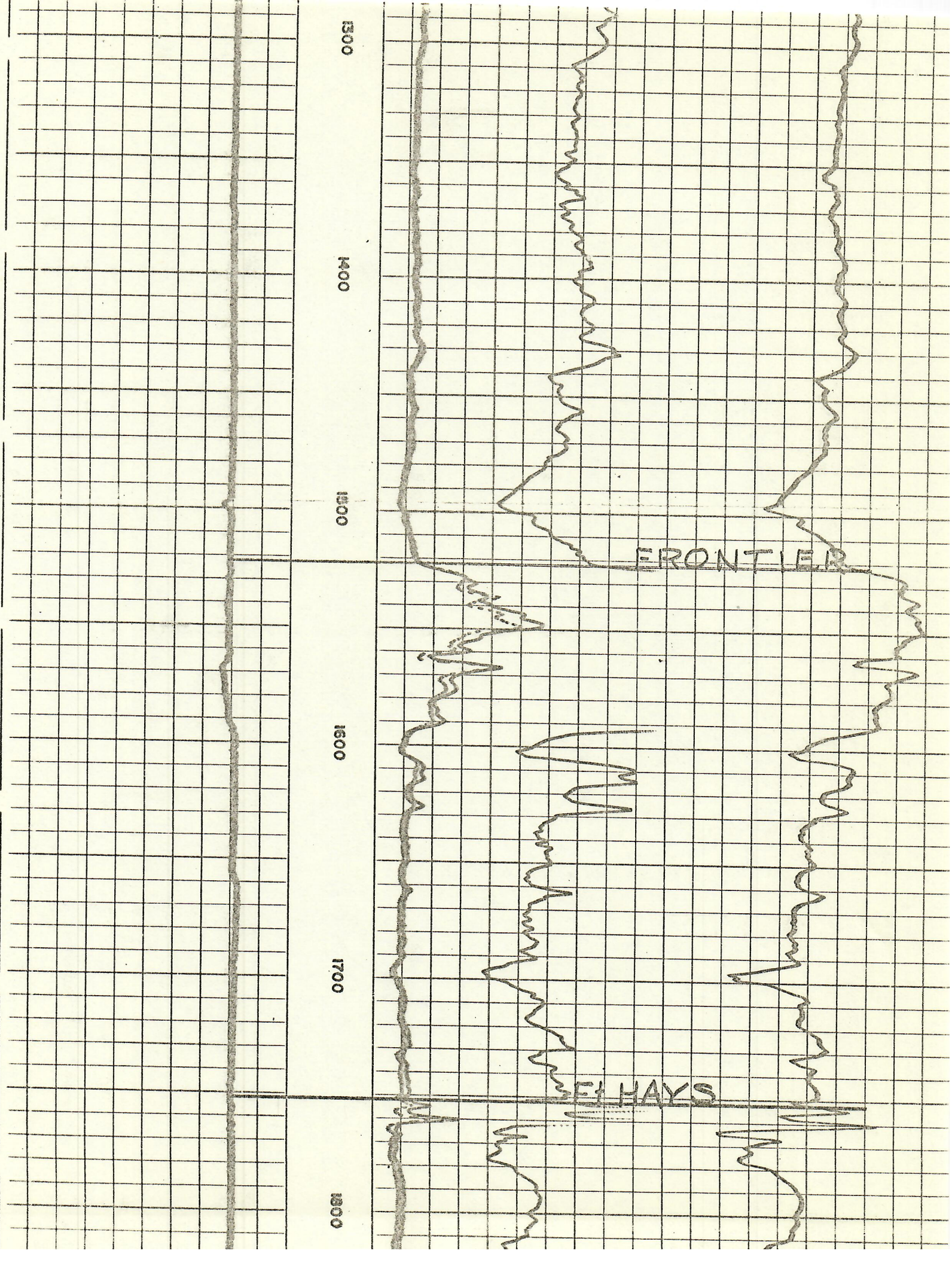
1600

1700

1800

FRONTIER

EL HAYS





SP

1900

2000

2100

2200

2300

MOWRY

DAKOTA

FUSON  
LAKOTA

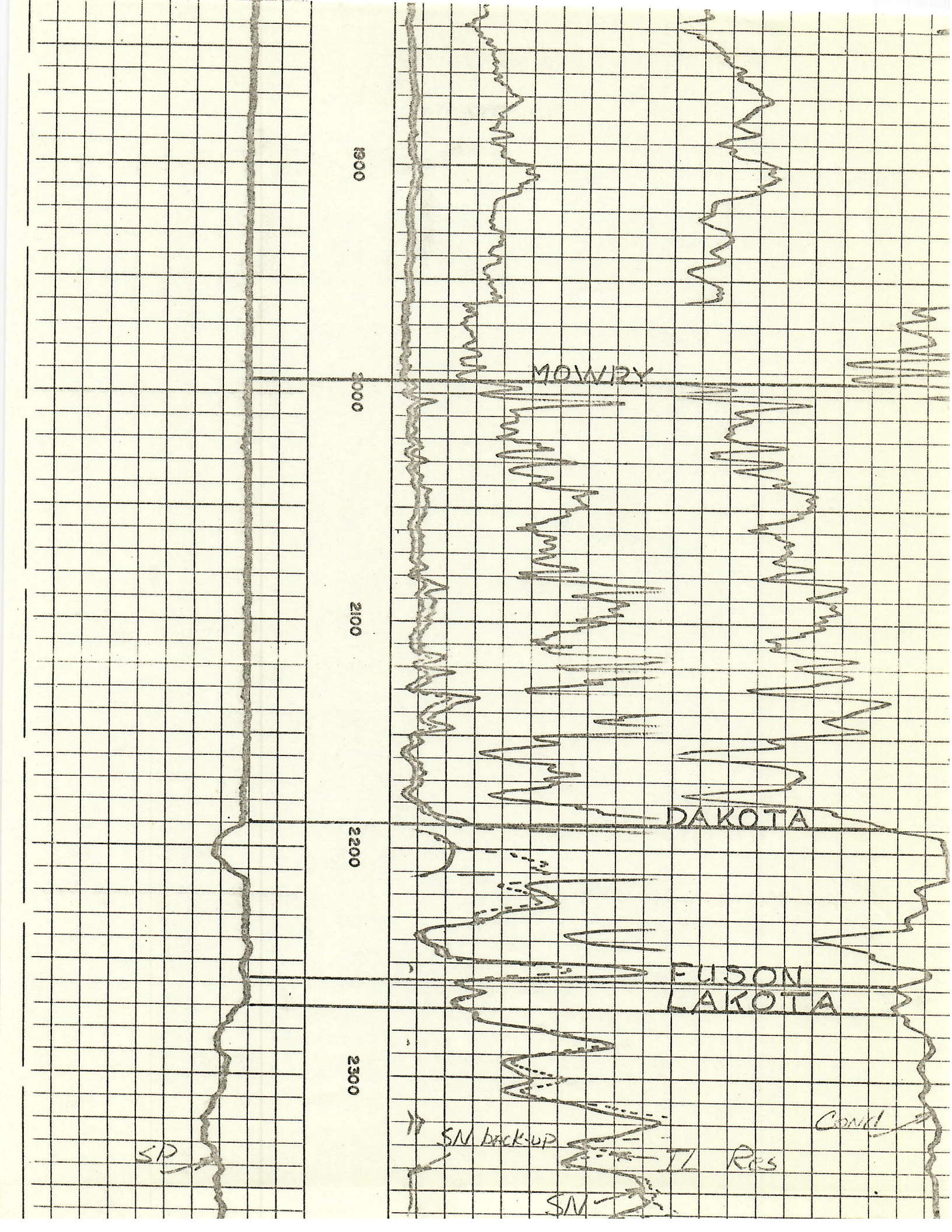
SN back-up

SN

TL

Res

CONK!





## Schlumberger

WELL

COUNTY

STATE

JACKSON

No. 10 SPAULDING  
STATE  
Colorado

$R_w$  from  $F = R_o/R_w$



# SAMPLE DESCRIPTION

1000 - 1200	Shale, dark grey, brownish grey, many foram fragments.
1200 - 1320	Shale, grey - dark grey, soft, very slightly calcareous.
1320 - 1330	Siltstone, grey, calcareous, firm to soft. Trace soft grey-white chalky lime. Trace silty lime, grey firm. Trace fluorescence.
1230 - 1270	Siltstone as above.
1270 - 1600	Siltstone, soft, grey-dark grey.
1600 - 1630	Shale, grey, dark grey, silty.
1630 - 1750	Shale, dark grey, very slightly silty in part.
1750 - 1760	Lime, grey, brownish grey, many spicules.
1760 - 1770	As above. Increase in grey shale.
1770 - 2000	Shale, grey-dark grey, firm.
2000 - 2030	Shale, very hard, blocky, dark grey, black.
2030 - 2130	Shale, very hard, dark grey to black, slightly silty.
2130 - 2170	Shale as above. Some very hard grey-dark grey, glassy, siltstone.
2170 - 2180	Shale and silt. Hard grey-dark grey.
2180 - 2190	As above.
2190 - 2200	Sand, fine grain, hard, tight, grey, light tan, white chalky textured siliceous clay. Slight dull fluorescence, no cut, no odor.
2200 - 2210	Sand as above. Becoming slightly darker, more friable.
2210 - 2220	As above. Much white siliceous clay. Trace hard, glassy, unsorted sand. Few pieces sand with brown globs oil.



SAMPLE DESCRIPTION (continued)

2220 - 2230	Shale, dark grey, firm. Trace light grey silt.
2230 - 2240	Shale as above.
2240 - 2250	As above. Trace green shale.
2250 - 2260	Sand, hard white, chert, sandy with fine grain sand and few large disseminated grains clear quartz.
2260 - 2270	Shale, black, firm to hard. Trace green shale and green sandy shale.
2270 - 2280	Shale as above and trip cavings.
2280 - 2290	Sand, hard, white, fine grain, unsorted, tan with odor, slight cut, light staining, generally tight.
2290 - 2300	As above.
2300 - 2310	As above.
2310 - 2320	Sand, medium large grain unsorted. Better, darker staining.
2320 - 2340	As above.
2340 - 2350	As above. Some hard, white sandy siliceous material and white chert.
2350 - 2360	As above.
2360 - 2370	Decrease in sand and chert.
2370 - 2380	As above. Trace green, firm and green slightly sandy shale. Trace claystone. Circulate for logs.



## SUMMARY

The #10-A Spaulding was a re-entry of #10 Spaulding which was drilled and plugged April 28, 1974 after crossing a fault and going into younger beds. The target area for #10-A Spaulding was a point approximately 280' South and 300' West.

The dyna drill was run and the hole kicked off the cement plug at 994'. A desired South and West direction and an angle of  $15 \frac{1}{4}$  degrees was established at a depth of 1186'. At this point different drilling assemblies were run to a depth of 2245'.

It was determined from the samples and surveys that the crest of the structure had been crossed slightly below the Dakota sand and the Lakota was drilled down the bedding plane; it was therefore decided not to penetrate the entire Lakota section and the hole was bottomed in the Lakota sand.