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AUG 9 - 1957

20-2N-52W

GEOLOGICAL DATA AND DRILLING AND COMPLETION PROCEDURE

CONSERVATION COMMISSION

FORMATION OR DATE	TOP-DEPTH INTERVAL	REMARKS OR DESCRIPTION AND RESULTS OF WORK		
<u>FORMATION RECORD</u>				
				
		00596348		
		<u>Bottom</u>	<u>Amount</u>	<u>Description</u>
Derrick Elevation		9'	9'	Rotary bushing to ground
		170'	161'	Sand & Conglomerate
		3910'	3740'	Shale
		4605'	695'	Lime, Sandstone & Shale
		4811'	206'	Sandstone
		(bottom of "J" not reached)		
<u>FORMATION TOPS</u>				
Tertiary		Surface		
Pierre		1090'		
Ft. Hays		4155'		
Bentonite Marker		4524'		
Dakota "D"		4615'		
Dakota "J"		4693'		
Total Depth		4811'		
(No other tops available - mechanical difficulties prevented complete logging operations)				
<u>STRAIGHT HOLE SURVEYS</u>				
140'	1/2°	Sure Shot		
500'	1/2°	" "		
1025'	3/4°	" "		
1531'	1°	" "		
2031'	1-3/4°	" "		
2536'	1-1/2°	" "		
3000'	2-1/4°	" "		
3250'	1-3/4°	" "		
3500'	1°	" "		
4100'	3/4°	" "		
<u>CORE DESCRIPTIONS</u>				
Core #1	4605-4655	Cut and recovered 50'.		
	05-12 1/2	sh, blk, hd, fissil.		
	12 1/2-24	ss, fn grnd, carb, poor p & p, no odor, fluor, or stn, shly, appears to be wet.		
	24-34	sh, blk. hd, with scattered ss laminations.		
	34-35	ss, fn grnd w/scattered sh lam, fair p & p, no stn or odor, spotty fluor.		
	35-42	sh, blk, hd, w/scattered ss lam.		
	42-47 1/2	ss, fn grnd, hd, carb, good p & p, no stn, no odor.		
	47 1/2-48	sh, blk, hd.		
	48-52	ss, fn grnd, hd, good p & p, good odor, good fluor, good stn.		
	52-55	ss, fn grnd, scattered carb. mat., no odor, no stn, fair p & p.		



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OIL & GAS  
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<u>CORE DESCRIPTIONS</u> - continued		
Core #2	4688-4739'	Cut and recovered 51'
	88 89	ss, fn grnd, hd, good p & p, good stn, good fluor.
	89 94	sh, blk, hd.
	94 01	reworked ss and sh, wh, hd, no stn, no odor, slight spotty fluor, poor p & p.
	01 05	ss, fn grnd, carb, hd, poor p & p, no stn, no odor, no fluor.
	05 10 $\frac{1}{2}$	ss, fn grnd, w/heavy sh lam., no stn, poor p & p, slight odor, no fluor.
	10 $\frac{1}{2}$ 18	reworked ss and sh, hd, poor p & p, no stn, no odor, no fluor.
	18 20	ss, fn grnd, carb, no stn, no odor, poor p & p, no fluor.
	20 23	sandy sh.
	23 34	sh, hd, blk, w/few scattered ss lam.
	34 37 $\frac{1}{2}$	ss, fn grnd, carb. no stn, no odor. fair p & p, no fluor.
	37 $\frac{1}{2}$ 39	ss, fn grnd, hd, no stn, no odor, good p & p.
<u>SAMPLE DESCRIPTION OF "J" SAND BELOW CORED INTERVAL</u>		
Dakota "J"	4740-4745'	ss, fn grnd, hd, no stn or fluor, good p & p.
	45 50'	sh.
	50 85'	ss, fn grnd, hd, no fluor, good p & p, slightly shaley.
	85 90'	sh.
	4790-4800'	ss, fn grnd, hd, no fluor, good p & p.
<u>DRILL STEM TESTS</u>		
DST #1	Made Halliburton drill stem test in 3 $\frac{1}{2}$ I. F. drill pipe. from 4648-4651' KB.	
	Choke:	5/8" bottom, 1/2" top
	Time	1 hour and 2 minutes
	Recovery:	Tool open 1 hr. with a fair blow increasing to maximum in 8 min., decreased to near zero after 20 min. but continued for 60 min. Recovered 180' highly oil and gas cut mud, 120' of slightly gas cut water, 180' slightly mud cut water, and 1620' of water.
	BHFP:	951#
	BHSIP	2250# (Shut-in pressure may be incorrect due to leak through the formation around packer)
	Mud Weight:	10 lbs/gal.
DST #2	Attempted Halliburton drill stem test in 3 $\frac{1}{2}$ I. F. drill pipe from 4683-4689' KB - Misrun.	
On 6-11-57	Schlumberger Electric Log was run to total depth. Schlumberger measurement: 4811' Driller's measurement: 4809' (from daily drilling report)	
<u>CASING SETTING</u>		
1.70'	7-5/8" OD	HOWCO Float Shoe
148.20'	7-5/8" 17.7#	R-3 Casing, Slip Joint, Spiral Weld
149.90'	Total	4 Jts.
9.00'	Derrick Elevation	
158.90'	Total	
1.10'	Set Below Surface	
160.00'	Setting Depth	
Cemented with 125 sacks of pozmix cement, 2%CaCl <sub>2</sub> . After 18-1/2 hrs. tested casing with 500# pressure for 15 minutes. No drop in pressure was observed and operations were resumed.		

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FORM FO-214 SHEET 2 (8-56) 30M

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		<div data-bbox="641 362 925 456" style="background-color: black; width: 175px; height: 35px; margin-bottom: 10px;"></div> <p><u>PLUGGING PROCEDURE</u></p> <p>Well was plugged 6-14-57, with the following plugging procedure.</p> <p>Plug #1 Set from 4746-4576' KB with 45 sacks regular bulk cement.          Plug #2 Set from 180-130' KB with 12 sacks regular bulk cement.          Plug #3 Set 15' from surface to top of surface casing with 4 sacks regular bulk cement.</p> <p>9.8# Gel mud was placed between all plugs.</p>

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