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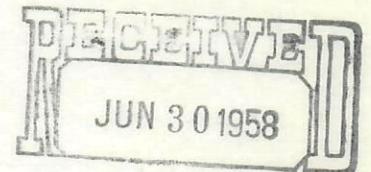
FORM PO-214 SHEET 2 (8-56) 30M

15-20-55W

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GEOLOGICAL DATA AND DRILLING AND COMPLETION PROCEDURE

FORMATION OR DATE	TOP-DEPTH INTERVAL	REMARKS OR DESCRIPTION AND RESULTS OF WORK		
<u>FORMATION RECORD</u>		<u>Bottom</u>	<u>Amount</u>	<u>Description</u>
Derrick Elevation		9'	9'	Rotary bushing
		170'	161'	Surface shale & conglom.
		4475'	4305'	Shale
		4673'	198'	Limestone
		4954'	281'	Shale w/limestone streaks
		4958'	4'	Sandstone
		5011'	53'	Sandstone & Shale
<u>FORMATION TOPS</u>				
Tertiary		Surface		
Pierre		990'		
Niobrara		4128'		
Carlisle		4515'		
Greenhorn		4650'		
Graneros		4685'		
Bentonite Marker		4851'		
Dakota "D"		4944'		
Total Depth		5011'		
<u>STRAIGHT HOLE SURVEYS</u>				
120'	1/2°	Sure-Shot		
650'	1/2°	"		
1100'	0°	"		
1600'	3/4°	"		
2100'	1-1/2°	"		
2600'	0°	"		
3100'	0°	"		
3600'	2°	"		
4050'	3/4°	"		
<u>CORE DESCRIPTION</u>				
Core #1	4949-4982'	- Cut 33', Recovered 29'		
	4949 -53 1/2'	Shale, blk, fissil		
	4953 1/2 -59'	Ss, fn.gr., good odor, good p&p		
	4959 -60'	Ss, fn. gr., slightly shaley, no show		
	4960 -63'	Ss, fn. gr., good odor, fair p&p, slightly shaley, some stn.		
	4963 -64'	Reworked ss, and shale		
	4964 -67 1/2'	Ss, very fn. gr., very shaley, no odor, no stn.		
	4967 1/2 -68 3/4'	Shale, blk, fissil		
	4968 3/4 -72'	Ss, very fn. gr., poor p&p, shaley, no stn., no odor		
	4972 -74'	Ss, fn. gr., no odor, no stn.		
	4974 -76'	Ss, very fn. gr., silty, no p&p, no show		
	4976 -82'	Reworked ss, no p&p, no show		
<u>DRILL STEM TESTS</u>				
(None)				
<u>PERFORATIONS</u>				
4-25-58	Perforated 4-1/2" OD casing 4954-4956' KB (E-log measurements) w/6 McCullough 1/2" burrless bullets per ft.			
5-28-58	Perforated 4-1/2" OD casing 4956-4958' KB (E-log measurements) w/6 MCCullough 1/2" burrless bullets per ft.			

OIL & GAS
CONSERVATION COMMISSIONWELL Forbes-Marick No. 4 FIELD *Zorich 26* Pinneo AREA Sterling

GEOLOGICAL DATA AND DRILLING AND COMPLETION PROCEDURE

FORMATION OR DATE	TOP-DEPTH INTERVAL	REMARKS OR DESCRIPTION AND RESULTS OF WORK	
<u>CASING COUPLING MEASUREMENTS</u>			
		<u>Driller</u>	<u>McCullough</u>
Top of Float Collar		4967.92'	4968.00' (PBSD)
First Coupling		4934.84'	4937.00'
Second Coupling		4904.04'	4904.00'
Third Coupling		4874.72'	4872.00'
Fourth Coupling		4843.12'	4840.00'
Fifth Coupling		4810.41'	4810.00'
Sixth Coupling		4779.31'	4779.00'
<u>CASING SETTING</u>			
1.60'	7-5/8" Howco Slip Jt. Float Shoe		
147.70'	7-5/8" OD 17.7# Spiral Weld Slip Jt., Casing		<u>4 Jts.</u>
149.30'	Total		<u>4 Jts.</u>
9.00'	KB elevation		
158.30'	Total		
2.00'	Set below surface		
160.30'	Setting depth		
7-5/8" OD casing was cemented with 110 sacks of Pozmix 50/50 cement, 2% CaCl ₂ . After 24 hrs., tested cement with 500 psi for 15 minutes. No drop in pressure was observed and drilling was resumed.			
1.60'	4-1/2" 8R Howco Float Shoe		
32.03'	4-1/2" OD 9.5# J-55 8R ST&C R-2 Casing		1 Jt.
1.45'	4-1/2" OD 8R Howco Float Collar		
4958.27'	4-1/2" OD 9.5# J-55 8R ST&C R-2 Casing		<u>154 Jts.</u>
4993.35'	Total		<u>155 Jts.</u>
9.00'	KB elevation		
5002.35'	Setting depth		
4-1/2" OD casing was cemented with 65 sacks of Pozmix 60/40 cement, 2% gel. After 23 hrs., tested cement with 1500 psi for 30 minutes. No drop in pressure was observed and operations were resumed.			
<u>LOGS AND SURVEYS</u>			
Ran Elgen electric log to bottom on 4-23-58 (Elgen TD 5011' KB, Driller's TD 5010' KB).			
Ran Elgen Permalog (Micro-log) from 4750' to total depth on 4-23-58.			
Ran McCullough Gamma Ray log from 4700' KB to PBSD on 4-25-58.			
<u>TUBING SETTING</u>			
30.91'	2-3/8" EVE 4.7# H-40 tubing (Anchor)		1 Jt.
3.66'	2-3/8" Perforated Nipple		
1.00'	2-3/8" Seating Nipple		
4918.69'	2-3/8" EVE 4.7# H-40 tubing		<u>160 Jts.</u>
4954.26'	Total		<u>161 Jts.</u>
9.00'	KB elevation		
4963.26'	Total		
- 3.50'	Set above surface		
4959.76'	Setting depth		
<u>DATA ON TEST</u>			
The well was initially tested from 10:00 A.M. 4-26-58, to 10:00 A.M. 4-27-58, and flowed 57 Bbls oil through 26/64" choke. Casing pressure was 300 lbs./sq. in., tubing pressure 185 lbs./sq. in. After 5 days production declined to 4 BOPD, 600 MCFPD (est.). Casing pressure was 500 lbs./sq. in., tubing pressure 410 lbs./sq. in. On 5-28-58, casing was perforated 4956-58' (2' lower than original perf.). The well was then tested for 48 hrs. Production was 1.67 BOPD, 666 MCFPD (flowing) through a 18/64" choke. The G.O.R. was 40,000 (est.) Cf/Bbl. of oil.			
WELL Forbes-Marick No. 4	FIELD Pinneo	AREA Sterling	



Zorichsk