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GEOLOGICAL REPORT

For

Mr. E. Doyle Huckabay

E. DOYLE HUCKABAY, LIMITED

#1 AMOCO - Maddern

660' F/S & 860' F/W lines of SW/4  
Section 31 - 3S - 59W

WILDCAT

Adams County, Colorado

DVR	
FJP	
HHM	
JAM	✓
JJD	

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January 9, 1974

OPERATOR: E. DOYLE HUCKABAY, LIMITED  
 CONTRACTOR: Allison Drilling Company, Rig # 25  
 FIELD: WILDCAT  
 LOCATION: 660' F/S & 860' F/W lines of the SW/4, Sec. 31 - 3S - 59W  
 COUNTY: Adams County, Colorado  
 ELEVATION: 5066' Ground, 5072' Kelly Bushing.  
 SPUDED: December 27, 1973  
 CASING: Surface; 8 5/8 inch set at 267' K.B. w/180 sacks of cement, 3% CaCl, cement circulated, plug down 12:30 AM Dec. 28 th. Production casing was run.  
 LOGS: Schlumberger - IES & FDC - GR w/Caliper  
 CORES: None  
 DRILL STEM TESTS: One of the "J" Sand after Logs.  
 COMPLETED: Drilling, logging and testing January 8, 1974.  
 MUD PROPERTIES: For logging; weight 10.0, viscosity 88, gels 8 - 19, Ph 8.5, water loss 5.2, wall cake 2/32, Cl 600, Ca 80, solids 12%, sand 1/4 of 1%.

A 7 7/8 inch hole was drilled w/gel -chemical mud.

A drilling time recorder was on the rig and one foot drilling time kept under surface to total depth.

SAMPLES: 30' under surface to 5300', 10' from 5300' - T.D. 6380' driller.

Samples were examined from 5300' - total depth.

Samples were circulated at the following driller's depths: 6287, 6335 and 6380'.

Strapped Drill Pipe, board 4661, strap 4665, correction made.

FORMATION TOPS	LOG (short normal)	Sample or D.T.
Niobrara	5340	? 5326
Ft. Hays	5725	?
Carlile	5768	?
Greenhorn	5850	? 5860
Bentonite Marker	6071	? 6084
"D" SAND	6166 (-1094)	6180
"J" SAND	6215 (-1143)	6227
Total Depth	6370 ( one foot fill up)	6380

Sample descriptions are corrected to Log (IES) depths. Uphole sample quality was extremely poor probably due to extremely cold weather. Sand sections were mostly usable to fair with noted exceptions.

"D" SAND 6166

- 6166 - 6174 Interbedded sand, shale & traces of gray-white bentonite: sand, gray-white, very fine-fine grain, SA-SR, clay filled to hard & quartzitic, traces of pyrite & glauconite, little is dirty-shaly, all tight, no show; shale, gray-black, carbonaceous, little is silty-fine sandy.
- 6174 - 6179 Sand, gray-white, silty-fine grain, SA-SR, micaceous, trace of pyrite & glauconite, clay filled & part silty-carbonaceous, traces sideritic, tight, no show.
- 6179 - 6206 Shale, gray-black, carbonaceous, little silty, traces of gray-white bentonite.
- 6206 - 6215 Shale, black, carbonaceous, streaks gray-brown silty, traces of gray bentonite.

"J" SAND 6215

- 6215 - 6244 Sand, few shale laminations, few thin streaks of silty-sandy gray-black shale & traces of gray bentonite; sand, gray-buff-white, fine-little medium grain, SA-SR, trace pyritic, few dark minerals, little silty, little quartzitic, mostly heavy buff-white clay cement, tight, no show, traces in the lower part w/low p&p, no show.
- 6244 - 6253 Interbedded shale & sand: shale, gray-black, carbonaceous, part silty-very fine sandy, trace of gray bentonite; sand, gray-white, silty-very fine grain, SA-SR, trace glauconitic & pyritic, few dark minerals, clay filled & silty-shaly, tight, no show.
- 6253 - 6265 Sand, white, fine-medium grain, little heavy clay filling, part w/slight clay, part clean, slightly S&P, trace glauconitic, fair porosity & perm., very light stain in part, slightly spotted & speckled light fluorescence, light cut, some chalk w/very light fluorescence. (Note-very little sand from this section was observed in the samples, probably ground up by a dull bit)
- 6265 - 6296 Sand interbedded w/few thin shaly & bentonitic streaks; sand, gray-white, very fine-fine-little medium grain, SA-SR, slightly S&P, trace of pyrite, traces w/fine buff-brown clay & siderite balls, mostly heavy clay cement, little scattered low-?fair p&p, no visible show, no fluorescence.
- 6296 - 6370 Sand w/gray-black shale laminations, few thin shale & gray bentonite streaks, part mottled carbonaceous & shaly; sand, gray-white, silty-very fine-fine grain, SA-SR, micaceous, S&P, glauconitic, traces of fine pyrite, clay filled to part shaly, becoming more silty-shaly in the lower part, all tight, no show.

DRILL STEM TEST

DST #1, 6255.5 - 6263', straddle test after logs, (Halliburton) open 10 min., blow to bottom of bucket in 3/4 min., shut in 45 min., gas to surface 9 min. after first shut in, open 60 min., maximum gas volume 110 MCF decreasing to 40 MCF at the end of the test, dripping condensate thru out gas recovery. Recovered 1585' GCO, 660' HGC & OC mud or muddy oil and 30' oil & GC muddy water, IHP 3396#, firts FP 107 - 267#  
ISIP 1740#, second FP 280 - 337#, FSIP 1700#, PHP 3422#, bottom packer held, bled to

2371#, Oil gravity 41 @ 60 degrees, BHT 158 degrees. Test likely would have flowed oil had it been left open longer. Unloaded estimated 3 stands of gassy oil after first 12 stands were pulled. Tool was left over night for safety reasons and pulled the next morning. The estimated 3 stands that unloaded are included in the test recovery figures.

RECOMMENDATIONS

It was recommended that production casing be run.

DEVIATION RECORD

Depth	Degrees	Depth	Degrees	Depth	Degrees
277	$\frac{1}{4}$	5648	1	6335	$\frac{1}{2}$
4000	$\frac{3}{4}$	6090	$\frac{3}{4}$		

BIT RECORD

No.	Size	Make	Type	Jet Sizes	Depth Out	Footage	Hours
1	7 7/8	Smith	DT	regular	2059	1782	18
2	"	Sec.	S3R	"	4000	1941	23 $\frac{1}{2}$
3	"	Sec.	"	"	4661	661	10
4	"	Sec.	"	"	5658	987	19
5	"	Sec.	"	"	6090	442	15
6	"	Sec.	S4T	"	6336	244	18 $\frac{1}{2}$
7	"	HTC	OD4	"	6380	44	4 $\frac{3}{4}$

Sincerely yours,

