

1-16-43W^{P1}

GEOLOGIC REPORT

TXO PRODUCTION CORPORATION

SEP 30 1985
State Geological Survey
WICHITA BRANCH

1-16-43W

Edsall "F" #6 ✓
2310' FSL & 330' FEL
Section 1, Township 16 South, Range 43 West
Greeley County, Kansas

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RECEIVED
STATE CORPORATION COMMISSION

SEP 27 1985

CONSERVATION DIVISION
Wichita, Kansas

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RESUME

OPERATOR: TXO Production Corporation

OTHER INTERESTED PARTIES: Apcot-Finadel

WELL NAME & NUMBER: Edsall "F" #6

LOCATION: 2310' FSL, 330' FEL,
Section 1, Township 16 South,
Range 43 West

AREA: SW Stockholm Field

COUNTY: Greeley

STATE: Kansas

ELEVATION: 3905' K.B. and 3900' G.L.

ENGINEER: Tom Brock

GEOLOGIST: Bill Berry

SPUD DATE: September 6, 1985 @ 4:15 P.M.

COMPLETION DATE: September 12, 1985 @ 1:30 A.M.

HOLE SIZE: 12-1/4" to 390';
7-7/8" to 5300'

CASING: 8-5/8" set at 388'

CEMENTING COMPANY: Halliburton

CONTRACTOR: Murfin Drilling Company

EQUIPMENT: Rig #21

TOOLPUSHER: Terry McRae

DRILLERS: Bill Wynn, Chuck Walters,
Glenn Haflinger

DRAWWORKS: Ideco H-35

DERRICK: Butler Parks Double

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RESUME cont'd.

PUMP: Emsco D 375
DRILL COLLARS: 6-1/4 X 2-1/4
DRILL PIPE: 4-1/2" XH
DRILLING MUD COMPANY: Maverick Mud Co.
MUD TYPE: Native to 4000', Gel-Chemical
4000' to TD
MUD ENGINEER: Rick Garcia
ELECTRIC LOG COMPANY: Schlumberger
TYPE LOGS: DIL/SFL/GR 388'-5288'
LDL/CNL/GR 3450'-5291'
ENGINEER: Jon Musselman
TOTAL DEPTH: 5300' Driller; 5294' Logger
DRILLING TIME: 6 Days
WELL STATUS: Plugged and Abandoned

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SUMMARY AND CONCLUSION

The TXO Production Corporation's Edsall F-6 was drilled in the NE NE SE of Section 1, Township 16 South, Range 43 West in Greeley County, Kansas.

This well is part of the continuing development of the Lower Morrow sand in the Stockholm Field. Our control well, the Edsall "G" #1, is located 660' to the northeast.

Geologic supervision began at 4000' in the Upper Topeka, which was logged at 3925', 2' low to our control well. A porosity zone was seen on logs at 3954'-3964' with 17% porosity and water saturation of 100% using an R_w value of .3. A second zone was seen at 3998'-4012' with up to 17% porosity and again 100% water saturation, the zone was not observed in sample study. The next zone of interest was found 4019'-4026', 15% porosity was measured and again 100% water saturation was calculated. Samples revealed this porosity to be intercrystalline and no shows of hydrocarbons were observed. Lastly, in the Topeka, a zone was seen at 4128'-4132' with 12% porosity and 100% water saturation, again this porosity was observed to be intercrystalline in a slightly argillaceous limestone.

The top of the Heebner was picked at 4146', 6' low to the Edsall "G" #1. A porosity zone was seen below the Heebner at 4176'-4180', with 10% porosity and 100% water saturation using an R_w value of .3. A limestone was seen in samples with intercrystalline porosity. A second porous zone was seen on logs at 4204'-4222' with again 10% porosity and 100% water saturation. This zone was not observed in samples.

The top of the Lansing was picked at 4246', 1' low to the control well. A zone of interest was seen in the Upper Lansing at 4310'-4316', 12% porosity and 100% water saturation were observed. This zone was a limestone with pinpoint and intercrystalline porosity. A thin porous limestone was seen in the Lower Morrow at 4585'-4587' with 14% porosity and 92% water saturation.

The top of the Marmaton was logged at 4638', 2' high to our control well. Nothing of interest was seen in the Marmaton.

The Morrow was topped at 5054', 5' high to the Edsall "G" #1. The Stockholm sand was absent, with a thin sand developing above the Stockholm sand interval at 5140'-5148', but this sand was tight.

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SUMMARY AND CONCLUSION cont'd.

The Lower Morrow limestone was drilled at 5153', 20' high to our control well. The top of the Mississippi was found at 5242', 39' low to the Edsall "G" #1.

The well was TD'd 50' into the Mississippi and, because of the lack of a Morrowan sand, Murfin Rig #21 was preparing to plug the Edsall "F" #6.

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FORMATION TOPS FROM SAMPLES

K.B. Elevation: 3905'

SAMPLE TOPS	DEPTH FROM K.B.	SUB SEA (+ or -)
Pennsylvanian		
Topeka	3926'	-21'
Heebner	4142'	-237'
Lansing	4252'	-347'
Marmaton	4644'	-739'
Ft. Scott	4724'	-819'
Cherokee	4771'	-866'
Atoka	4892'	-987'
Morrow	5056'	-1151'
Lower Morrow Ls.	5157'	-1252'
Mississippian		
St. Genevieve	5242'	-1337'

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FORMATION TOPS FROM ELECTRIC LOGS

K.B. Elevation: 3905'

E-LOG TOP	DEPTH FROM K.B.	SUB SEA (+ or -)	STRUCTURAL RELATION TO EDSALL "G" #1 SW SW SW SEC. 6, T16S, R42W
Permian			
Stone Corral	2765'	+1140'	+7'
Pennsylvanian			
Topeka	3925'	-20'	-2'
Heebner	4146'	-241'	-6'
Lansing	4246'	-341'	-1'
Marmaton	4638'	-733'	+2'
Ft. Scott	4712'	-807'	+5'
Cherokee	4764'	-859'	-1'
Atoka	4888'	-983'	+4'
Morrow	5054'	-1149'	+5'
Stockholm Sd	Absent		
Lower Ls	5153'	-1248'	+20'
Mississippian			
St. Genevieve	5242'	-1337'	-39'

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BIT RECORD

NO.	MAKE	TYPE	SIZE	IN	OUT	FOOTAGE	HOURS
1	STC	DSJ	12-1/4"	0'	390'	390'	3-3/4
1	STC	FDS	7-7/8"	390'	1840'	1450'	8
2	STC	F-2	7-7/8"	1840'	4265'	2425'	42-1/2
3	HTC	J-33	7-7/8"	4265'	5300'	2875'	45-1/2

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DAILY DRILLING CHRONOLOGY

DATE	ACCUM. FOOTAGE	FOOTAGE- 24 HOURS	RIG ACTIVITY
9/6/85	0'	0'	6:00 A.M. spud, survey, T.O.H., run SFC. CSG., cement
9/7/85	390'	390'	6:00 A.M. W.O.C., drill, survey, trip F/bit, drill
9/8/85	2615'	2225'	6:00 A.M. drill, lost circ., drill
9/9/85	3760'	1145'	6:00 A.M. drill, trip F/bit, drill
9/10/85	4415'	655'	6:00 A.M. drill
9/11/85	4925'	510'	6:00 A.M. drill, C.F.S., drill, cond. hole, short trip, cond. hole
9/12/85	5300'	375'	6:00 A.M. trip F/logs, run E/logs, prepare to plug and abandon

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MUD RECORD

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300 S. ZEEB ST.
LANSING, MICH. 48206
1984
PH 0 8 4175
FILT 2
CK

1985 Date	Depth	Wt.	F.Vis.	P.Vis.	Yield	PH	FILT	CK	Alka	Chlo	Cal- cium	Cum. Cost
9/8	2900'	9.5	26			7.0				72,000	2740	\$ 618.39
9/9	3965'	9.5	33	7	10	7.0	NC	2/32		65,000	960	\$ 869.94
9/10	4521'	9.2	32	4	9	8.2	40	2/32	.3	35,000	680	\$1,655.32
9/11	4897'	8.9	38	9	14	10.0	10.8	2/32	1.1	14,000	0	
9/11	4920'	8.9	44	10	14	10.5	8.8	2/32	1.8	14,000	0	\$3,910.26
9/12	5300'	9.2	67	15	21	11.2	9.2	2/32	1.8	15,000	TR	\$4,907.73

Edzell 7 #6

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DRILLING FUNCTIONS

DEPTH	W.O.B.	R.P.M.	P.P.	DEVIATION
390'	All	90/100	600	1/2°
1840'	35,000	90/100	800	1-1/2°
4265'	35,000	60/65	600	3/4°
5300'	35,000	60/65	800	4-1/2°

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PENETRATION RATE/TIME CHART

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SEPTEMBER, 1985

06 7 8 9 10 11 12

SET 8 5/8" SFC CSG

1,000'
2,000'
3,000'
4,000'
5,000'
6,000'

TD-5300'

19 0651 2470 10 C) 10 Miles to a Center • Made in U.S.

LITHOLOGY (NOT LAGGED)

3900' - 30'	Ls buff-lt gy, occ lt brn, micxl-vfxl, occ fxl, occ sl chky, cln, occ fr vug por w/tr p intxl por
3930' - 60'	Sh brick red, mas, occ calc
3960' - 90'	Brick red, mas, occ calc. Occ ls lt gy-tan, crpxl, sl arg, dns
3990' - 4020'	Cont pred sh brick red. Occ ls buff-tan, micxl, occ crpxl-lith, frm-hd, sl arg, dns
4020' - 50'	Sl incr ls buff-lt gy, occ tan, micxl-vfxl, occ crpxl, occ sl arg, tr p-fr intxl por
4050' - 80'	Pred ls buff-lt gy, micxl-crpxl, occ sl chky, pred cln, dns. Occ sh brick red, occ dk gy, mas, occ sl calc
4080' - 4110'	Ls buff-lt gy, frm, micxl-crpxl, occ sl arg, dns cont occ brick red sh
4110' - 40'	Ls buff-gy, micxl-crpxl, occ arg, dns
4140' - 70'	Ls wh-buff, micxl, occ vfxl, occ crpxl, cln, tr w/p intxl por
4170' - 4200'	Ls buff-lt gy-tan, micxl-vfxl, occ crpxl, cln-occ sl arg, dns. Occ sh dk gy, mas, sl calc
4200' - 30'	Ls crm-buff, micxl, occ vfxl, cln, dns-tr w/vp intxl por
4230' - 60'	Sh gy-dk gy, lt gn-bl gn, mas, occ splty, sb wxy, occ pyric
4260' - 90'	Sh lt-dk gy, gn-bl gn, mas, occ sb fis, occ pyric
4290' - 4320'	Smpl qual vp-pred red beds (4290'-4410') sh cont lt-dk gy & gn-bl gn. Occ ls wh-buff, micxl-crpxl, occ chky, cln, dns
4320' - 50'	Ls buff-gy, micxl-crpxl, occ sl chky, occ arg, dns
4350' - 80'	Incr sh gy, mas, wxy, v sl calc. Occ ls buff-lt gy, occ tan, micxl-crpxl, occ vf ool, sl arg, dns

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LITHOLOGY cont'd.

- 4800' - 30' Pred sh blk, occ dk gy, mas, occ carb. Ls lt gy-gy, occ tan, micxl-crpxl, occ lith, occ sl mot, sl arg, dns. Tr brn cht
- 4830' - 60' Cont pred sh. Ls lt gy, micxl-crpxl, sl arg, occ sl mot, dns. Tr pyr. Tr brn cht
- 4860' - 90' Sh dk gy-blk, mas, occ carb, occ calc. Ls lt-dk gy, micxl-crpxl, occ gran, sl arg-arg, dns
- 4890' - 4920' Cont pred sh dk gy-blk. Ls gy, occ dk gy, gran, occ micxl-crpxl, occ sl mot, sl arg-arg, dns
- 4920' - 50' Sh dk gy-blk, mas, occ fis, occ carb. Ls gy-dk gy, occ tan, micxl, occ crpxl, sl arg, dns
- 4950' - 4980' Sh cont dk gy-blk. Ls buff-gy, occ dk gy, occ tan, micxl-crpxl, occ lith, sl-yarg, dns
- 4980' - 5000' Ls gy-dk gy, micxl, occ crpxl, arg, dns. Abnt wh-bl trip cht. Cont abnt sh dk gy-blk, mas, occ carb, occ calc
- 5000' - 10' Pred sh blk, mas, carb. Ls gy, occ dk gy-blk, micxl, occ crpxl-lith, sl arg, dns. Tr blk cht
- 5010' - 40' Ls gy-dk gy, occ tan-lt brn, micxl-crpxl, occ lith, sl arg-arg, dns. Sh dk gy-blk, mas-plty, carb. Tr lt brn cht
- 5040' - 60' Ls gy-dk gy, occ tan-lt brn, gran, micxl-crpxl, sl arg-arg, dns. Occ sh dk gy-blk, mas, occ slty, carb. Tr cht
- 5060' - 80' Incr sh dk gy-blk, mas-plty, carb. Ls gy-dk gy, occ blk, micxl, gran, occ lith, sl-varg, dns cont tr cht
- 5080' - 5110' Sh dk gy-blk, mas, carb. Occ coal. Ls gy, tan-lt brn, crpxl-lith, occ micxl, gran, sl arg, dns
- 5110' - 30' Sh gy-dk gy, mas-sb fis, occ carb occ pyric. Abnt ls tan-lt brn, micxl-crpxl, sl arg, dns
- 5130' - 50' Sh dk gy, mas-sb fis, occ splty abnt ls lt gy, micxl-crpxl, sl arg, dns
- 5150' - 60' Sh dk gy-blk, mas-plty, occ carb

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LITHOLOGY cont'd.

- 4380' - 4410' Ls buff-lt gy, frm, micxl-crpxl, occ p-fr pp & intxl por
- 4410' - 40' Ls buff, occ tan, micxl-vfxl, occ crpxl, occ chky, occ p intxl por. Occ sh gy-dk gy, mas, sl calc
- 4440' - 70' Ls lt gy, frm, micxl, occ crpxl, sl arg, dns. Sl incr sh gy-dk gy, occ blk, mas, sl calc
- 4470' - 4500' Ls buff-gy, micxl-crpxl, occ lith, occ wh & chky, occ sl mot, sl arg, occ cln, dns. Cont occ sh gy-dk gy-blk, mas, occ sl carb, sl calc
- 4500' - 30' Ls buff-lt gy, occ tan, micxl-crpxl, occ lith, sl arg-arg, dns. Occ sh dk gy-blk, mas, carb
- 4530' - 60' Ls buff-tan, crpxl, occ micxl-vfxl, cln, dns-tr w/p intxl por
- 4560' - 90' Ls wh-buff, fri, micxl, sl chky, cln, occ vf ool, occ fr ool por, tr p intxl por
- 4590' - 4620' Ls wh-buff-lt gy, occ tan, micxl, chky, occ crpxl, cln-occ sl arg, dns. Sl incr sh gy-dk gy-blk, mas, occ carb, occ sl calc
- 4620' - 50' Ls buff-lt gy, frm, micxl-crpxl, cln-sl arg, dns. Abnt sh gy-dk gy, occ blk, mas, occ wxy, occ carb, occ sl calc
- 4650' - 80' Ls buff-lt gy, frm, occ fri, micxl, occ crpxl, occ micsuc, sl arg, tr w/vp suc por. Occ sh gy-dk gy, occ blk, calc, occ sl carb
- 4680' - 4710' Ls buff-gy, occ dk gy, occ tan, micxl, occ crpxl, occ lith, sl arg-arg, dns. Cont occ sh dk gy-blk, mas, occ splty, occ sb, occ calc
- 4710' - 40' Ls buff-gy, micxl-crpxl, occ sl arg, dns. Sl incr sh dk gy-blk, mas, occ calc, occ carb
- 4740' - 70' Ls wh-buff-lt gy, occ tan, micxl-crpxl, cln-occ sl arg, dns. Cont abnt sh
- 4770' - 4800' Ls wh-buff, micxl, occ sl chky, occ crpxl, occ sl arg, occ sl pyric, dns. Decr sh cont dk gy, occ blk, mas, occ sl calc

LITHOLOGY cont'd.

- 5160' - 65' Sh dk gy-blk, mas-plty ss (tr) trnsl, wh, frm-hd, f-m gr, ang-sbrd, uncon, tr dk brn dd o stn
- 5165' - 70' Ss (5%) wh, lt gy, frm, f-m gr, sb ang-sbrd, mod srt'd, sl glau, p intgr por (8-10%) also clr-trnsl, m-c gr, sb ang-sbrd uncon tr of smpl spotty dull yel gn flor, p crushed cut, tr spotty dk brn dd o stn
- 5170' - 80' Ss (5%) trnsl, hd, occ fri, f-m gr, occ m-c gr, sbrd, mod srt'd, sl glau, sl pyric, p vug & intgr por tr of smpl spotty dull yel gn flor, p crushed cut, occ spotty dk brn dd o stn. Sh (60%) dk gy, mas ls (35%) brn, lt gy, crpxl, sl glau, occ sl arg dns
- 5180' - 85' Ls (60%) lt gy-lt brn, micxl-crpxl, sl arg, occ sl glau, dns. Ss (tr) as above
- 5185' + 20 min.circ.
+ 60 min.circ.
Ls buff-tan, micxl, occ crpxl, pred cln, occ sl glau, dns. Cont tr ss. Abnt sh dk gy, mas-plty
- 5185' - 90' Pred sh dk gy, mas, srt'd, splty. Abnt ls buff-tan, micxl, occ crpxl, cln, occ sl arg, dns
- 5190' - 5200' Ls lt gy-lt brn, micxl-crpxl, occ sl mot, occ sl arg, dns. Cont abnt sh
- 5200' - 30' Sh dk gy-blk, mas-sb plty. Ls buff-lt gy, occ tan, micxl, occ crpxl, sl glau, dns
- 5230' - 40' Sh dk gy, brit, plty ls buff-tan, micxl-gran, cln, dns
- 5240' - 50' Ls buff-tan, micxl-gran, occ crpxl, cln, dns abnt sh dk gy, mas-plty
- 5250' - 60' Ls buff-tan, micxl, aren, dns abnt sh
- 5260' - 5300' Ls buff-lt gy, tan, micxl-gran, aren, dns. Cont abnt sh
- 5300' + 30 min.
+ 90 min. Ls buff-tan, micxl-gran, occ crpxl, aren, occ f ool, dns. Abnt sh dk gy, mas, splty