

State Geological Survey
WICHITA BRANCH

11-16-43W^{PC}



RECEIVED
STATE CORPORATION COMMISSION
OCT 21 1983
CONSERVATION DIVISION
Wichita, Kansas

TXO PRODUCTION
EDSALL "E" #2
SESWNE SEC. 11
T16S R43W
GREELEY COUNTY
KANSAS

RICHARD E. BACON
GEOLOGIST

SUMMARY

THE EDSALL "E" #2 WAS DRILLED TO A DEPTH OF 5300' SUBSEA OF -1375'. THE PRIMARY OBJECTIVE BEING THE LOWER MORROW SAND. THE PRODUCING ZONE OF THE STOCKHOLM FIELD.

THE FIRST SHOW ENCOUNTERED WAS IN THE LOWER TOPEKA. SAMPLES FROM 3990' TO 4050' REVEALED TRACES OF SPOTTY BRIGHT YELLOW FLUORESCENCE, SLOW YELLOW-GREEN BLEEDING AND A DULL YELLOW-GREEN RING. THE ROCK AS A LIMESTONE WITH A TRACE OF VISIBLE POROSITY. ALSO SAMPLES 4200' TO 4230' DISPLAYED A TRACE OF AN EVEN BRIGHT YELLOW-WHITE FLUORESCENCE, A SLOW YELLOW-GREEN BLEEDING AND A FAINT YELLOW-GREEN RING. THEIS LIMESTONE HAD NO VISIBLE POROSITY.

THE TARGET ZONE CAME IN AT 5166' TO 5182'. THE SAND A MEDIUM TO COARSE GRAIN, SUBROUND TO SUBANGULAR SILICEOUS ROCK WITH SOME VISIBLE POROSITY DISPLAYED AN EVEN BRIGHT YELLOW-WHITE FLUORESCENCE WITH A FLASH TO MODERATE YELLOW-WHITE STREAMING AND A BRIGHT YELLOW-GREEN RING. LOG CALCULATIONS FOR THE UPPER PART OF THE SAND WAS 40% WATER, 22% POROSITY AND 9 OHMS OF RESISTIVITY. THE LOWER PART OF THE SAND WAS 57% WATER 19% POROSITY AND A RESISTIVITY OF 6 OHMS. HENCE PIPE WAS BEING RUN TO PRODUCE AS AN OIL WELL.

ALSO OF INTEREST WAS AN UPPER ZONE OF MORROW SAND FROM 5087' TO 5108' THIS SAND WAS SIMILAR TO THE LOWER SAND YET PROVED TO BE WET IN CALCULATIONS AND A DST OVER THIS ZONE RECOVERED 90' MUD AND 120' WATER CUT MUD. THIS SAND HAS NOT BEEN SEEN BEFORE IN THIS AREA AND WILL BE INVESTIGATED AS DRILLING CONTINUES IN THE AREA.

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2 E' Edsall

✓ LITHOLOGIC TOPS ✓

	EDSALL "E" #2	CHEEK "A" #1
STONE CORRAL	2753 +1172	2732 +1178
NEVA	3468 +457	3453 +467
FORAKER	3562 +363	3544 +376
WABAUNSEE	3674 +251	3657 +263
TOPEKA	3906 +19	3886 +34
HEEBNER	4133 -208	4114 -194
LANSING	4238 -313	4216 -296
MARMATON	4634 -709	4616 -696
FT. SCOTT	4712 -787	4694 -774
CHEROKEE	4758 -833	4743 -823
ATOKA	4895 -970	4878 -958
MORROW	5072 -1147	5050 -1130
BLUE LIME	ABSENT	5106 -1186
UPPER SAND	5087 -1162	ABSENT
LOWER SAND	5166 -1241	5151 -1231
LOWER LIME	5188 -1241 63	5167 -1247
KEYES	ABSENT	5214 -1294
STE. GENEVIEVE	5226 -1301	5242 -1322

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RESUME

OPERATOR: TXO PRODUCTION CORP.

WELL NAME & LOCATION: EDSALL "E" #2 SESWNE SEC. 11 T16S R43W

COUNTY: GREELEY

STATE: KANSAS

SPUD DATE: OCTOBER 10, 1983 8:00pm

COMPLETION DATE (TD): OCTOBER 12, 1983 10:20pm

ELEVATIONS: GL 3915' KB 3925'

TOTAL DEPTHS: LOGS 5290' DRILLER 5300'

CONTRACTOR: J. W. GIBSON DRILLING CO. RIG #93

GEOLOGIST: RICHARD E. BACON

TOOL PUSHER: DALE CARBERRY

TYPE DRILLING MUD: CHEMICAL GEL

MUD COMPANY: MUD CO. DAVE WILLIAMS ENGINEER

HOLE SIZES: 12 1/4" to 650' 7 7/8" to TD

CASING: 19 JOINTS 8 5/8" SET AT 615.76 CEMENT WITH 225 SACKS
CLASS C 3% CC AND 150 SACKS HALCO LITE

CORES: NONE

DST DEPTH: 5084' to 5105'

DST COMPANY: CHENEY JERRY CROSS ENGINEER

E-LOGS BY: GEARHART

TYPE LOGS: FDC-CNL-GR-CAL TD to 3187
DIL-SP-GR TD to 617

LOGGING ENGINEER: SAM DEAN

BOTTOM FORMATION: STE. GENEVIEVE

WELL STATUS: TO COMPLETE AS A LOWER MORROW SAND OIL WELL

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WELL CHRONOLOGY

DATE	7:00am DEPTH	ACTIVITY
10-1-83	-	SPUD 8:00am
10-2-83	650'	RUN 19 JOINTS 8 5/8" 24# K-55 SET AT 615.76' CEMENT WITH 275 SACKS CLASS G 3% CC AND 150 SACKS HALCO LITE. WAIT ON CEMENT
10-3-83	1775'	LOST CIRCULATION AT 1440', 1554' AND 1835' NEW BIT AT 1835'
10-4-83	2327'	REPAIRING CLUTCH ON DRUM, PULL TO SURFACE PIPE
10-5-83	2327'	WORKING ON CLUTCH
10-6-83	2327'	REPAIR CLUTCH BEGIN DRILLING AT 5:30pm
10-7-83	3032'	DRILLING, PLUGGED JET PULL PIPE JET PLUGGED WITH RUBBER GASKET FROM PUMP HEAD. DEVIATION 2°
10-8-83	3517'	DRILLING
10-9-83	4030'	DRILLING
10-10-83	4476'	DRILLING
10-11-83	4839'	DRILLING, PULL FOR NEW BIT AT 5182'
10-12-83	5182'	TD AT 10:20pm DEVIATION 2° CONDITION HOLE FOR LOGS
10-13-83	5300'	RUN LOGS, DECISION MADE TO DST UPPER MORROW SANDSTONE

DST # 1

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Formation: UPPER MORROW SAND

Interval: 5084 to 5105

Reason for Test: NEW ZONE

Type Test: STRADDLE

Testing Company: CHENEY

Tester: JERRY CROSS

Water Cushion: NONE

IF 30 Minutes WEAK BLOW THROUGHOUT

ISI 60 Minutes

FF 60 Minutes NO BLOW DEAD THROUGHOUT

FSI 120 Minutes

Recovery: 90' MUD 120' WATER CUT MUD

Bottom Hole Sampler: Pressure 30# Recovery 1100cc

MUD, 900cc H₂O

Resistivity Data: Drill pipe recovery .401 @ 63° 18,000 PPM
Sampler .339 @ 66.7° 21,000 PPM
Mud Pit _____ @ _____ PPM

Pressures:

Top Chart

Bottom Chart

IH 2668 FH 2646

IH _____ FH _____

IF 174 to 218

IF _____ to _____

ISI 1017 to _____

ISI _____ to _____

FF 218 to 218

FF _____ to _____

FSI 1060 to _____

FSI _____ to _____

Top Choke 1/4"

Bottom Choke 3/4"

Bottom Hole Temperature: 125°

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2 'E' Edsall

SAMPLE DESCRIPTIONS
(NOT LAGGED)

- 3780-3810 LS-60% buff, light grey, cream, crypto-medium xln,
firm, dense, tr sucrosic
SH-40% red-orange, maroon, medium grey, blue green,
firm, blocky, massive, flakey, some silty to
arenaceous, tr micromica
Trace ANHY-white, opaque, firm, dense, xln, free pyrite
- 3810-3840 SH-60% red-orange, maroon, medium-dark grey, blue green,
firm, blocky, massive, flakey, subfissile, some
silty to arenaceous, tr micromica
LS-40% cream-buff, crypto-medium xln, firm-hard,
dense, some silty free pyrite
- 3840-3870 SH-70% red-orange, maroon, medium-dark grey, firm,
blocky, massive, flakey, subfissile, some silty
to arenaceous, tr micromica
LS-30% cream-buff, light grey, crypto-very fine xln,
firm-hard, dense, lithic, argillaceous in part
free pyrite
- 3870-3900 SH-70% red-orange, maroon, medium-dark grey, firm,
blocky, massive, flakey, subfissile, some silty,
some arenaceous, tr micromica
LS-30% cream-buff, white, light grey, crypto-very
fine xln, firm-hard, dense, lithic, chalky
free pyrite
- 3900-3930 LS-50% cream-white, buff, light grey, firm-hard,
dense, lithic, chalky, tr oolitic round-white
SH-50% red-orange, maroon, medium-dark grey, firm,
blocky, massive, flakey, subfissile, some silty
to arenaceous, tr micromica
- 3930-3960 LS-50% cream-white, light grey, buff, crypto-fine xln,
firm-hard, dense, lithic, chalky, tr medium xln,
with fair interxln porosity also trace pinpoint
to vuggy fair porosity
SH-50% red-orange, maroon, medium-dark grey, firm-
friable, blocky, massive, flakey, subfissile,
silty to arenaceous in part
- 3960-3990 LS-60% cream-white, buff, crypto-fine xln, firm-hard,
dense, lithic, chalky, tr pinpoint porosity fair
SH-40% red-orange, medium-dark grey, maroon, firm,
blocky, massive, flakey, subfissile, more greys
free pyrite

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- 3990-4020 LS-80% cream-white, buff, crypto-microxln, friable-hard, dense, chalky, lithic free pyrite
TRACE SPOTTY YELLOW-GREEN FLUORSCENCE
SLOW YELLOW-GREEN BLEEDING
DULL YELLOW-GREEN RING, DRY CUT POOR SHOW
- 4020-4050 LS-95% cream-white, buff, crypto-microxln, friable-hard, dense, chalky, lithic
TRACE SPOTTY YELLOW-GREEN FLUORESCENCE
SLOW YELLOW-GREEN BLEEDING
DULL YELLOW-GREEN RING, DRY CUT POOR SHOW
- 4050-4080 LS-100% white-cream, buff, crypto-microxln, friable-hard, dense, lithic, chalky, some silty trace pinpoint to vuggy fair porosity, tr oolimoldic good porosity, trace arenaceous grading to SS-light grey, very fine grain, subangular-subround, firm, calc, fair sorting, tight
- 4080-4110 LS-100% cream-white, buff, tan, cryptoxln, firm-hard, dense, lithic, chalky, some silty,
Trace SLTST-medium grey, firm, massive, mica, calc
- 4110-4140 LS-100% cream-buff, white, crypto-very fine xln, firm-hard, dense, lithic, chalky, some silty to arenaceous trace salmon, cryptoxln, dense, dolomitic
Trace SH-dark grey-black, firm, flakey, fissile
FOSS-byrozoa
- 4140-4170 LS-100% cream-white, buff, light grey, tan, crypto-microxln, firm-hard, dense, lithic, chalky, trace micro-sucrosic, some argillaceous
- 4170-4200 LS-100% cream-white, buff, tan, crypto-very fine xln, firm-hard, dense, lithic, chalky, argillaceous ip
Trace SH-dark grey-black, firm, flakey, fissile
- 4200-4230 LS-100% cream-white, buff, light grey, tan, crypto-fine xln, firm-hard, dense, lithic, chalky, arg ip
TRACE EVEN BRIGHT YELLOW-WHITE FLUORESCENCE
SLOW YELLOW-WHITE BLEEDING
FAINT YELLOW-GREEN RING, POOR SHOW
FOSS-foram
- 4230-4260 LS-100% cream-white, buff, light grey, crypto-fine xln, firm-hard, dense, lithic, chalky, some silty & arenaceous
Trace SS-light grey, very fine grain, subangular, friable-firm, calc, fair sorting, mica, slightly glauconitic, tight
Trace SH-dark grey-black, firm, flakey, fissile
FOSS-coral free pyrite

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- 4260-4290 LS-100% cream-off white, buff, light grey, crypto-very fine xln, firm-hard, dense, lithic, trace micro-sucrosic, trace pinpoint porosity poor
- 4290-4320 LS-100% white, cream-buff, light grey, crypto-microxln, firm-hard, dense, lithic, chalky, some sl arg
- 4320-4350 LS-100% white, cream, buff, light-medium grey, crypto-very fine xln, firm-hard, dense, lithic, chalky, more argillaceous, trace micro-sucrosic
Trace SH-medium-dark grey, firm, flakey, slightly calc
- 4350-4380 LS-100% white, cream, buff, light grey, crypto-fine xln, firm-hard, dense, lithic, chalky, trace interxln and pinpoint porosity, poor to fair, tr microsucrosic
- 4380-4410 LS-100% white, cream, buff, tan, crypto-very fine xln, firm-hard, dense, lithic, chalky, trace pyritic, trace micro-sucrosic and dolmitic
FOSS-crinoid
- 4410-4440 LS-100% white-cream, buff-tan, mottled, crypto-very fine xln, firm-hard, dense, lithic, chalky
Trace SH-medium-dark grey, firm, flakey, slightly calc
Trace CHT-white
- 4440-4470 LS-100% white, cream, buff, light grey, tan, crypto-microxln, firm-hard, dense, lithic, chalky, trace pyritic, trace argillaceous
Trace SH-medium-dark grey, firm, flakey, slightly calc
Trace CHT-grey brown, potted
- 4470-4500 LS-100% white-cream, light-medium grey, buff, tan, crypto-very fine xln, firm-hard, dense, lithic, trace pyritic
Trace SH-dark grey-black, firm, flakey, subfissile, slightly calc in part, micromica
Trace CHT-white, grey brown
- 4500-4530 LS-100% cream-white, buff, light grey, crypto-microxln, firm-hard, dense, lithic, some silty
Trace SH-dark grey-black, firm, flakey, subfissile slightly calc in part, micromica, becoming more abundant
Trace CHT-grey brown free pyrite
- 4530-4560 LS-95% cream-off white, buff, tan, crypto-very fine xln, firm-hard, dense, lithic, tr pyritic, some silty
SH-5% dark grey-black, firm, flakey, subfissile, slightly calc in part, micromica

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- 4560-4590 LS-100% cream-light grey, off white, buff, crypto-very fine xln, firm-hard, dense, lithic, trace pyritic, trace pinpoint porosity poor
Trace SH-medium-dark grey, black, firm, flakey, subfissile, blocky, slightly calc in part, micromica
- 4590-4620 LS-100% cream-buff, off white, tan, crypto-microxln, firm-hard, dense, lithic, tr pyritic, tr oolitic elliptical-white, trace oolimoldic good porosity with some oolcasts, trace pinpoint porosity poor
- 4620-4650 LS-100% off white, buff, light grey, grey brown, crypto-microxln, firm-very hard, dense, lithic, some argillaceous, tr oolitic elliptical-buff, trace oolimoldic good porosity
- 4650-4680 LS-100% cream-off white, grey brown, light grey, crypto-fine xln, firm-hard, dense, lithic, trace argillaceous & silty, tr oolimoldic good porosity
Trace SH-medium-dark grey, black, firm, flakey, fissile, micromica in part, calc in part
- 4680-4710 LS-100% cream-off white, buff, grey brown, mottled, light-medium grey, crypto-microxln, firm-hard, dense, lithic, becoming more argillaceous, trace oolitic round-white
Trace SH-medium-dark grey, black as above
Trace SS-light grey, very fine grain, subround, friable-firm, calcareous, mica, fair to good sorting, tight FOSS-crinoid
- 4710-4740 LS-100% light-medium grey, cream-buff, cryptoxln, firm-very hard, dense, lithic, more argillaceous FOSS-crinoid
- 4740-4770 LS-100% light-medium grey, cream, grey brown, cryptoxln, firm-very hard, dense, lithic, argillaceous
- 4770-4800 LS-100% light-medium grey, grey brown, cream, buff, crypto-microxln, firm-very hard, dense, lithic, trace pyritic, argillaceous, trace oolitic round, elliptical-buff
- 4800-4830 LS-100% light-medium grey, cream, crypto-medium xln, firm-very hard, dense, lithic, xln, tr pyritic, argillaceous, tr oolitic round-dark grey, round-buff
Trace SH-medium-dark grey, black as above

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- 4830-4860 LS-95% light-medium grey, buff, grey brown, crypto-microxln, firm-very hard, dense, lithic, argillaceous, some silty
SH-5% medium-dark grey, black, firm, flakey, fissile, calc in part, some silty, carbonaceous in part
- 4860-4890 LS-100% buff-tan, light-medium grey, cream, crypto-microxln, firm-hard, dense, lithic, arg. less silty
Trace SH-medium-dark grey, black as above
- 4890-4910 LS-95% buff-tan, light-medium grey, cream as above
SH-5% medium-dark grey, black as above
Trace CHT-dark amber
- 4910-4930 LS-90% cream, light grey, buff, tan, crypto-microxln, firm-hard, dense, lithic, argillaceous
SH-10% medium-dark grey, black as above
Trace CHT-grey brown, spotted
FOSS-crinoid
- 4930-4940 LS-95% cream, light-medium grey, buff, tan, crypto-very fine xln, firm-very hard, dense, lithic, argillaceous, some silty, some with shale pelletes, trace micro-pyritic
SH-5% medium-dark grey, black as above tr pyritic
- 4940-4960 LS-90% light-medium grey, grey brown, crypto-microxln, firm-very hard, dense, lithic, arg. some free oollicasts probable calcite replacement
SH-10% medium-dark grey, black as above
Trace CHT-grey brown, dark amber
- 4960-4980 LS-90% light-dark grey, cream-buff, crypto-microxln, firm-hard, dense, lithic, argillaceous to very arg some micro-pyritic
SH-10% medium-dark grey, black, firm, flakey, fissile, calc ip, carb ip, some micromica
Trace CHT-buff, spotted
- 4980-4990 LS-95% cream-light grey, buff, grey brown, cryptoxln, firm-hard, dense, lithic, argillaceous
SH-5% medium-dark grey, black as above
- 4990-5010 LS-90% cream-buff, light-dark grey, crypto-very fine xln, firm-very hard, dense, lithic, argillaceous
SH-10% medium-dark grey, black as above
- 5010-5020 LS-95% cream, light-dark grey, light tan, crypto-very fine xln, dense, lithic, argillaceous
SH-5% medium-dark grey, black as above

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- 5020-5030 LS-90% cream, light-dark grey, light tan, crypto-
very fine xln, dense, lithic, argillaceous
SH-10% medium-dark grey, black, firm, flakey, fissile,
calc in part, carbonaceous in part, some micromica
Trace CHT-black, tan, spotted
- 5030-5050 LS-85% cream, light-dark grey, light tan as above
SH-15% medium-dark grey, black as above
Trace CHT-black, light tan, spotted, opaque
- 5050-5080 LS-90% light-dark grey, tan, cryptoxln, firm-very
hard, dense, lithic, argillaceous
SH-10% medium-dark grey, black, firm-hard, flakey,
micromica & calcareous in part
Trace CHT-black, spotted, pyritic, also dark tan
- 5080-5100 LS-95% light-dark grey, tan, as above
SH-5% medium-dark grey, black as above
Trace CHT-black
- 5100-5130 LS-95% light-dark grey, tan, cream-buff, cryptoxln,
firm-very hard, dense, lithic, argillaceous
SH-5% medium-dark grey, black as above blocky, subfissile
Trace CHT-black, dark tan, spotted
- 5130-5140 SS-40% translucent, clear, opaque, medium-coarse grain,
subround some subangular, hard, kaolin fill, siliceous
cement, slightly calcareous, poor to fair sorting,
trace pyritic, some slightly glauconitic, tight,
trace visible intergranular porosity poor, some
very coarse loose grains, translucent, subround
no show fluorescence or cut
LS-30% light-dark grey, tan, cream-buff as above
SH-30% medium-dark grey, black as above
- 5140-5160 SS-50% translucent, clear, opaque as above slightly
better intergranular porosity, some pyritic
LS-30% light-dark grey, tan, as above some pyritic
SH-20% medium-dark grey, black as above free pyrite
- 5160-5180 SS-30% clear, translucent, white, medium-coarse grain,
subround-subangular, hard, trace firm, siliceous
cement, slightly calc, poor sorting tight, slight
oil stain also white, medium grain some coarse,
subround, hard, siliceous, slightly glauconitic,
fair sorting, slight oil stain, some visible
intergranular porosity poor to fair
10% EVEN BRIGHT YELLOW-WHITE FLUORESCENCE
FLASH TO MODERATE STREAMING YELLOW-WHITE
BRIGHT YELLOW-GREEN RING GOOD SHOW

- 5180-5190 Caught after bit trip poor sample
SS-20% clear, translucent, white, medium-coarse grain, subround-subangular, hard, trace firm, siliceous cement, slightly calc, poor sorting, tight, slight oil stain
1% UNEVEN DULL YELLOW FLUORESCENCE
SLOW FAINT YELLOW-WHITE STREAMING
VERY FAINT YELLOW RING POOR SHOW
LS-50% light-dark grey, tan, cryptoxln, firm-hard, dense, lithic, argillaceous
SH-30% medium-dark grey, black, firm-hard, flakey, subfissile, blocky, calc in part, carb in part micromica in part also grey green, flakey, waxy
CHT-black, dark tan FREE PYRITE
- 5190-5220 SS-25% clear, translucent, white as above some with more glauconite and traces of mica
2% BRIGHT YELLOW-WHITE FLUORESCENCE
SLOW TO GOOD YELLOW-WHITE STREAMING SOME BLEEDING
BRIGHT YELLOW-GREEN RING FAIR SHOW
SH-60% medium-dark grey, black, grey green as above
LS-15% light-dark grey, tan, grey brown as above
free pyrite
- 5220-5230 LS-50% cream-buff, tan, light-dark grey, crypto-very fine xln, firm-hard, dense, lithic, argillaceous
SH-40% medium-dark grey, black, grey green as above
SS-less than 10% as above trace of snow free pyrite
- 5230-5240 LS-80% light-dark grey, cream, buff, tan as above also dark tan, cryptoxln, hard, dense, oolitic round-tan becoming buff-tan, crypto-mediumxln, fragmental, dense, tr glauconitic, some sl aren
free pyrite
- 5240-5250 SS-5% as above also white, fine grain, subangular-subround, hard, siliceous, glauconitic, fair sorting, tight no show
LS-80% as above trace white-cream, cryptoxln, firm-friable, slightly micro-oolitic, very arenaceous
SH-15% medium-dark grey, black, grey green as above
FOSS-foram free pyrite
- 5250-5300 LS-80% largely white-cream, cryptoxln, firm-friable slightly micro-oolitic round-buff, very arenaceous
SH-20% medium-dark grey, black, grey green as above
Trace SS-largely unconsolidated very coarse grain quartz

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MUD RECORD

DEPTH	WEIGHT	VISCOSITY	pH	WATER LOSS	CHLORIDES
4110	9.2	36	9.5	18.0	42,000
4537	9.2	42	10.0	18.2	38,000
4956	9.2	46	10.0	14	22,000
5182	9.1	56	9.5	12	19,000

BIT RECORD

NO.	SIZE	MAKE	TYPE	DEPTH OUT	FOOTAGE	HOURS
-	12 1/4	HTC	J-22	650	650	6
1	7 7/8	WM	03J	1835	1185	9 3/4
2	7 7/8	HTC	J-22	5182	3347	134
3	7 7/8	STC	F-3	5300	118	9 3/4