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Steve Miller

WELL REPORT

ALLEN OIL COMPANY

No. 7 Soderstrom

SW SE NW, Section 21-17^{S}-13^{W}

Barton County, Kansas

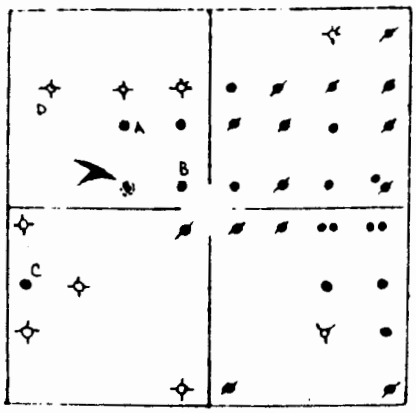
GEOLOGIST: Randy Lilak

Member: AAPG, KGS, RMAG

RESUMÉ

OPERATOR:	ALLEN OIL COMPANY Box 1389, 1105 Walnut Great Bend, KS 67530
WELL NAME & NO.:	No. 7 Soderstrom
LOCATION:	SW SE NW, Section 21-17^{S}-13^{W} (2N, ½E of Hoisington)
COUNTY:	Barton
STATE:	Kansas
ELEVATION:	1975 GL, 1981 KB, Depths measured from KB
A.P.I. NO.:	
SPUD DATE:	July 16, 1983
T.D. DATE:	July 21, 1983
SURFACE CASING:	8 5/8" @ 920 ft.
PRODUCTION CASING:	5½" @ 3505 ft.
CONTRACTOR:	ALLEN DRILLING COMPANY, RIG 4
HYDRAULICS:	DPLX/ 6 x 14" Stroke, three 13/32" bit jets.
DRILL PIPE:	4½" XH
DRILL COLLARS:	2¼" x 6¼" x 483' (16 jts)
DRILLING FLUID:	MUD-CO: Starch-Salt Clay; no problems
ELECTRIC LOGS:	GEARHART INDUSTRIES: G-N-LL, CNS-CD-Cal, DLL, Laserlog
DETAIL:	(5") 1700 ft. to TD (2") Surface to TD
DRILLING TIME:	2700 ft. to TD
SUPERVISION:	3025 ft. to 3470 ft.
SAMPLES:	2800 ft. to TD
DRILL STEM TESTS:	Two, by Arrow Testing Co.
VERTICAL DEVIATION:	NA
BITS USED:	S86F

FORMATION TOPS & STRUCTURAL GEOLOGY



REFERRED TO:

A: THAYER (Now Allen) #3 Soderstrom
25 BOD: Arbuckle (-1474 to -1485)

B: THAYER (Now Allen) #1 Soderstrom
1065 BOD: LKC (0-52)

C: ENERGY THREE, INC., #1 Soderstrom
110 BOD: LKC (80-83, 'G' zone)

D: BOGER BROTHERS, INC., #1 Soderstrom-Mauderly 'B'
D&A @ -1597 in Conglomerate

SYSTEM / GROUP / FORMATION (local units)	SUBJECT WELL depth	SUBJECT WELL datum	STRUCTURAL POSITION* A	B	C	D
PERMIAN						
Stone Corral						
Anhydrite	916	+1065	NA	0	0	-1
Base/Anhydrite	939	+1042	NA	NA	NA	NA
Chase Group	1764	+ 217	NA	NA	NA	NA
Council Grove Group	2087	- 106	NA	NA	NA	NA
Neva	2257	- 276	NA	NA	NA	NA
Admire Group	2408	- 427	NA	NA	NA	NA
PENNSYLVANIAN						
Wabunsee Group	2498	- 517	NA	NA	NA	NA
Tarkio	2612	- 631	NA	NA	NA	NA
Elmont	2679	- 698	NA	NA	NA	NA
Howard	2820	- 839	NA	NA	+2	NA
Shawnee Group						
Topeka	2857	- 876	NA	+1	+3	+16
Heebner	3136	-1155	-4?	NA	-1	+19
Toronto	3154	-1173	NA	+5	-1	+19
Douglas Group	3164	-1183	NA	NA	0	+19
Brown Lime	3221	-1240	NA	NA	0	+21
Lansing-Kansas City	3234	-1253	0	+3	+1	+21
'G' zone Ø	3301	-1320	NA	NA	0	+28
Base Kansas City	3449	-1468	NA	NA	-4	+19
Conglomerate	NOT PRESENT		NA	NA	NP	-1490
ORDOVICIAN						
Arbuckle	3455	-1475	-1	NA	-4	NR
TOTAL DEPTH	3525	-1544	-1485	orig:-1308 now:3400+	-1500	-1592

The above tops are based on log measurements and are about 3' deeper than rotary.
*Structural position of subject well as to compared referred well.
Initial RTD was at 3505, at which time the electric log was run. This well was Then deepened to 3525 after logging.

LITHOLOGY (zones of interest)

Although samples were not caught or saved for examination above the Howard, the following zones should be evaluated further before abandoning the well:

1919 (+62)	FORT RILEY
1946-1949	DØ: 22-30%, CNLØ: 21-28% (N-D Crossover), Sw: 17-45% This zone is potentially gas productive in the area, but is not likely to be commercial at this location due to the relatively thin interval. It is recommended to further evaluate this zone in the area by DST and/or suitable electric log analysis.
2257 (-276)	NEVA
2257-2264	NØ: 39% Corrected, Sw: 11-18%, Density Ø not available through this interval. This zone is also potentially gas productive in the area, and although electric log analysis indicates this to be a favorable reservoir for hydrocarbons, such high neutron porosity would not be expected in a gas filled reservoir. This horizon should be carefully evaluated on logs of wells to be drilled nearby in the future.
2857 (-876)	TOPEKA (Top of the Shawnee Group)
3054-3060	(Oread) Limestone: White to buff, mostly very fine grain and chalky, fine grain to sublithographic in part, mostly tite, trace of vug porosity with heavy dark stain, no flourescence. NØ: 6-11%, DØ: 3-6%, Sw: 100%.
3094-3101	(Plattsmouth) Limestone: White to cream at top, gray towards bottom, very fine grain to sublithographic, chalky in part, scattered gray chert towards bottom, trace of isolated pin-point porosity with spotty residual staining, no flourescence, no odor, no free oil. NØ: 12-18%, DØ: 11-13%, Sw: 73-100%

3154 (-1173)	TORONTO
3154-3164	Limestone: White to cream, very fine grain, mostly chalky and dense with poor apparent porosity, poor scattered pin-point porosity on a few peices with trace spotty light stain, no flourescence, poor cut. NØ: 2-4%, DØ: 2-4%
3234 (-1253)	LANSING-KC
3236-3246	(Lansing 'A' zone, 2-12) Limestone: Mostly white, cream in part, very fine grain to sublithographic, mostly very poor apparent pin-point porosity, oolitic in part with drusy poor to fair interoolitic porosity, light brown stain and trace of bleeding gas, rare flourescence, no odor, no free oil. NØ: 4-12%, DØ: 4-9% (N/D X-over from 3241-46) Sw: 34-95%.
3262-3270	(Lansing 'B' zone, 59-67) Limestone: White to cream, gray towards bottom, very fine grain to sublithographic chalky in part, rare scattered fossils and translucent chert, trace pin-point porosity and spotty dark stain, no odor, no flourescence, poor cut, trace of good live bleeding oil. NØ: 2-9%, DØ: 2-6%, (N-D X-over from 3263-68) Sw: 64-100%
3278-3286	(Lansing 'D' zone, 44-52) Limestone: Tan, mostly sublithographic, scattered fossils with fossil-cast porosity, mostly isolated and tite, some pieces with fair saturation, slight odor and flourescence, slight show of free oil. NØ: 4-6%, DØ: 3-6%, Sw: 64-100%.
3293-3298	(Lansing 'F' zone, 59-64) Limestone: White to buff, mostly very fine to fine grain, sublithographic in part, chalky, mostly poor pin-point and intergranular porosity, faint odor, spotty light stain, poor flourescence and cut, trace of free oil. NØ: 2-3%, DØ: 2-3%, Sw: 100%

3301-3318	(Lansing 'G' zone, 67-84) Limestone: Cream to tan, mostly very fine crystalline, profusely oolicastic, fair matrix porosity, chalky in part at top, good odor, saturation and flourescence, fair cut, abundant bleeding gas, slight show of free oil. NØ: 14-27%, DØ: 12-30% (N-D X-over from 3302-3307) Sw: 12-31%. DST #1 indicates this zone to be productive.
3385-3389	(Lansing 'I' zone, 151-155) Limestone: Mostly soft, white, and chalky; cream, very fine grain to sublithographic and oolitic in part, isolated interoolitic porosity with spotty dark stain, faint odor, trace of free oil. NØ: 2-6%, DØ: 1-4%, Sw: 90-100%.
3449 (-1468)	BASE KANSAS CITY
3455 (-1475)	ARBUCKLE
3455-3458	(Arbuckle, 0-3) Dolomite: Tan to buff, very fine grain at top, very fine crystalline to sublithographic towards bottom, scattered chert, mostly poor apparent porosity, good odor, fair flourescence and cut, slight show of free oil. NØ: 10-14%, DØ: 2-4%, Sw: 52-60%. This interval was included in DST #2.
3458-3467	(Arbuckle 3-12) Dolomite: Tan, fine crystalline, mostly tite, scattered mostly poor intercrystalline and small vug porosity, saturated where porous, good odor, trace of free oil. NØ: 16-19%, DØ: 7-9%, Sw: 55-61%. This interval was included in DST #2.
3467-3476	(Arbuckle 12-21) Dolomite: Cream to tan, sublithographic to fine crystalline, appears mostly tite, scattered very fine intercrystalline and small vug porosity, saturated in part, fair flourescence and cut. NØ: 15-21%, DØ: 5-12%, Sw: 42-70%. The top 4 feet of this interval was included in DST #2.

LITHOLOGY (Continued)

3476-3505	(Arbuckle, 21-50) Dolomite: Cream to tan, mostly sublithographic and tite, rare scattered very fine crystalline with poor intercrystalline and small vug porosity, trace light stain, dull flourescence, poor cut. "Wet"
3505-3525	(Arbuckle, 50-70) Dolomite: Cream to tan, sublithographic to fine crystalline, oolicastic in part, fair scattered intercrystalline porosity, mostly barren, dull flourescence, poor cut. This interval was drilled after the log was run, therefore no analysis other than sample evaluation is available for this section. Sample evaluation indicates this interval to be wet.

DRILL STEM TESTS

Two drill stem tests were run by Arrow Testing Company.

DST #1: 3295-3311 (rotary) 3297-3313 (log)

FORMATION:	Lansing-KC 'G' zone, 63-79
BLOW:	1st open: Weak blow/11", 2nd open: Flush; strong blow.
RECOVERY:	495 feet of gas
	45 feet of gassy mud
	60 feet of gassy mud/few specks of oil
	60 feet of gassy oil cut mud
SHUT-IN PRESSURES:	556-545 (2% depletion)
FLOW PRESSURES:	Severe plugging on IFP; 90-68 on FFP
HYDROSTATIC PRESSURE:	1786-1753

DST #2: 3440-3470 (Rotary) 3441-3471 (log)

FORMATION:	Arbuckle, 0-16 to -1490
BLOW:	Strong blow throughout test
RECOVERY:	30 feet of free oil
	600 feet of muddy oil
SHUT-IN PRESSURES:	995-961 (3½% depletion)
FLOW PRESSURES:	68-136/181-261
HYDROSTATIC PRESSURES:	1875

SUMMARY

Production casing was run on the #7 Soderstrom after sample examination, drill stem tests, structural geology, and log analysis indicated productivity in the LKC 'G' zone and the Arbuckle. Although these two horizons are believed to be the only commercially productive zones, sample and log analysis indicates that a limited amount of oil may be produced from the Lansing 'A' zone from 3237 to 3241. Most wells in the leasehold, including the structurally low wells, have had shows from the 'A' zone.

Recommended perforations in the Arbuckle are as follows:

3456-3464

3467-3472

Although no water was recovered on the drill stem test, it is recommended to treat these intervals with caution due to the relatively high water saturations indicated by electric log analysis.

Recommended perforations in the Lansing-KC 'G' zone are as follows:

3302-3312

You may wish to perforate from 3307 to 3312 first, to eliminate some of the gas that is likely to be produced in conjunction with the oil. The upper interval may then be perforated later after production has eliminated some of the gas in the area around this location. This zone should be evaluated on logs of other wells on the lease for productive potential. It is believed to be structurally sensitive and should produce in most other wells on the lease.

As mentioned above, the LKC 'A' zone should be perforated and tested before the well is abandoned. This zone will probably require a "heavy" acid treatment to be productive. The 'A' zone should also be evaluated on other wells on the lease before abandonment.

Respectfully submitted,

Randall M. Lilak

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Geologist