

Geological Report

Draft (9/03/05)

Guetterman #4-32

990' FSL, 2310' FWL NESESW (GPS: NA)

Section 32-T15S-R25E

Miami, Co. Kansas

API #15-121-28100

Elevation: 1084 GL (est. from USGS Topo. Map)

Drilling Contractor: Susie Glaze dba Glaze Drilling Co. (Lic. #5885)

Spud: 8/31/2005

Surface: 12 1/4" bore hole, set 20' of 8 5/8" csg. cmt'd w/ 6sx

Production bore hole: 7 7/8"

Rotary Total Depth: 780' on 9/02/05

Drilling fluid: Air w/ mist

E-Log Total Depth: None

Production Csg.: Used 5 1/2" 15.50#/ft., btm at 439 feet, cmt'd with 75 sx.

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32-15-25E

<u>Formation</u>	<u>Driller's Log Top</u>	<u>Datum</u>
Stark Shale	250	834
Hushpuckney Shale	278	806
Base Kansas City	295	789
Mound City Shale Zone	No call	----
"Upper" Knobtown Sand	Not developed	----
"Middle" Knobtown Sand	317	767
"Lower" Knobtown Sand	Not developed	----
Carbonaceous Zone in Tacket Fm.	No call	----
"Big Lake" Sand	Not developed	----
South Mound Zone	441	643
Hepler (Wayside) Sand	No call	----
"Upper" Mulberry Zone	No call	----
Mulberry Zone	No call	----
Weiser Sand	Not developed	----
Myrick Station Ls	519	565
Anna Shale (Lexington Coal Zone)	523	561
"Peru" Sand	526	558
Summit Shale Zone	No call	----
Mulky Coal/Shale Zone	561	523
"Upper" Squirrel Sand	Not developed	----
"Middle Squirrel Sand	Not developed	----
"Lower" Squirrel Sand	630	454
Bevier Coal Zone	663	421
Verdigris /Ardmore Ls	664	420
Croweburg Zone Coal Zone	671	413
Mineral Coal Zone	678 (?)	406(?)
Scammon Coal Zone	707	377

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<u>Formation(s) Continued</u>	<u>Driller's Log Tops</u>	<u>Datum</u>
Tebo Coal Zone	Not developed	----
Bartlesville "A" Sand	Not developed	----
The "Un-named" Zone	Not developed	----
Bartlesville "B" Sand	Not drilled	----
Rotary Total Depth	780	304

Note: Gas detector used on well, abbreviations are as follows:

BG = Background gas in units

T = Total gas in units

CH = Chromatograph reading in units

CG = Connection gas

GT = Open flow gas test

Major Zones of Interest (Depths and thickness base on Driller's Log measurements.)

Stark Shale 250-255. Shale, black, mostly angular cuttings, micro pyritic in most, and no shows of free gas. Shale, gray, trace chocolate brown with gritty texture, no shows of free gas. Had a 22.8 unit gas "kick", no open flow, and no apparent water.

260' CG, T = 204.4

Hushpuckney Shale 278-282. Shale, black, angular to blocky cuttings, trace micro pyritic, trace gray carbonaceous shale, no shows of free gas, no increase in gas units, no open flow, and not apparent increase in water.

280' CG, T = 244.4

300' CG, T = 409.6

"Middle" Knobtown Sand 317-325. Sandstone, light gray, very fine to fine grain in part, sub-angular to angular, poorly sorted, well consolidated, semi-firm to firm, poor to trace fair intergranular porosity, micaceous, no fluorescence, no odor, no show of free oil or gas. Initial gas "kick" of 77.6 units, drilled rest of sand and had a total of 310 +/- units, but steadily fell upon drilling deeper, open flowed 4 MCF, and no apparent water.

320' GT, open flowed 4 MCF, no water.

320' CG, T = 1850.8

331' CH auto cycled, T was reading 488 units, and CH equaled 2172.0 units

340' CG, T = 1818.0

360' CG, T = 1471.2

380' CG, T = 1496.0

400' CG, T = 1488.0 +/-

420' CG, T = 1476.0

Note: Let CG circulate out before drilling South Mound Zone.

South Mound 441-442. Shale, Black, mostly angular cuttings, trace coarse grain size calcareous particles in most black shale cuttings, trace carbonaceous fragments, very weak scattered show free gas, no to a questionable 22 unit gas "kick", had an open flow increase of 12 MCF, and Driller reported no water to maybe a "trickle". Author believes zone to be closer to 2.5 to 3.0 feet thick.

460' GT, open flowed 16 MCF (12 increase) and no apparent water.

Note: Shut down for the day at 460'. 9/02/05, blew hole clean, re-tested for open flow, and had 4 MCF (new base line for open flow).

Hepler Sand Zone. The Driller reported "sandy shale" from 460-464. Sample bags 450-460 & 460-470 contained: Shale, dull "bluish" green and sandstone, which was very-very light gray to white with a greenish tint, very fine to fine grain, sub-angular to angular, poorly sorted, very well consolidated, firm, poor intergranular porosity, silty to shaly in part, no fluorescence, no odor, no shows of free oil or gas, and no increase in gas units or open gas flow.

480' CG, T = 1268.8

"Upper" Mulberry and Mulberry Zone(s). No representative/lithology of these zones were found in the drill cuttings collected

500' CG, T = 1148.6

Note: Let CG circulate out before drilling Lexington

Myrick Station 519-523. Limestone, dark tans, medium to dark browns, micro to coarse crystalline, dolomitic in part, argillaceous, very poor to scattered fair crystalline porosity, no fluorescence, weak odor, fair to good show of very dark brown oil. Cannot recommend further testing at this time.

520' CG, T = 1091.2

Anna Shale (Lexington Coal Zone) 523-526. Shale, black, mostly angular cuttings, trace blocky, weak show of free gas, coal and “coaly-shale”, no apparent secondary crystallization, weak to fair shows of free gas. Had a 188 unit “kick”, open flow increase of 18 MCF, still no apparent water.

“Peru” Sand 526-535. Sandstone, light gray to light brown, very fine to fine grain, angular to very angular, poorly sorted for the most part, well consolidated, firm, poor to fair intergranular porosity, dull to very dull uniform fluorescence, weak to fair odor, fair to good show of very dark brown oil. If this zone is found in subsequent “off-set” locations and has the same and/or a better show of oil, the “operator” may elect to try this sand for commercial production. It is recommended to run an Open Hole Log and/or core this sand for a better evaluation prior to testing.

540’ GT, open flowed 22 MCF (18 increase) and no water.

540’ CG, T = 1562.4

Summit Shale Zone. The black, dense, fissile shale found in the Summit Zone (in this area) is generally 40 +/- feet below the base of the Lexington and the Mulky is between 18 to 20 feet below that, but based on the drill cuttings collected, the “black” shale in the Summit is not present, only a medium to medium dark gray shale was found and less than 25 feet.

There is a black shale 35’ below the base of the Lexington, but it’s lithology matches the Mulky and not the Summit. Unless a Gamma Ray – Neutron log is run at a later date to determine which “black” shale this is, the author is assuming the Summit is absent in the subject well – which is hard to believe due to the fact that the Truman #1-5, Moore #15-32, and the other two Guetterman wells all have both zones.

560’ CG, 1268 +/-

Mulky Coal/Shale Zone 561-562. Shale, black, blocky to angular cuttings, carbonaceous, fractured in part, trace secondary crystallization, no to very-very questionable shows of free gas, only 3 to 6 unit “kick”, 9 MCF increase in open flow, no water. Author believes zone to be closer to 3 feet thick. Zone could be the Summit, see Summit above.

580’ GT, open flowed 31 MCF (9 increase) and no apparent water.

580’ CG, T = 1522.4

600’ CG, T = 1512.0

620’ CG, T = 1521.6

“Lower” Squirrel Sand 630-661. Cuttings collected are as follows:

630-640. Shale, light grays to gray, very silty to very sandy to very shaly sand/siltstone, no show. Sandstone, light brown, very fine-to-fine grain, angular, poorly sorted, well consolidated, firm, poor to fair intergranular porosity, no fluorescence, fair “pungent” odor, fair to trace good show of very dark brown oil.

640’ GT, open flowed 49 MCF, (18 increase) and no apparent water.

640’ CG, T = 1564.8

640-650. Sandstone gray to brown, very fine to fine grain, angular to very angular poorly sorted, well consolidated, firm, fair porosity, micaceous, scattered micro carbonaceous fragment in most sand clusters, silty to shaly in part, fair show of free oil, trace scattered gas bubbles, no fluorescence, fair odor.

650-660. Sandstone, lighter grays with depth, no fluorescence, weak to fair odor, speckled to spotty show of free oil, no show of gas, and all the former decreasing with depth.

The “Lower” Squirrel had a maximum gas “kick” of 560 units, open flow of 47 MCF, and no water. One may elect to try this sand for commercial production prior to plugging and abandonment. It is also worth mentioning, base on the chromatograph, that after drilling this sand, the methane content appeared to increase between 4 and 7% and stayed that way through total depth reached.

660’ GT, open flowed 78 MCF (29 increase) and no apparent water.

660’ CG, T = 1552.8

Bevier Coal Zone 663-664. Coal and “coaly-shale”, 30% of coal in sample were “floaters”, very-very weak scattered shows of free gas, no obvious secondary crystallization, and no noticeable increase in gas units.

Croweburg Coal Zone 671-672. Shale, gray to very dark gray, trace black, trace coal and “coaly-shale”, few “floaters”, no shows of free gas, and no increase in gas units. The “coal” is probably no more than a foot thick at best.

Mineral Coal Zone. The Driller noted “black-slate” from 678-679. Part of the coal from the 670-680 sample bag, may have been from the Mineral. Sample bag 680-690 only had a trace of coal fragment, but none examined had a show of free gas and no increase in gas units was evident.

680’ CG, T = 1548.0

700’ CG, T = 1545.6

Scammon Coal Zone. Driller reported “black-slate” from 706-707. Sample bag 700-710 contained: Shale, pale/light green with macro carbonaceous plant fragments. Shale, black, mostly angular cuttings, coal and “coaly-shale”, no shows of free gas, and no secondary crystallization were found. Sample bag 710-720 contained: shale as before, trace dark brown, silty, very carbonaceous shale, trace coal fragment, all with no show. The Scammon had a 44unit “kick”, no open flow, and no water. Author believes this zone to be between 3.5 to 4.5 feet thick.

720' GT. No increase in open flow and no apparent water.

720' CG, T = 1542.4

Tebo Coal Zone. Not developed in subject well

Bartlesville “A” Sand Zone. Not well developed, only gray very silty to very sandy shale with featheredge to a few centimeters thick lamina. No shows were found and no increase in gas units or water.

740' CG, T = 1536.0

The “Un-Named” Zone. Not developed.

760' CG, T = 1526.4

Bartlesville “B” Sand. Not all zone drilled to determine if the lower part of this zone developed. There was a concern for a large influx of water similar to the Guetterman #3-32.

780' final GT, still 78 MCF and no observable water

Brief Summary of open flow(s) and hydrocarbon shows:

“Middle” Knobtown	4 MCF, no apparent water (behind casing)
South Mound	12 MCF, no apparent water
Myrick Station	Fair to good show of free oil
Lexington	18 MCF, no apparent water
Peru	Fair to good shows of free oil, no inc. in gas or water
Mulky	9 MCF, no apparent water
“Lower” Squirrel	47 MCF, fair to good shows of free oil, no apparent water
Scammon	No open flow, but had a small 44 unit “kick”
Total	90 MCF, but no apparent water in well

Note: Lost part of the open flow with the second of drilling. Total open flow gas a total depth was 78 MCF

Structural comparison of near by wells, base on the top of the Myrick Station Ls:

Guetterman 4-32 565	Guetterman 3-32 556	Guetterman 1-32 545	Moore 15-32 556	Truman 1-5 557
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End Report

Rex R. Ashlock
For Osborn Energy, L.L.C.