

Southern States Oil Co.  
Mueller #5  
NE-SW-SE, Section 29-21S-12W  
Stafford County, Kansas

5 1/2" PRODUCTION CASING SET

CONTRACTOR: Duke Drilling Company, Rig #1  
COMMENCED: 12-04-77  
COMPLETED: 12-11-77  
ELEVATIONS: 1863' K.B., 1860' D.F., 1858 G.L.  
CASING PROGRAM: Surface: 8 5/8" @256'  
Production: 5 1/2" @3651'  
MEASUREMENTS: All depths measured from the  
Kelly Bushing  
SAMPLES: Samples saved 2100' to 2250'  
and 3000' to R.T.D.  
DRILLING TIME: Five (5) foot drilling time re-  
corded by geolograph 2100' to  
2250' and one (1) foot drilling  
time recorded by geolograph  
3000' to R.T.D.  
FORMATION TESTING: None  
ELECTRIC LOG: None

<u>FORMATION</u>	<u>SAMPLE DEPTH</u>	<u>SUB-SEA DATUM</u>
Anhydrite (driller)	650	+1213
Heebner	3103	-1240
Toronto	3125	-1262
Douglas	3135	-1272
Brown Lime	3232	-1369
Lansing	3245	-1382
Base Kansas City	3472	-1609
Viola	3477	-1614
Simpson Shale	3521	-1658
Sand (3') ??	3553	-1690
Simpson Sand (6')	3571	-1708
Arbuckle	3577	-1714
Rotary Total Depth	3651	-1788

(All tops and zone determinations were made from a correlation of  
sample analysis and a drilling time log.)

SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.

TOPEKA SECTION

3009-3019	Limestone, buff to gray, chalky, fossiliferous, brown spotted stain, good pinpoint porosity. No show of free oil or odor in fresh samples.
3026-3038	Limestone, as immediately above.
3052-3056	Limestone, buff, finely crystal- line, scattered spotted stain. No show of free oil or odor.

3082-3085

Limestone, dolomitic, buff,  
finely crystalline, sucrosic.  
No shows of oil.

3090-3100

Dolomite, buff, finely crystal-  
line, poor porosity, dense.  
No shows of oil.

TORONTO SECTION  
3125-3131

Limestone, cream to gray,  
fossiliferous, cherty. No shows.

LANSING SECTION  
3245-3250

Limestone, white to gray,  
finely crystalline, chalky, poor  
sub-oocastic porosity. No shows.

3254-3258

Limestone, gray, fossiliferous,  
cherty, slight black edge staining.  
No show of free oil, faint (?)  
odor in fresh samples.

3268-3272

Limestone, buff, fossiliferous,  
oolitic, cherty, trace spotty  
stain. No show of free oil or  
odor in fresh samples.

3285-3288

Limestone, gray, oolitic, scattered  
porosity, slight show of free oil  
and faint odor in fresh samples.

3304-3308

Limestone, white to gray, oolitic,  
cherty, scattered stain and  
saturation.

3320-3326

Limestone, white, finely crystal-  
line, chalky, show of free oil  
and slight odor in fresh samples.  
Poor porosity.

3333-3338

Limestone, gray, oolitic, oocastic,  
chalky, light brown stain, trace  
free oil and no odor in fresh  
samples.

3338-3351

Limestone as above, chalky and  
decreasing in show.

3360-3366

Limestone, oolitic, slightly  
oocastic, light brown to dark  
black (dead) stain. No show of  
free oil or odor in fresh samples.

3378-3382

Limestone, gray to white, oolitic,  
oocastic, cherty, good stain,

3394-3399

Limestone, gray to cream, oocastic,  
good oocastic porosity, fair  
brown stain, trace free oil and  
no odor in fresh samples.

3404-3406

Limestone, as immediately above.

3413-3417

Limestone, gray, cherty, oocastic good oocastic porosity, good stain, trace free oil and no odor in fresh samples.

3432-3438

Limestone, cream, fossiliferous, chalky, show of free oil (dead) and no odor in fresh samples.

3454-3460

Limestone, cream, oolitic, fossiliferous, fair brown stain, show of free oil and faint odor in fresh samples.

VIOLA SECTION  
3477-3490

Chert, buff to gray, boney, plus vari-colored opaque chert, trace of gray tripolitic chert, with spotty stain and slight show of free oil and weak odor.

3500-3520

Chert increasing, white, blocky, black (dead) edge staining. No show of free oil or odor.

SIMPSON SECTION  
3553-3556 ??

Sand, tan, fine grained, sub-angular, poorly sorted, poor to fair intergranular porosity. No shows of oil.

3571-3577

Sand, gray, fine to medium grained, rounded to well rounded, poorly sorted, fair intergranular porosity, no show of free oil or odor in fresh samples. Trace light brown stain.

ARBUCKLE SECTION  
3577-3586

Dolomite, buff, finely crystalline, sucrosic, good vuggy porosity, good stain and saturation, good show of free oil and strong odor in fresh samples.

3586-3592

Dolomite, white, dense, cherty, slight show of free oil.

3592-3600

Dolomite, white, finely crystalline, fair intercrystalline porosity, good stain and saturation, good show of free oil and good odor in fresh samples.

3600-3608

Dolomite, white, finely crystalline, slightly cherty, fair intercrystalline porosity, show of free oil and odor in fresh samples.

3608-3618

Dolomite, as immediately above.

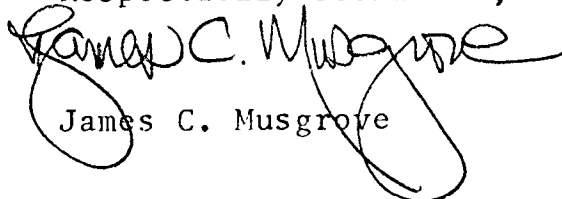
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3618-3623	Dolomite, gray and increasing cherty. Trace free oil and good odor in fresh samples
3631-3634	Dolomite, gray to buff, cherty, poor intercrystalline porosity, slight show of free oil and good odor in fresh samples.
3634-3642	Dolomite, as immediately above. Increasing in porosity.
3612-3651	Dolomite, gray, medium crystalline, good intercrystalline porosity, good spotty stain and saturation. Show of free oil and odor in fresh samples.

ROTARY TOTAL DEPTH 3651 (-1788)

RECOMMENDATION: It was recommended that 5 1/2" casing be set and cemented at 3651', and the known producing zones from other wells on this lease to be tested through perforations on the Mueller #5.

Respectfully submitted,

  
James C. Musgrove

JCM:mw