

27-04S-22W

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GEOLOGICAL REPORT

ORIGINAL

NOV 09 2001

KCC WICHITA

**BLACK DIAMOND OIL, INC.**  
**SANSOM #1**  
**NW/4 27-4-22**  
**NORTON COUNTY, KANSAS**

Gentlemen:

The following is the geological report for the above captioned test.

CONTRACTOR: Discovery Drilling  
COMMENCED: 7/11/01  
COMPLETED: 7/19/01  
ELEVATIONS: 2247' GL, 2255' KB  
DRILL STEM TESTS: Diamond Testing  
ELECTRIC LOG: ELI (Dual Induction, Sonic, Neutron Density)  
CASING RECORD: Surface: 8 5/8" @ 208'  
Production: 5 1/2" @ 3701'

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FORMATION TOPS  
(Kelly Bushing Measurements)

FORMATION	DEPTH (SAMPLE)	SUBSEA
Anhydrite	1880	+369
Base Anhydrite	1910	+341
Topeka	3205	-952
Toronto	3432	-1182
Lansing-K.C.	3449	-1199
Base K.C.	3635	-1385
Gorham Sand	3684	-1433
Arbuckle	3695	-1443
R.T.D.	3702	

STRUCTURAL COMPARISON

Sansom #1 C-SE-NW Sec. 27-4-22	Sansom #1 C-NE-NW Sec. 27-4-22	Sperry #1 C-NE-NW Sec. 28-4-22
Topeka -958	-955	
Lansing-K.C. -1204	-1199	-1183
Gorham Sand -1438	-1435	
Arbuckle -1448	-1453	-1453

ZONES OF INTEREST

FORMATION	DESCRIPTION
Topeka 3207 (-954)	No shows seen.

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Toronto	3437 (-1184)	
	3437-41	Limestone, cream, fine- Crystalline, oolitic, Fossiliferous, spotted fair-good Vuggular porosity spotted stain To saturation, fair odor, Slight Show of free oil (Covered by DST #1).
Lansing K.C.	3454 (-1201)	
	3454-61	Limestone, white-cream, fine Crystalline, good inter-oolitic Porosity good stain to Saturation good odor, good Slight show of free oil. (Covered by DST #1).
DST #1	3148-3205	Blow: 1 <sup>st</sup> : Weak Blow $\frac{1}{2}$ ". Blow 2 <sup>nd</sup> : Weak blow $\frac{1}{2}$ "-1". Recovery: 60' mud with Spots of oil 80' Muddy cut water. IF: 27-33 in 45 min. ISI: 1065 PSI in 45 min. FF: 46-58 PSI in 45 min. FSI: 972 PSI in 45 min.
	3484-91	Limestone, cream, fine-crystalline, Chalky to mealy, spotted vuggular Porosity, spotted dark stain, weak Odor trace free oil. (Judged no value).
	3520-23	Limestone, cream, fine-crystalline, Oolitic, slightly chalky spotted fair Inter-oolitic and vuggular porosity, Spotted stain to trace of saturation, Fair odor very slight show of free oil. (Judged no Value).

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3564-67      Limestone, cream fine crystalline, oolitic,  
Fair to good inter-oolitic porosity, fair  
Stain to saturation, good odor, fair show  
Of free oil. (Test).

DST #2      3529-3573      Blow: 1<sup>st</sup>: Weak Blow  $\frac{1}{4}$ ".  
Blow 2<sup>nd</sup>: Weak blow 1".  
Recovery: 20' free oil  
              35' muddy cut gassy oil.  
IF: 27-32 in 45 min.  
ISI: 1038 PSI in 45 min.  
FF: 33-36# PSI in 45 min.  
FSI: 997# in 45 min.

3594-99      Limestone, cream, fine-crystalline fossiliferous  
Spotted fair vuggular porosity, spotted stain  
to trace of saturation, weak to fair odor,  
slight show of free oil (Covered by DST #3).

3616-19      Limestone cream, fine-crystalline, fossiliferous  
Oolitic, fair crystalline and interoolitic  
porosity, fair light stain to saturation, good  
odor, slight show of free oil (Covered by DST  
#3).

DST #3      3568-3620      Blow: 1<sup>st</sup>: Weak Blow dead 5 min.  
Blow 2<sup>nd</sup>: No Blow.  
Recovery: 10' Drilling mud  
  
IF: 32-34 in 30 min.  
ISI: 743 PSI in 30 min.  
FF: Not Taken  
FSI: Not Taken

Base KC      3640 (-1387)

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Marmaton 3672 (-1419)

3672-82 Limestone, cream, fine-crystalline, very  
Slightly sandy, very spotted vuggular porosity,  
Trace saturation-spotted stain, slight odor,  
Slight show of free oil. (Covered by DST #4)

Gorham Sand 3688 (-1435)

3688-98 Sand, medium to coarse grained, white,  
Dolomitic matrix, dense no porosity, no show.

Arbuckle 3698 (-1445)

3698-3705 Dolomite, cream, medium-crystalline, glauconite  
Inclusions, slightly sandy, good vuggular  
porosity, good stain-saturation strong odor,  
Good show of free oil.

DST #4 3634-3699 Blow: 1<sup>st</sup>: Strong Blow, BOB in 18 minutes  
Blow 2<sup>nd</sup>: Weak Blow, dead in 12 mins.  
Recovery: 95' very slight oil cut muddy  
Water.  
250' Very slight oil cut muddy  
water.  
IF: 46-87 in 30 min.  
ISI: 669 PSI in 45 min.  
FF: 123-218 PSI in 30 min.  
FSI: 624 PSI in 45 min.

DST #5 3695-3702 Blow: 1<sup>st</sup>: Weak surges  
Blow 2<sup>nd</sup>: Weak Blow, dead in 1 min.  
Recovery: 60' clean oil  
35' muddy oil  
95' total recovery  
IF: 30-34 in 30 min.  
ISI: 910 PSI in 30 min.  
FF: 40-47 PSI in 5 min.  
FSI: Not Taken

LTD 3705 (-1452)

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SUMMARY

This well was under geological supervision from 3400' to 3705' T.D. Wet and dry samples were examined from 3200 to T.D. Five drill stem tests were ran in the Toronto, L-KC and Arbuckle. An open hole electric log was ran at T.D. Based on the above mentioned shows of oil and the favorable structural position relative to nearby wells, 5  $\frac{1}{2}$ " production casing was set for further testing.

Original Signed by:

Kenneth Vehige  
Geologist