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ORIGINAL

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Grady Bolding Corporation  
Teichmann 'A' #1  
NW-SW-SW; Section 16-22s-12w  
Stafford County, Kansas  
Page No. 1

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**JAN 22 2002**

**KCC WICHITA**

**4 1/2" Production Casing Set**

- Contractor:** L.D. Drilling Company (Rig #1)
- Commenced:** October 11, 2001
- Completed:** October 18, 2001
- Elevation:** 1874' K.B.; 1872' D.F.; 1869' G. L.
- Casing Program:** Surface; 8 5/8" @ 314'  
Production; 4 1/2" @ 3700'
- Samples:** Samples saved and examined 1650' to the Rotary Total Depth.
- Drilling Time:** One (1) foot drilling time recorded and kept 1650' to the Rotary Total Depth.
- Measurements:** All depths measured from the Kelly Bushing.
- Formation Testing:** There were five (5) Drill Stem Tests ran by Trilobite Testing Inc.
- Electric Log:** By Log Tech; Dual Induction and Dual Compensated Porosity Log.
- Gas Detector:** None.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	660	+1214
Howard	2771	-897
Severy	2828	-954
Topeka	2868	-994
Heebner	3111	-1237
Toronto	3180	-1306
Douglas	3195	-1321
Brown Lime	3297	-1423
Lansing	3313	-1439
Base Kansas City	3548	-1674
Marmaton	3560	-1686
Conglomerate	3570	-1696
Viola	3591	-1717
Simpson Shale	3638	-1764
Simpson Sand	3642	-1768
Arbuckle	3698	-1824
Rotary Total Depth	3704	-1830
Log Total Depth	3699	-1825

(All tops and zones are corrected to Electric Log measurements.)

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

CHASE THROUGH HOWARD SECTIONS

1675-2828' There were several zones of well developed porosity encountered in the shallow zones, but no shows of oil and/or gas were logged. Electric log analysis condemned all productive zones.

TOPEKA SECTION

2900-2917' Limestone; tan, fossiliferous, fine to medium crystalline, scattered porosity, trace white chert, no shows.

2981-2990' Limestone; tan to white, finely crystalline, fossiliferous in part, no shows.

2995-3010' Limestone; tan, granular, few fossiliferous, plus white and gray fossiliferous, opaque to boney chert.

3010-3037' Limestone; as above, trace white to gray chert.

3062-3098' Limestone; tan, highly fossiliferous, fair fossil cast to vuggy type porosity, no shows.

3108-3111' Limestone; tan to brown, finely crystalline, highly dolomitic, scattered pinpoint to intercrystalline porosity, no shows.

3120-3134' Limestone; as above, plus tan sucrosic, dolomite, no shows.

TORONTO SECTION

3180-3189' Limestone; white to gray and cream, granular, chalky, few fossiliferous, no shows.

LANSING SECTION

3313-3320' Limestone; gray to white, fossiliferous, scattered porosity, slightly chalky, brown to dark brown stain, trace of free oil and faint odor in fresh samples.

3336-3342' Limestone; gray, fossiliferous, chalky, poorly developed fossil cast to vuggy type porosity, brown to dull gray stain, weak show of free oil and fair odor in fresh samples.

Drill Stem Test #1 3298-3346'

Times: 30-45-45-60

Blow: Strong, gas to surface in 4 minutes;  
Gas gauged as follows:

Initial Flow

4 minutes	gas to surface
10 minutes	116,000 cfgpd
20 minutes	134,000 cfgpd
30 minutes	147,000 cfgpd

Final Flow

5 minutes	157,000 cfgpd
15 minutes	147,000 cfgpd
25 minutes	147,000 cfgpd
35 minutes	147,000 cfgpd
45 minutes	147,000 cfgpd

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Recovery: 30' Gas cut mud

Pressures: ISIP 1037 psi  
FSIP 1018 psi  
IFP 38-38 psi  
FFP 35-34 psi  
HSH 1611-1561 psi

- 3351-3353' Limestone; white, fossiliferous, chalky, dull gray to black stain, no show of free oil and faint odor in fresh samples.
- 3356-3359' Limestone; white to tan, finely crystalline, fossiliferous, slightly cherty, fair intercrystalline to vuggy type porosity, light brown to golden brown stain, weak show of free oil and faint odor in fresh samples.
- 3377-3380' Limestone; white, oolitic, chalky, trace black to gray stain, no show of free oil and questionable odor in fresh samples.
- 3384-3387' Limestone; gray, fossiliferous, increasingly oolitic, fair porosity, dark brown stain, show of free oil and gas bubbles and faint odor in fresh samples.

Drill Stem Test # 2 3345-3391'

Times: 30-45-45-60

Blow: Strong

Recovery: 350' gas in pipe  
100' mud cut gassy water  
125' very slightly mud as gassy water

Pressures: ISIP 1154 psi  
FSIP 1127 psi  
IFP 20-59 psi  
FFP 65-118 psi  
HSH 1630-1607 psi

- 3402-3412' Limestone; tan, fossiliferous, fair oocastic to fossil cast porosity, trace brown stain, weak show of free oil and no odor in fresh samples.
- 3418-3430' Limestone; tan, cherty, plus gray to white chert.
- 3443-3452' Limestone; tan to buff, oocastic, good oocastic porosity, black to brown stain, show of free oil and fair odor in fresh samples.
- 3464-3468' Limestone; gray to white, oolitic, chalky, black to brown and dull gray stain, trace of free oil and fair odor in fresh samples.
- 3480-3484' Limestone; gray to white, oolitic, oocastic, chalky in part, brown to golden brown stain, show of free oil and fair odor in fresh samples.
- 3490-3493' Limestone; as above.

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Drill Stem Test #3 3435-3498'

Times: 30-45-45-60

Blow: Strong

Recovery: 1800' gas in pipe  
40' gas cut mud  
90' slightly oil cut gassy mud  
90' mud cut gassy water

Pressures: ISIP 987 psi  
FSIP 984 psi  
IFP 22-65 psi  
FFP 72-112 psi  
HSH 1668-1640 psi

3507-3511' Limestone; gray and white, highly fossiliferous, chalky, brown and gray stain, trace free oil and fair odor in fresh samples.

3542-3547' Limestone; white to gray, chalky, no shows.

MARMATON SECTION

3560-3567' Limestone; white, slightly cherty, increasingly chalky, trace gray to black stain.

CONGLOMERATE SECTION

3570-3572' Sand; very fine grained, sub angular, fair sorting, calcareous, brown stain and saturation, no shows of free oil or odor in fresh samples.

3573-3588' Varied colored opaque chert; plus white and gray, pitted and tripolitic chert, brown to black stain, show of free oil and gas bubbles.

Drill Stem Test #4 3502-3590'

Times: 45-45-45-45

Recovery: 60' gas in pipe  
35' very slightly oil cut gassy mud

Pressures: ISIP 112 psi  
FSIP 69 psi  
IFP 14-18 psi  
FFP 17-27 psi  
HSH 1719-1667 psi

VIOLA SECTION

3591-3610' Chert; white and gray, boney, brown to golden brown stain and spotty saturation.

3610-3622' Chert; as above, plus gray to white, medium crystalline limestone, spotty stain, trace of free oil.

3622-3637' Chert; as above, boney, no shows.

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**SIMPSON SECTION**

- 3642-3647' Sand; quartzitic, sub rounded to sub angular, friable in part, slightly dolomitic, brown to dark brown stain, no show of free oil or odor in fresh samples.
- 3661-3664' Sand; as above.
- 3674-3677' Trace dolomite; white to gray, green tinted, medium crystalline, trace stain and faint odor.
- 3695-3697' Sand; very fine grained, sub rounded, sub angular, friable, trace stain, slightly calcareous, faint odor.

**ARBUCKLE SECTION**

- 3698-3700' Dolomite; tan, medium crystalline, scattered porosity, no shows, trace odor.
- 3700-3704' Dolomite; tan to white, finely crystalline, sucrosic, fair pinpoint to vuggy porosity, golden brown to light brown stain, show of free and strong odor in fresh samples.

**Drill Stem Test #5 3629-3704'**

**Times: 45-45-45-45**

**Blow: Weak to good**

**Recovery: 50' gas in pipe  
5' gree oil  
65' heavy oil cut gassy mud**

**Pressures: ISIP 1210 psi  
FSIP 1159 psi  
IFP 12-28 psi  
FFP 30-44 psi  
HSH 1786-1743 psi**

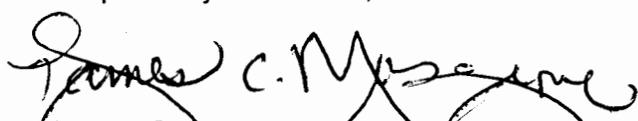
**Rotary Total Depth 3704 (-1830)**  
**Log Total Depth 3699 (-1825)**

**Recommendations:**

On the basis of the favorable structural position and the positive results of Drill Stem Test #1 and #5, it was recommended by all parties involved to set and cement 4 1/2" production casing at 3700' (four foot off bottom) and the following zones should be tested in the Teichmann 'A' #1.

1. Arbuckle open hole completion method
2. Lansing 3480-6484 perforate
3. Lansing 3464-3468 perforate
4. Lansing 3356-3359 perforate
5. Lansing 3312-3314 perforate

Respectfully submitted;

  
James C. Musgrove  
Petroleum Geologist