

# GEOLOGICAL CONSULTING

3-25-5E

1135 S. Summit  
El Dorado, KS 67042

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## Computer Inventoried

August 2, 1992

Crawford Oil Co.  
1856 Ridge Road  
El Dorado, KS 67042

Re: Robison #43  
4500' FSL, 2900' FEL  
Section 3-T25S-R5E  
Butler County, Kansas

Dear sir:

The following report on the subject well is based on microscopic examination of rotary cuttings from 1900' to a rotary total depth of 2610'. All measurements were taken from the kelly bushing which was located 5' above ground level and surveyed at 1372'. The following sample tops were picked:

|                  |      |       |
|------------------|------|-------|
| Kansas City      | 1965 | -593  |
| Base Kansas City | 2130 | -758  |
| Marmaton Group   | 2202 | -830  |
| Cherokee         | 2321 | -949  |
| Ardmore          | 2383 | -1011 |
| Cattlemen Sand   | 2393 | -1021 |
| Hunton           | 2434 | -1062 |
| Viola            | 2458 | -1086 |
| Simpson          | 2496 | -1124 |
| Arbuckle         | 2559 | -1187 |
| RTD              | 2610 | -1238 |

### MAJOR ZONES OF INTEREST

Kansas City. 1965-2130. Intermittent, white, off-white, light grey to tan, limestone, no shows.

Hunton. 2434-2437. Dolomite, very light grey, light tan, micro to fine crystalline, trace sucrosic, poor crystalline porosity, dull fluorescence, very weak odor, very weak show of free oil.

2437-2443. Dolomite, tan, light tan, fine crystalline, sucrosic, fair with trace good crystalline porosity, fair to good fluorescence, fair to good odor, fair to good show of free oil, trace off-white to white chert.

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2443-2458. Dolomite, dark tan, fine crystalline, sucrosic, good with trace very good crystalline porosity, good to very good fluorescence, good to strong odor, good to very good show of free oil in most.

Viola. 2458-2466. Dolomite, light grey, "mottled" tans, very fine to coarse crystalline, sucrosic in part, fair to good crystalline and good to very good vugular porosity, fair odor, 30-40% of sample showing fair fluorescence, fair show of free oil.

2466-2473. Dolomite, mottled grays and tan, fine to coarse crystalline, fair to good crystalline and vugular porosity, trace sucrosic in most vugs, fair odor, 20% of sample showing fair fluorescence, weak with trace fair show of free oil.

2473-2486. Dolomite, very light tans, very light to light grey, micro to coarse crystalline, good to very good vugular porosity, fair crystalline porosity, some grays very dense, 10-20% of sample showing poor to fair fluorescence, fair odor, scattered shows of speckled to spotty shows of free oil.

2486-2496. Dolomite, dark tans-reddish browns, fine to very coarse crystalline, poor crystalline porosity, fair vugular porosity with few pieces of sandstone in part towards base, scattered fluorescence, weak odor, scattered shows of free oil.

Simpson. 2496-2500. Sandstone, white, very light grey, very fine to fine grained, trace coarse rounded grains in part, moderately to well consolidated, poor to fair intergranular porosity, silty in part, trace dull aquamarine shale, no show.

2500-2512. Sandstone, "dirty" grey-tans, tan, fine to coarse grained, sub-rounded, poorly to well consolidated, loose, friable, fair to good intergranular porosity, dolomitic in part, weak to fair odor, scattered poor to fair fluorescence, poor with trace fair show of free oil. NOTE: May have contained better show of free oil, but oil may have been washed out during sample cleaning.

2512-2517. Shale, green, grey with intermittent sandstone lens, trace medium grey shale, no show.

2517-2528. Sandstone, light tan, tan, medium grained, sub-angular to angular, very well sorted, well consolidated, friable, good intergranular porosity, fair odor, dull, but uniform fluorescence, fair show of free oil, show decreasing with depth, probably due to water.

2528-2534. Sandstone, white, clear, very fine to very coarse grained, sub-rounded to rounded, poorly consolidated, loose with medium dark grey shale, trace green shale, abundant pyrite fragments, no shows.

2534-2549. Shale, grey, with intermittent sandstone lens, fine to very coarse grained, unconsolidated, trace dolomite fragments, no show.

2549-2556. Shale, bright blue-green, aquamarine, trace material as above, trace fine crystalline, tan dolomite, containing weak show of free oil and fair fluorescence.

2556-2559. Shale, as above, trace pale yellow and maroon shale.

Arbuckle. 2559-2569. Dolomite, very light tan to tan, fine to coarse crystalline, good crystalline porosity, fair vugular porosity, trace chert, off-white and translucent, 20-30% of sample showing fair to good "patchy" fluorescence, fair odor, weak to fair show of free oil, less than 2% of sample contained good shows of free oil.

2569-2579. Dolomite, cream, off-white, trace very light grey, very fine to medium crystalline, poor trace fair crystalline porosity, no show.

2579-2587. Dolomite, light grey, grey-tan, fine to coarse crystalline, poor trace fair crystalline porosity with chert off-white to white, semi-translucent, no show.

2587-2593. Dolomite, grayish-cream, very fine to medium crystalline, poor trace fair crystalline porosity, no show.

2592-2597. Dolomite, very light tan, tan, fine to coarse crystalline, fair to good crystalline and vugular porosity, very dull fluorescence, 3% of sample showing fair to good fluorescence, weak odor, very weak speckled to spotty shows of free oil.

2597-2602. Dolomite, light grays, fine to medium crystalline, poor crystalline porosity, no show.

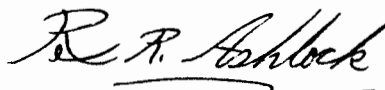
2602-2608. Dolomite, very light tan, fine to coarse crystalline, fair to good crystalline porosity, fair odor, very dull fluorescence, no show of free oil.

2608-2610. Dolomite, cream, off-white, fine to coarse crystalline, sandy in part, no show.

#### SUMMARY

Due to the shows of oil in the Hunton, Viola, Simpson, and Arbuckle, the decision was made to run 5 1/2" production casing for further testing of these zones.

Sincerely,



Rex R. Ashlock  
Petroleum Geologist