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KANSAS CORPORATION COMMISSION

APR 21 2005

CONSERVATION DIVISION
WICHITA, KS

GEOLOGICAL LOG

CLEARY PETROLEUM #1-28 BARGER

C N/2 NE, SECTION 28, T22S R17W

660 FNL 1320 FEL

PAWNEE COUNTY, KANSAS

AUGUST, 2004

SURVEYOR'S ELEVATION: GROUND 2040, KB 2045

All depths based on penetration rate (DT) changes, circulation points (CFS) or core depths (CD)

Barger #1 spudded in upper Permian shale.

1058 to 1081 DT (+987 to +964); Stone Corral Anhydrite: white to light gray, fine-crystalline anhydrite.

1081 to 1740 DT Permian shale and halite (Wellington Fm.?) with thin beds of anhydrite and carbonate: No detailed geological analysis.

1720 to 1730 DT (+325 to +315); anhydrite marker equivalent to 1729 (+322) in the #1 Ewing well, Section 28, T22S, R17W, and equivalent to 1719 (+322) in #1 McConnell well in Section 21, T22S, R 17 W. Pale gray to white, dense anhydrite

1730 to 1871 DT; Permian halite: No detailed geological analysis.

1871 to 2074 DT (+174 to -29); Lower Leonard (mid-Permian) anhydrite interval. This prominent stratigraphic boundary (top) marks the base of thick Permian (Wellington?) salt beds and the top of the "spiked" anhydrite sequence which serves as a seal for Chase Group reservoir rocks where productive. The top in this well is equivalent to 1880 (+170) in the Ewing well (Sec. 28), and 1874 (+167) in the McConnell well (Sec. 21). Anhydrite as above interbedded with thin shale and dolomite beds.

2074 to 2092 CFS (-29 to -47); Top Chase Group and Top Krider "Limestone". This bed is roughly equivalent to the Herrington "Limestone" of Hugoton Field. Cream to buff, very fine to micro crystalline dolomite mudstone w/ isolated pin-point porosity. No evidence of vugs nor vug-filling nor mosaic carbonate. This top is equivalent to 2090 (-47) in the Ewing well and 2073 (-32) in the McConnell well.

2092 to 2100 CFS (-47 to -55): Lower Crider. Dolomite mudstone as above with grey mottling (shale clasts?) and slightly argillaceous beds. Rare porosity as above.

28-22-17W

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2132 to 2150 DT (-87 to -105); Winfield Dolomite. Tan to light gray, fine crystalline to fine rhombic dolomite mudstone, with common gray to brown, sub-opaque, spicular chert; poor inter-crystalline porosity.

Note: the following formations of the Chase Group are not common oil and gas objectives and are not clearly defined by penetration rate or in samples. They do not provide good comparative structural correlations.

2190 DT (-145); Towanda Formation.

2240 DT (-195); Ft. Riley Limestone.

2290 DT (-245); Florence Formation.

2317 DT (-272); Base Florence Limestone.

2343 DT (-298); Wrexford Formation.

2408 DT (-363); Top Council Grove Group. No objectives or shows in this interval.

2606 DT (-561); Neva Limestone (not clearly evident from DT or samples). No objectives or shows in this interval.

3022 DT (-977); Top Tarkio Formation. Good structural marker, equivalent to 3033 (-983) in the Ewing borehole and 3014 (-973) in the McConnell well. No shows encountered in the very thin, less prospective carbonate formations in this interval.

3456 DT (-1411); Buff to light gray mottled, fine pelloidal and skeletal lime packstone with large fossils fragments. Trace fine moldic porosity, trace brown spotty oil stain. Beds of very dark gray, platy to splintery dull shale.

3494 DT (-1449); Light gray, buff-mottled, fine, coated pelloidal and skeletal lime packstone to grainstone; trace fine moldic porosity. No show. Beds of maroon to brown, splintery shale.

3512 DT (-1467); Tan to pale gray, very-fine skeletal lime wackestone and dense lime mudstone with large fossil fragments; beds of packstone and shale as above; no visible porosity. No show.

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3548 DT (-1503); Top Heebner Shale. Equivalent to 3559 (-1509) in Ewing well and 3534 (-1490) in McConnell well. 15 unit gas increase on mudlog. Poor samples: Very dark gray to black splintery, dull shale.

3552 DT (-1507); Top Toronto Limestone. Poor Samples: Tan and light gray mottled, very fine to fine pelletal lime packstone and wackestone; no visible porosity, no show.

3578 DT (-1533); Top Douglas Shale. Equivalent to 3588 (-1538) in the Ewing well, and 3564 (-1520) in the McConnell well. Gray to light gray, platy to splintery, sub-micaceous shale. Few pale green-gray, silty shale interbeds.

3649 DT (-1604); Brown Limestone. Tan to cream and white, very fine to coarse skeletal lime wackestone with large coral and fusulinid fragments. No visible porosity, no show.

3656 DT (-1611); Top Lansing Group. Equivalent to 3670 (-1625) in the Ewing well, and 3649 (-1608) in the McConnell well. Light gray, tan-speckled, fine pelloidal-oolitic lime packstone and grainstone. Peloids are superficially coated with carbonate rind. No visible porosity. No show.

Note: Upper Lansing limestone beds (informal industry units Lansing "B" through Lansing "F" were not represented by significant drilling breaks (suggestion of reservoir) at this location. No shows were encountered in samples nor on the mudlog.

3754 CFS (-1709); Top of Lansing "G" Zone porosity. Nine-foot drilling break (1/2 to 1 minute per foot) circulated out for one hour at 3766. Equivalent to 3745 (-1701) in the McConnell well and 3766 (-1716) in the Ewing well. Cream to white, fine to medium skeletal and pelloidal wackestone and packstone. Poor moldic porosity with trace brown spotty oil stain. No response on mudlog.

Note: No significant drilling breaks nor hydrocarbon shows were encountered in Lansing beds below the Lansing "G" zone described above.

3936 DT (-1891); Base Kansas City (Top Marmaton Group). Equivalent to 3920 (-1876) in the McConnell well and 3944 (-1894) in the Ewing well. Objectives and shows not expected in Marmaton carbonate formations in this interval.

4004 DT (-1959); dark to very dark gray, platy to splintery dull shale with thin beds of brown to tan, fine to medium skeletal/pelloidal lime packstone. Sparse isolated pin-point vugs and rare, spotty, brown oil stain.

4030 DT & CFS (-1985); Top Pawnee Limestone. (Penetration rate patterns very uncertain; top may be at 4016 (-1971)). Equivalent to 4032 (-1985) in the Ewing well and 4002 (-1958) in the McConnell well. Light brown, tan and cream, fine to coarse skeletal lime wackestone. No visible porosity.

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4040 CFS; no change. (Searching for core point.)

4045 CFS; trace maroon shale; trace of light gray to salmon-colored, opaque chert; trace of coarse, clear, rounded quartz grains. Abundant "Pawnee" limestone in samples. (Searching for core point.)

4050 CFS; Same as above (CORE POINT)

CORE #1 4050-4087; cut and recovered 37 feet. Preliminary core descriptions for the following core depths ("CD") are based on existing core fragments where available (without breaking intact portions of the core), at approximately five foot intervals:

4050-4060 CD. Brown to maroon, siliceous to silty, dull to waxy shale with similar green shale laminations.

4060-4065 CD. Shale as above with large nodules and patches of green, argillaceous, opaque, very hard chert. No visible microporosity in chert. No shows.

4065-4080 CD. Gray-green to brown, soapy, "slickensided" shale.

4080-4085 CD. Same as above with abundant maroon, argillaceous opaque chert and abundant medium to coarse, translucent, rounded floating quartz grains. Some grains arranged in lenses and pockets (filled burrows?). No visible porosity. No shows.

4086-4087 CD. Shale as above with large limestone cobbles and boulders. Limestone is cream to white, coarse skeletal lime packstone with poor intercrystalline porosity. No shows.

CORE #2 4087 to 4098; cut 11 feet and recovered 11 feet.

4087-4090 CD. Green and maroon soapy ("contorted") shale with slickenslide characteristics and large cobbles or nodules of cream to pale gray, medium to coarse skeletal lime packstone. Poor inter-crystalline porosity in cobbles. No show.

4090-4093 CD. Maroon, soapy calcareous shale with abundant clasts, nodules and lenses of cream to light gray, medium to coarse skeletal lime packstone, and light gray, sub-opaque chert. Poor intercrystalline porosity in limestone. No show.

4093-4097 CD. Green soapy shale with abundant medium to coarse, rounded, clear "floating" quartz grains.

CORE #3 4098 to 4108; cut 10 feet and recovered 5 feet of rubble (irregular core pieces).

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Assuming the broken core pieces are proportionally representative of the cored interval, the following descriptions apply for CORE #3:

4098 to 4100 CD. Maroon and green mottled, hard soapy shale with pebbles and nodules of cream, opaque chert and floating, amber-colored to clear, fine to medium, rounded quartz grains. Grains are arranged in bands (laminations?) and in pockets (burrow-filling?). No visible porosity. No shows.

4100 to 4104 CD. Tan to gray-green, sub-opaque to tripolitic chert with some surfaces appearing to have microporosity. Some core pieces have surfaces that suggest that this chert was deposited as cobbles or boulders. If present, any matrix between the cobbles has been destroyed in the coring/core recovery process. FIVE UNIT GAS KICK attributed to this coring interval. No oil show; no oil stain; no odor.

4107 to 4108 CD. Cream to tan to gray-green, opaque and vitreous chert with large nodules of black chert. No visible porosity. No shows.

4108 to 4111 DT. Drilled three feet to clean up the hole, and then go back in with core barrel for Core #4. Cuttings contain fine tripolitic chert with pin-point vuggy porosity and black spotty oil stain.

CORE #4 4111 to 4120; recovered four feet of rubble. Assuming the broken core pieces are proportionally representative of the cored interval, the following descriptions apply for CORE #4:

4110 to 4114 CD. Cream to brown banded, sub-vitreous to tripolitic and spicular chert; cobbles rimmed with porous rind of dark gray, fine to medium dolomitic sand, pin-point vugs and dark oil stain.

4114-4116 CD. Maroon, coarse crystalline skeletal lime packstone cobbles in brown and green, waxy shale matrix.

4116-4118 CD. Pale gray to green, sub-opaque, non-porous chert cobbles in maroon and green soapy shale.

4118-4120 CD. Maroon and green soapy shale.

END OF CORE

Drilling resumes.

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4128-4140 DT; Poor samples. May be chert conglomerate as at 4110-4114, above.

4140-4148 DT; Samples improving. Maroon and green soapy shale.

4148 DT (-2103). PRE-PENNSYLVANIAN UNCONFORMITY. Equivalent to 4122 (-2078) in the Ewing well and 4160 (-2110) in the McConnell well. Top Osage Mississippian limestone. Good samples. Cream to white, fine to medium crystalline (skeletal?) lime (packstone?) with common buff to light gray, opaque chert. No visible porosity. No Show.

4148 to 4190 Total Depth. Same as above.

END GEOLOGICAL LOG.

KEY WIRE-LINE LOG TOPS:

4012(-1967) Top Pawnee Limestone. Equivalent to 4002 (-1958) in the McConnell well and 4032 (-1985) in the Ewing well.

4036 (-1991) Top Basal Pennsylvanian Conglomerate. Equivalent to 4018 (-1974) in the McConnell well and 4052 (-2002) in the Ewing well.

Conglomerate Units; Potential Gas Reservoirs: 4080-4088. 4090-4094, 4098-4108, 4112-4124, 4127-4138.

Conglomerate valley-fill interval equals 112 feet.

4148 (-2103) PRE-PENNSYLVANIAN UNCONFORMITY. Top Osage Mississippian limestone. Non-reservoir limestone. Equivalent to 4160 (-2110) in the McConnell well and 4122 (-2078) in the Ewing well.

Log total depth 4181.

End report 8-21-04.

Plotted drilling time log follows by regular mail.

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STIM-LAB, Inc.

Cleary Production Corporation
Barger # 1-25
Pawnee County, Kansas
Data September 13, 2004

Date: 9/15/2004
File: 6887

Sample Number	Top Depth ft	Bottom Depth ft	Description	Fluorescence %
1	4050.0	4051.0	Sh, gry gm, frac	0
2	4051.0	4052.0	Sh, gry gm, frac	0
3	4052.0	4053.0	Sh, gry gm, frac	0
4	4053.0	4054.0	Sh, gry gm, frac	0
5	4054.0	4055.0	Sh, gry gm, frac	0
6	4055.0	4056.0	Sh, gry gm, frac	0
7	4056.0	4057.0	Sh, gry gm, frac	0
8	4057.0	4058.0	Sh, gry gm, frac	0
9	4058.0	4059.0	Sh, gry gm, frac	0
10	4059.0	4060.0	Sh, gry gm, frac	0
11	4060.0	4061.0	Sh, gry gm, frac	0
12	4061.0	4062.0	Sh, rd brn, frac	0
13	4062.0	4063.0	Sh, rd brn, frac	0
14	4063.0	4064.0	Sh, rd brn, frac	0
15	4064.0	4065.0	Sh, rd brn, frac	0
16	4065.0	4066.0	Sh, rd brn, frac	0
17	4066.0	4067.0	Sh, rd brn, frac	0
18	4067.0	4068.0	Sh, rd brn, frac	0
19	4068.0	4069.0	Sh, rd brn, frac	0
20	4069.0	4070.0	Sh, rd brn, frac	0
21	4070.0	4071.0	Sh, rd brn, frac	0
22	4071.0	4072.0	Sh, rd brn, frac	0
23	4072.0	4073.0	Sh, rd brn, frac	0
24	4073.0	4074.0	Sh, rd brn, frac	0
25	4074.0	4075.0	Sh, gry gm	0
26	4075.0	4076.0	Sh, gry gm	0
27	4076.0	4077.0	Sh, gry gm	0
28	4077.0	4078.0	Sh, gry gm, frac	0
29	4078.0	4079.0	Sh, gry gm, frac	0
30	4079.0	4080.0	Sh, gry gm, frac calc fill	0
31	4080.0	4081.0	Sh, gry gm, frac calc fill	0
32	4081.0	4082.0	Sh, gry gm, frac calc fill	0
33	4082.0	4083.0	Sh, gry gm, frac calc fill	0
34	4083.0	4084.0	Lim, vishy, cy	0
35	4084.0	4085.0	Lim, sh lam, cy	0
36	4085.0	4086.0	Lim, sh lam, cy	0
37	4086.0	4087.0	Lim, sh lam, cy	0
38	4087.0	4088.0	Lim, sh lam, cy	0
39	4088.0	4089.0	Lim, sh lam, cy	0
40	4089.0	4090.0	Lim, sh lam, cy	0
41	4090.0	4091.0	Lim, sh lam, cy	0
42	4091.0	4092.0	Cgl, lim-cht clast, cy mix	0
43	4092.0	4093.0	Cgl, lim-cht clast, cy mix	0
44	4093.0	4094.0	Cgl, lim-cht clast, cy mix	0
45	4094.0	4095.0	Cgl, lim-cht clast, cy mix	0
46	4095.0	4096.0	Cgl, lim-cht clast, cy mix	0
47	4096.0	4097.0	Cgl, lim-cht clast, cy mix	0
48	4097.0	4098.0	Cgl, lim-cht clast, cy mix	0
49	4098.0	4099.0	Cgl, lim-cht clast, cy mix	0
50	4099.0	4110.0	Cgl, cht clast, cy mix	30
51	4110.0	4111.0	Cgl, cht clast, cy mix	0
52	4111.0	4112.0	Cgl, cht clast, cy mix	0
53	4112.0	4113.0	Cgl, cht clast, cy mix	0
54	4113.0	4114.0	Cgl, lim-cht clast, cy mix	0

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