

GEOLOGIC REPORT

API: 15-035-24562

KID: 1044787605

Lease: Don Julio

Well 1

Original operator: Future Acquisition Company LLC

Field: Harvey

Location: T34S R3E, Sec. 11

1692' FSL & 1671' FWL

X: 2416940

Y: 162509

Longitude: -97.0703577

Latitude: 37.1041966

County: Cowley

Permit Date: Mar-11-2014

Spud Date: Mar-14-2014

Total Depth: 3900'

Elevation: 1170 GL, 1180 KB

Tops from CBL:

Admire: 823 (357)

Toronto Lime: 2062 (-882)

Iatan: 2185 (-1005)

Stalnaker: 2202 (-1022)

Layton: 2661 (-1484)

Cleveland: 2981 (-1801)

Marmaton: 3045 (-1865)

Mississippian: 3389 (-2209)

Woodford: 3761 (-2581)

Arbuckle: 3843 (-2663)

350-390 30%LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME SUCR DNSE; 70% SH: GY LT GY MED GY RD BRN BLKY FRM SLTY

390-475 80% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME SUCR DNSE; 20% SH: GY LT GY RD BRN BLKY FRM SLTY

475-570 30% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 80% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY

570-630 50% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 50% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY

630-690 40% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 60% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY

690-810 20% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 80% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY

810-860 40% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 50% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY; 10% SD: GY LT GY VFG CONS FRM-FRI SUBRND W SRTD SLTY-ARGIL

860-900 40% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 60% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY

900-925 30% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 50% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY; 10% SD: GY LT GY VFG CONS FRM-FRI SUBRND W SRTD SLTY-ARGIL; 10% SLTSTN: LT GY BLKY FRM

925-1020 15% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 75% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY; 15% SLTSTN: LT GY BLKY FRM

1020-1050 50% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 40% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY; 5% SLTSTN: LT GY BLKY FRM

1050-1110 15% LS: LT TN BUFF WHT FRST TRNSL FRM MICXLN-XLN DNSE; 75% SH: RD BRN LT GY LT TN GRN PURP BLKY FRM SLTY; 15% SLTSTN: LT GY BLKY FRM

1110-1140 5% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 80% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 10% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 10% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1140-1160 25% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 25% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 25% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 25% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1160-1200 20% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 40% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 20% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 20% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1200-1230 50% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 40% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 5% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 5% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1230-1260 15% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 70% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 5% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 10% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1260-1290 40% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 50% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 5% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 5% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1290-1310 30% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 50% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 10% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 10% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1310-1350 30% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 50% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 5% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 15% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1350-1380 70% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 30% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR

1380-1525 10% LS: WHT LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE R TR PYR NOD; 80% SH: LT GY GY LT GRN RED BRN BLKY FRM OCC SFT SLTY R TR PYR; 5% SLTSTN: LT GY BLKY FRM MICA LIG TR PYR NODS R TR PYRR; 5% SD: GY LT GY OCC FRST CLR VF VFG CONS FRM-FRI SUBRND W SRTD SLTY

1525-1710 30% LS: LT TN BUFF TRNSL HD MICXLN-XLN SME DNSE; 50% SH: LT GY GY RED BRN BLKY FRM SLTY

1710-1800 90% SH: LT GY GY LT GRN BRN DK GY RED BRN BLKY FLKY FRM SLTY MICA 15% LS: LT TN BUFF WHT FRST TRNSL HD MICXLN-XLN SME SUCR DNSE

1800-1890 50% SH: LT GY GY LT GRN BRN DK GY RED BRN PURP GLD BLKY FLKY FRM SLTY MICA; 25% SD: WHT FRST TN VFG CONS FRI SUBRND W SRTD SLTY IP; 25% SLTSTN: LT GY GY BLKY FRM MICA

1890-1920 50% LS: LT TN BUFF WHT FRST GY BRN HD MICXLN-XLN DNSE OOL IP; 50% SH: DK GY GY RD-BRN GRNSH-GY BLKY FRM SLTY MICA IP PYR

1920-1950 55% SH: DK GY GY RD-BRN GRNSH-GY BLKY FRM SLTY MICA IP PYR; 25% SD: GRNSH GY VFG CONS FRI SUBRND W SRTD SLTY; 25% LS: LT TN BUFF WHT FRST GY BRN HD MICXLN-XLN DNSE OOL IP

1950-2100 60% SH: DK GY GY RD-BRN GRNSH-GY BLKY FRM SLTY MICA IP PYR; 25% SD: GRNSH GY VFG CONS FRI SUBRND W SRTD SLTY; 15% LS: LT TN BUFF WHT FRST GY BRN HD MICXLN-XLN DNSE OOL IP
2100-2125 50% SH: LT GY GY BLKY FRM SLTY MICA IP TR PYR LIG; 30% SD: WHT GRN LT GY VFG CONS FRI SUBRND W SRTD SLTY; 20% SLTSTN: LT GY GY BLKY FRM MICA

2125-2160 90% SH: LT GY GY BLKY FRM SLTY MICA IP TR PYR LIG; 10% SLTSTN: LT GY GY BLKY FRM MICA

2160-2190 40% SH: LT GY GY BLKY FRM SLTY MICA IP TR PYR LIG; 20% SD: WHT GRN LT GY VFG CONS FRI SUBRND W SRTD SLTY; 20% SLTSTN: LT GY GY BLKY FRM MICA; 20% LS: LT TN BUFF BRN WHT HD MICXLN-XLN DNSE SME SUCC

2190-2220 80% SH: LT GY GY BLKY FRM SLTY MICA IP TR PYR LIG; 10% SD: WHT GRN LT GY VFG CONS FRI SUBRND W SRTD SLTY; 10% SLTSTN: LT GY GY BLKY FRM MICA

2220-2430 80% SD: WHT CLR FRST VF-FG MOD HD SUBANG SUBRND MOD SRTD MOD SLTY CONS; 20% SH: LT GY GY RED BRN BLKY FRM OCC SFT SLTY

2430-2460 30% SD: WHT CLR OCC LT GY FRST VF-FG MOD HD SUBANG SUBRND MOD SRTD MOD SLTY CONS; 70% SH: LT GY GY RED BRN BLKY FRM OCC SFT SLTY

2460-2520 10% LS: TN WHT MLKY WHT TRNSL BUFF HD MICXLN-XLN SME DNSE; 30% SD: WHT CLR OCC LT GY FRST VF-FG SUBANG SUBRND MOD SRTD MOD SLTY W CONS; 10% SLTSTN: LT GY GY BLKY FRM MICA; 50% SH: LT GY GY OCC DK GY BLKY FRM OCC SFT SLTY

2550-2610 90% SH: LT GY GY OCC DK GY BLKY FRM OCC SFT SLTY; 10% LTSTN: LT GY GY BLKY FRM MICA LIG R TR GLAUC

2610-2640 100% SH: LT GY GY OCC DK GY BLKY MD FRM OCC SFT SLTY IP

2640-2660 10% SD: WHT CLR OCC LT GY FRST VF-FG SUBANG SUBRND MOD SRTD MOD SLTY W CONS; 90% SH: LT GY GY OCC DK GY BLKY MD FRM OCC SFT SLTY IP

2660-2700 20% SD: WHT CLR OCC LT GY FRST VF-FG SUBANG SUBRND MOD SRTD MOD SLTY W CONS; 80% SH: LT GY GY OCC DK GY BLKY MD FRM OCC SFT SLTY IP

2700-2760 30% SD: WHT CLR OCC LT GY FRST VF-FG SUBANG SUBRND MOD SRTD MOD SLTY W CONS; 70% SH: LT GY GY OCC DK GY BLKY MD FRM OCC SFT SLTY IP

2760-2850 25% LS: TN WHT MLKY WHT TRNSL BUFF HD MICXLN-XLN SME DNSE R TR PYR; 10% SLTSTN: GY LT GY BLKY FRM-SFT MICA TR LI; 25% SD: WHT CLR OCC LT GY FRST VFG SUBANG SUBRND MOD SRTD MOD SLTY W CONS; 40% SH: LT GY GY MED GY BLKY FRM SLTY MICA PYR TR LIG

2850-2910 30% LS: TN WHT MLKY WHT TRNSL BUFF HD MICXLN-XLN SME DNSE R TR PYR; 10% SLTSTN: GY LT GY BLKY FRM-SFT MICA TR LI; 30% SD: WHT CLR OCC LT GY FRST VFG SUBANG SUBRND MOD SRTD MOD SLTY W CONS; 30% SH: LT GY GY MED GY BLKY FRM SLTY MICA PYR TR LIG

2910-2960 80% LS: WHT LT GY GY TN HD MICXLN-XLN DNSE FOSS; 20% SH: GY GY MED GY BLKY FRM SLTY MICA

2960-3000 80% SD: WHT LT GY FRST VFG CONS HD-FRI SUBRND W SRTD SLTY; 15% LS: WHT LT GY GY TN HD MICXLN-XLN DNSE FOSS; 5% SH: GY LT GY MED GY BLKY FRM SLTY MICA

3000-3060 20% SD: WHT LT GY FRST VFG CONS HD-FRI SUBRND W SRTD SLTY; 5% LS: WHT LT GY GY TN HD MICXLN-XLN DNSE FOSS; 5% SH: GY LT GY MED GY BLKY FRM SLTY MICA; 60% SLTSTN: LT GY GY BLKY FRM-SFT

MICA LIG

3060-3170 60% LS: WHT LT GY GY TN HD MICXLN-XLN DNSE FOSS; 40% SH: GY LT GY MED GY DK GY BLKY FRM SLTY MICA

3170-3210 70% SLTSTN: GY LT GY BLKY FRM-SFT MICA; 20% SH: DK GY BLK GY BLKY FLKY SME ELONG FRM SLTY; 10% LS: TN LT GY GY HD MICXLN-XLN DNSE

3210-3245 40% SLTSTN: GY LT GY BLKY FRM-SFT MICA; 10% LS: TN LT GY GY HD MICXLN-XLN DNSE; 50% SH: DK GY GY BLKY FLKY FRM SLTY

3245-3275 40% SD: LT GY LT BRN VFG W CONS SUBRND W SRTD; 25% SLTSTN: GY LT GY BLKY FRM-SFT MICA; 25% SH: DK GY GY BLKY FLKY FRM SLTY

3275-3325 90% SH: DK GY GY BLKY FLKY FRM SLTY; 10% LS: TN LT GY GY HD MICXLN-XLN DNSE

3325-3375 50% SD: LT GY CLR WHT OCC LT BRN VFG W CONS SUBRND W SRTD SLTY; 50% SH: DK GY GY RD OCC BRN BLKY FLKY FRM SLTY

3375-3420 30% CHT: WHT CRM WHT AMOR V HD ; 50% SH: DK GY GY RD OCC BRN BLKY FLKY FRM SLTY; 20% SD: CLR WHT LT GY LT BRN OCC GRN VFG W CONS SUBRND W SRTD

3420-3450 23.6% Quartz;7.6% Na Feldspar;6.2% K Feldspar;10.1% Calcite;3.4% Dolomite;3.8% Ankerite;1.4% Magnetite;15.6% Muscovite;17.9% Illite;6.1% Kaolinite;4.1% Chlorite

3450-3480 34.6% Quartz;5.9% Na Feldspar;6.3% K Feldspar;9.3% Calcite;3.1% Dolomite;3.4% Ankerite;1% Magnetite;15.8% Muscovite;12.9% Illite;4.9% Kaolinite;2.8% Chlorite

3480-3490 25.3% Quartz;8.7% Na Feldspar;6.7% K Feldspar;12.6% Calcite;3.3% Dolomite;3.7% Ankerite;1% Magnetite;16.8% Muscovite;12.8% Illite;4.7% Kaolinite;4.4% Chlorite

3490-3500 18.7% Quartz;9.5% Na Feldspar;8.6% K Feldspar;9.8% Calcite;2.2% Dolomite;2.4% Ankerite;1.3% Magnetite;19.4% Muscovite;16.4% Illite;6.2% Kaolinite;5.4% Chlorite

3500-3502 19.5% Quartz;6.7% Na Feldspar;6.4% K Feldspar;12.7% Calcite;3.1% Dolomite;3.5% Ankerite;1.6% Magnetite;18.4% Muscovite;19.7% Illite;5% Kaolinite;3.5% Chlorite

3502-3510 21% Quartz;7.1% Na Feldspar;5.4% K Feldspar;13.4% Calcite;4.6% Dolomite;5.1% Ankerite;1.3% Magnetite;15.7% Muscovite;18.4% Illite;4.6% Kaolinite;3.4% Chlorite

3510-3540 19.6% Quartz;9.9% Na Feldspar;7.7% K Feldspar;13.6% Calcite;2.6% Dolomite;2.9% Ankerite;1.2% Magnetite;18.5% Muscovite;17% Illite;3.6% Kaolinite;3.4% Chlorite

3540-3550 23.7% Quartz;8.1% Na Feldspar;6.3% K Feldspar;13.7% Calcite;4.5% Dolomite;5% Ankerite;1.2% Magnetite;13.4% Muscovite;17.5% Illite;3.3% Kaolinite;3.3% Chlorite

3550-3560 20.3% Quartz;8.4% Na Feldspar;6.5% K Feldspar;8.3% Calcite;3.3% Dolomite;3.6% Ankerite;1.6% Magnetite;21.1% Muscovite;20.5% Illite;3% Kaolinite;3.4% Chlorite

3560-3570 19.3% Quartz;11.4% Na Feldspar;8.8% K Feldspar;10.7% Calcite;3.1% Dolomite;3.5% Ankerite;1.5% Magnetite;14.6% Muscovite;19.4% Illite;4.3% Kaolinite;3.4% Chlorite

3570-3580 24.2% Quartz;7.9% Na Feldspar;6.1% K Feldspar;12.7% Calcite;3.2% Dolomite;3.6% Ankerite;1.2% Magnetite;16% Muscovite;15.3% Illite;5.3% Kaolinite;4.4% Chlorite

3580-3590 24.2% Quartz;10.4% Na Feldspar;8% K Feldspar;13.8% Calcite;3.5% Dolomite;3.9% Ankerite;1% Magnetite;13.7% Muscovite;12.3% Illite;5.3% Kaolinite;4% Chlorite

3590-3600 31.2% Quartz;7.8% Na Feldspar;6.1% K Feldspar;14.6% Calcite;5.5% Dolomite;6.1% Ankerite;0% Magnetite;11.8% Muscovite;11.7% Illite;3.5% Kaolinite;1.7% Chlorite

3600-3610 26.2% Quartz;9% Na Feldspar;6.9% K Feldspar;12.3% Calcite;4.6% Dolomite;5.1% Ankerite;1.1% Magnetite;14.5% Muscovite;13.3% Illite;2.9% Kaolinite;4.1% Chlorite

3610-3620 25.1% Quartz;8.6% Na Feldspar;6.6% K Feldspar;14.2% Calcite;5.2% Dolomite;5.7% Ankerite;1% Magnetite;14.2% Muscovite;12.7% Illite;3.6% Kaolinite;3% Chlorite

3620-3630 24.7% Quartz;8% Na Feldspar;6.4% K Feldspar;14.4% Calcite;5.4% Dolomite;6% Ankerite;1% Magnetite;14% Muscovite;12.5% Illite;4.6% Kaolinite;3.1% Chlorite

3630-3640 26.5% Quartz;6.8% Na Feldspar;5.3% K Feldspar;12.8% Calcite;5.4% Dolomite;6% Ankerite;1% Magnetite;15% Muscovite;13.1% Illite;4.7% Kaolinite;3.3% Chlorite

3640-3700 29.3% Quartz;7.6% Na Feldspar;5.8% K Feldspar;10% Calcite;6.9% Dolomite;7.6% Ankerite;1.1% Magnetite;13.3% Muscovite;11.1% Illite;3.3% Kaolinite;3.9% Chlorite

3700-3730 30% Quartz; 15% LS: TN LT BRN CRM BUFF TRNSL MICXLN-XLN DNSE DOLO; 55% SH: GY LT GY OCC DK GY BRN GRN IP BLKY FLKY FRM

3730-3750 30% Quartz; 20% LS: TN LT BRN CRM BUFF TRNSL MICXLN-XLN DNSE DOLO; 50% SH: GY LT GY OCC DK GY BRN GRN IP BLKY FLKY FRM

3750-3780 50% Quartz; 20% LS: TN LT BRN CRM BUFF TRNSL MICXLN-XLN DNSE DOLO; 30% SH: GY LT GY OCC DK GY BRN GRN IP BLKY FLKY FRM

3780-3805 80% SH: DK GY BLK GY BRN BLKY FLKY FRM-HD MICA; 10 % LS: WHT CRM BUFF TN LT BRN MICXLN-XLN DNSE DOLO; 10% QUARTZ WHT LT GY LT GRNSH-GY VFG CONS FRM-FRI SUBRND SLTY PYR

3805-3850 70% SH: DK GY BLK GY BRN BLKY FLKY FRM-HD MICA; 5% LS: WHT CRM BUFF TN LT BRN MICXLN-XLN DNSE DOLO; 20% QUARTZ WHT LT GY LT GRNSH-GY VFG CONS FRM-FRI SUBRND SLTY PYR; 5% DOL: TN BRN MICXLN HD DNSE

3850-3900 90% DOL: TN BRN MICXLN HD DNSE; 5% SH: DK GY BLK GY LT GRN BLKY FLKY FRM-HD MICA PYR; 5% CHT: TAN WHT CRM TRANS AMOR V HD