

# WELL LOG

State **Kansas**

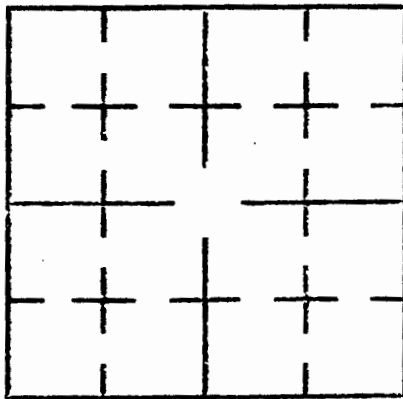
Co. **Barber**

Farm **George**

1-4 12

Twp. **33S**

Rgn. **10W**



Location **C-SE-SW**

Well No. **1**

Lessee **I. T. I. O.**

Operator

Date Location Made

By

Drilling Commenced

Drilling Completed

Drilling Contractor

Method of Drilling

Elevation **1376** Total Depth

Commenced Producing

I. P. First 24 Hr.

Gravity **°Baume**

Per Cent Water

Color

Water

Gas From **ft. to**

ft. I.O.F., M. cu. ft.

R.P. lbs.

Gas From **ft. to**

ft. I.O.F., M. cu. ft.

R.P. lbs.

**Casing Record**

**Left in Hole**

**Shot Record**

Landed at	Size Ins.	Wt per ft	Length	From	To	Date	Quarts	Shot Between
								ft and ft
								ft and ft
								ft and ft

Remarks: ( Method used in protecting well and gas from top and bottom water )

### FORMATION RECORD

- 220-230 --- Red Brown Gyp. shale, trace gyp and light gray shale
- 230-240 --- Reddish brown gypsiferous shale, trace free gyp.
- 240-250 --- Reddish brown gypsiferous shale
- 250-270 --- Reddish brown gypsiferous shale, trace free gyp.
- 270-280 --- Reddish brown gypsiferous shale, little pale green shale, trace gyp.
- 280-290 --- Reddish brown shale part gyp, little gyp., trace pale green shale
- 290-300 --- Reddish brown gyp. shale, little gyp., trace green shale
- 300-310 --- Reddish brown gyp. shale little gyp, little pale green shale
- 310-320 --- Reddish brown gyp shale, little gyp., trace pale green shale
- 320-340 --- Brick red shale, little pale green shale, trace gyp.
- 340-360 --- Brick red shale, little pale green shale
- 360-370 --- Brick red shale, little pale green shale, trace gyp.
- 370-380 --- Brick red shale, little pale green shale
- 380-440 --- Brick red shale, few pale green shale spots
- 440-450 --- Brick red shale, few pale green shale spots and green shale streaks
- 450-500 --- Brick red shale, few pale green shale spots streak green shale (one frag. dol)
- 500-510 --- Brick red shale, with pale green shale spots
- 510-520 --- Brick red shale, with pale green shale spots, trace yellowish brown shale
- 520-550 --- Brick red shale, with pale green shale spots, streak pale green shale
- 550-560 --- Brick red shale, little pale green shale
- 560-570 --- Brick red shale, little pale green shale
- 570-580 --- Brick red shale, with pale green shale spots
- 580-650 --- Brick red shale, little pale green shale spots
- 650-670 --- Brick red shale, little pale green shale, trace greenish gray shale
- 670-680 --- Brick red shale little pale green shale, trace light green dolomite and trace greenish gray shale
- 680-690 --- Greenish gray shale
- 690-700 --- Greenish gray shale, trace gray sucrose, argills dolomite, trace anhydrite
- 710-720 --- Greenish gray shale, trace anhydrite
- 720-730 --- Greenish gray shale, trace anhydrite, trace gray to buff dolomite

## FORMATION RECORD

730-740 Greenish gray shale, trace gray to buff dolomite  
 740-750 Greenish gray shale, trace gray to buff dolomite, trace anhydrite  
 750-760 Greenish gray shale, trace anhydrite  
 760-780 Greenish gray shale  
 780-790 Greenish gray shale, trace anhydrite  
 790-800 Greenish gray shale  
 800-810 Greenish gray shale, trace light gray to buff angular dolomite, trace anhydrite  
 810-820 Greenish gray shale, trace light gray to buff angular dolomite  
 820-830 Greenish gray shale, trace anhydrite  
 830-840 Greenish gray shale, little anhydrite  
 840-850 Greenish gray shale, trace anhydrite  
 850-860 Greenish gray shale, little yellowish brown shale, trace anhydrite and trace sucrose angular dolomite  
 860-870 Greenish gray shale, trace yellowish brown shale, trace anhydrite  
 870-880 Greenish gray shale, trace angular dolomite and gyp.  
 880-890 Greenish gray shale, trace anhydrite  
 890-900 Greenish gray shale, little anhydrite  
 900-910 Greenish gray shale, little gray angular dolomite, trace anhydrite  
 910-920 Greenish gray shale, little gray marly dolomite, trace anhydrite  
 920-930 Greenish gray shale, little dark gray shale and anhydrite, trace marly dolomite  
 930-940 Greenish gray shale, little bright red shale, trace anhydrite, trace marly dolomite  
 940-950 Greenish gray shale, some anhydrite  
 950-960 Greenish gray shale and anhydrite, little bright red shale, trace marly dolomite  
 960-970 Greenish gray shale, some anhydrite, trace marly dolomite  
 970-980 Anhydrite part porous, little marly dolomite  
 980-990 Greenish gray to light gray shale and anhydrite, little marly dolomite  
 990-1000 Light gray shaly dolomite and anhydrite, little green gray shale  
 1000-1010 Light gray shaly dolomite and anhydrite, little green gray shale  
 1010-1020 Bright red shale, little anhydrite  
 1020-1030 Bright red shale, little anhydrite, trace gyp.  
 1030-1040 Bright red shale, some anhydrite  
 1040-1050 Anhydrite, little bright red and green gray shale  
 1050-1060 Soft green gray and red shale, little anhydrite  
 1060-1070 Anhydrite and soft green gray and red shale  
 1070-1080 Anhydrite and soft green gray and red shale  
 1080-1090 Anhydrite  
 1090-1100 Anhydrite, little soft green gray shale  
 1100-1110 Anhydrite part porous, little soft green gray shale  
 1110-1120 Anhydrite part porous, little dark gray shale  
 1120-1130 Anhydrite, little gyp.  
 1130-1140 Anhydrite, part porous  
 1140-1150 Anhydrite (?), (salt on sample bag)  
 1150-1160 Anhydrite (?), (salt on sample bag), little gray shale  
 1160-1170 Anhydrite (?), little grayish, some salt crystals  
 1170-1180 Anhydrite, little greenish gray shale, few salt crystals  
 1180-1190 Anhydrite, little greenish gray shale  
 1190-1200 Anhydrite, some green gray and red shale  
 1200-1210 Green gray and red shale, little anhydrite  
 1210-1220 Red shale, little dark gray shale, trace anhydrite  
 1220-1230 Red shale and little green gray shale, little anhydrite  
 1230-1240 Red shale, little green gray shale, trace black shale, trace anhydrite  
 1240-1250 Anhydrite, little red and green gray shale  
 1250-1260 Anhydrite part porous and little green gray and red shale

## FORMATION RECORD

- 1260-1270 Anhydrite part porous  
1270-1280 Anhydrite part porous, and little green gray and red shale  
1280-1290 Green gray and red shale, little anhydrite  
1290-1300 Green gray and red shale, some anhydrite  
1300-1310 Green gray and red shale, little anhydrite  
1310-1350 Anhydrite part porous  
1350-1370 Anhydrite part porous, little green gray shale  
1370-1390 Anhydrite part porous  
1390-1400 Anhydrite little green gray and red shale  
1400-1410 Anhydrite, trace green gray shale  
1410-1420 Anhydrite, little green gray shale  
1420-1430 Anhydrite  
1430-1440 Anhydrite, some green gray shale, trace red shale  
1440-1450 Anhydrite  
1450-1460 Anhydrite, and green gray shale  
1460-1470 Anhydrite, and green gray shale, (few qtz. pebbles)  
1470-1480 Anhydrite  
1480-1490 Anhydrite, trace green gray shale  
1490-1500 Anhydrite, little green gray shale  
1500-1510 Green gray, little red shale, little anhydrite  
1510-1520 Anhydrite, little green gray shale  
1520-1530 Anhydrite  
1530-1540 Anhydrite and some green gray shale  
1540-1550 Green gray shale, trace anhydrite  
1550-1560 Anhydrite, little buff sucrose dolomite  
1560-1570 Anhydrite and soft green gray and red shale  
1570-1580 Red shale, trace green gray shale  
1580-1590 Red shale, little buff dolomite, partly argillaceous  
1590-1600 Dolomite partly argillaceous, little dark chert, little anhydrite  
1600-1610 Gray dolomite lime, partly argillaceous, little dark chert and green gray shale  
1610-1620 Gray argillaceous dolomite, trace dark chert, little anhydrite, trace brown shale  
1620-1630 Gray brown porous dolomitic lime  
1630-1640 Gray brown porous dolomite, partly argillaceous  
1640-1650 Gray brown porous dolomite, little green gray shale  
1650-1660 Green gray and dark gray shale, little porous dolomite, trace chert  
1660-1670 Green gray and gray shale, some sucrose, argillaceous dolomite  
1670-1680 Green gray and gray shale, little mottled, light gray and gray lime  
1680-1690 Gray argillaceous lime, partly finely calcareous  
1690-1700 Gray argillaceous lime, trace chert  
1700-1710 Light gray finely foss. lime, part slightly porous, trace chert  
1710-1720 Light gray finely foss. lime, little gray argillaceous lime, little green gray shale  
1720-1730 Light red and brown shale, little gray lime, partly argillaceous  
1730-1740 Light green to buff lime, little white chert  
1740-1750 White chert, little gray shaly lime  
1750-1760 Gray to buff argillaceous lime, trace white chert  
1760-1770 Gray to buff argillaceous lime  
1770-1780 Gray to buff argillaceous lime, trace dark chert  
1780-1790 Gray to buff argillaceous lime  
1790-1800 Gray speckled lime, partly argillaceous, part finely foss  
1800-1810 Gray to buff argillaceous lime  
1810-1820 Gray to buff lime, part slightly argillaceous argillaceous, little gray shale

Lessee I. T. I. O. Operator Farm George Well No. 1

## FORMATION RECORD

1820-1830 Buff sucrose lime, part slightly argillaceous  
 1830-1850 Buff lime, part slightly argillaceous, little gray chert  
 1850-1860 Soft light gray to buff lime, little gray chert  
 1860-1870 Soft light gray to buff lime, little gray shale, trace chert  
 1870-1880 Soft light gray to buff lime, trace gray brown finely crystalline lime, little light and dark gray chert  
 1880-1890 Gray shaly lime, little gray calcareous shale  
 1890-1900 Buff lime, part slightly argillaceous, little gray shaly lime, fus. abundant  
 1900-1910 Gray to buff sucrose lime, partly speckled, partly argillaceous, trace greenish cast lime  
 1910-1920 gray sucrose argillaceous lime, little gray calcareous shale  
 1920-1930 Gray to greenish gray shale, trace bright green shale, trace red shale  
 1930-1940 Gray shale, little light gray to buff lime  
 1940-1950 Gray to buff lime little gray brown finely crystalline lime, trace gray shaly lime  
 1950-1960 Gray to buff lime and some brown chert with spines  
 1960-1970 Gray brown sucrose to finely crystalline lime, trace chert with spines  
 1970-1980 Gray lime, partly argillaceous, little gray shale, trace bright green shale  
 1980-1990 Gray lime, party shaly, little gray shale,  
 1990-2000 Gray brown dense to finely crystalline lime, some gray calcareous shale  
 2000-2010 Gray shale, partly calcareous, little gray shaly lime  
 2010-2020 Gray to brown sucrose lime, partly argillaceous, trace brown dense lime, trace gray shale  
 2020-2040 Gray to buff lime, partly argillaceous, trace gray shale  
 2040-2050 Light gray soft lime, little gray sucrose shaly lime, little chert  
 2050-2060 Light gray to buff lime, trace gray brown dense lime  
 2060-2070 Gray shale, little black shale  
 2070-2080 Gray shale, little gray brown dense lime  
 2080-2090 Gray brown dense lime, some gray shale  
 2090-2100 Gray brown dense lime  
 2100-2110 Gray to green gray shale, some red shale (?) Cavings  
 2110-2120 Gray and light gray lime, partly argillaceous  
 2120-2130 Gray calcareous shale, little gray shaly lime  
 2130-2140 Gray calcareous shale, little shaly lime, little light gray soft lime  
 2140-2170 Light gray to buff lime  
 2170-2180 Light gray to buff lime, little gray shale  
 2180-2190 Light gray to buff lime, little gray shale, trace chert  
 2190-2200 Light gray to white chalky lime and finely crystalline lime  
 2200-2210 Light gray lime, some gray brown dolomite, porous  
 2210-2220 Brown granular porous dolomite, little gray oolitic foss. lime (oil stained)  
 2220-2230 Gray oolitic and fossiliferous lime, porous  
 2230-2250 Dark gray sucrose argillaceous lime, little gray shale  
 2250-2260 Gray shale, little gray brown sucrose to finely crystalline lime  
 2260-2270 Gray Brown lime, little black shale  
 2270-2280 Light gray to white chalky lime, little gray shale  
 2280-2290 Light gray lime, little dark gray shale  
 2290-2300 Dark gray to black shale  
 2300-2310 Dark gray shale, little light gray to buff lime  
 2310-2320 Light gray to gray lime, partly slightly argillaceous, trace gray chert  
 2320-2330 Gray speckled lime, slightly oolitic, dark oolite  
 2330-2340 Light gray to buff lime, little gray shale  
 2340-2350 Light gray to buff lime, little gray shale, trace white chert  
 2350-2360 Gray to dark gray shale

FORMATION RECORD

- 2360-2370 Gray to dark gray shale, trace brown lime
- 2370-2380 Brown sucrose to finely crystalline lime
- 2380-2390 Brown sucrose to finely crystalline lime, partly argillaceous, little green shale
- 2390-2400 White chalky lime, little gray and dark gray calcareous shale
- 2400-2410 Gray brown sucrose lime, little white lime, trace dark gray shale
- 2410-2420 Dark gray lime, little gray shale
- 2420-2430 Light gray to buff lime, some gray shale
- 2430-2440 Gray to green gray shale
- 2440-2450 Gray to green gray shale, little brown lime
- 2450-2460 Gray to dark gray shale
- 2460-2470 Light gray to white chalky lime, trace glauconitic lime
- 2470-2480 Light gray to buff lime
- 2480-2490 Buff to light brown lime, partly dense, little gray shale
- 2490-2500 Buff lime, little gray shale, trace very fine micaceous calcareous sand
- 2500-2510 Gray micaceous sandy shale, trace black shale, trace very fine micaceous calcareous sand
- 2510-2520 Gray micaceous sandy shale, trace very fine dense micaceous calcareous sand
- 2520-2530 Gray and black shale, little micaceous sandy shale, trace brown lime
- 2530-2540 Gray shale, partly micaceous and gritty, little gray argillaceous lime
- 2540-2550 Gray and dark gray shale, little gritty shale, little gray shaly lime
- 2550-2560 Gray shale, partly micaceous and sandy, little brown lime, finely crystalline
- 2560-2570 Gray shale, some gray brown lime
- 2570-2580 As above
- 2580-2590 Gray shale, some gray brown lime, some gray gritty shale
- 2590-2600 Light gray and gray sucrose lime, partly argillaceous, little gray micaceous gritty shale
- 2600-2610 Light gray sucrose lime partly argillaceous, little gray micaceous gritty shale and finely white micaceous sand
- 2610-2620 Light gray to buff chalky lime, little fine white micaceous calcareous sand
- 2620-2630 Gray brown sucrose and fine crystalline lime and gray shale
- 2630-2640 Fine gray micaceous and calcareous sand
- 2640-2650 Fine dense impure calcareous sand, little sandy lime and gray calcareous shale
- 2650-2660 Gray and dark gray shale, trace sandy lime and little gray lime, part argillaceous
- 2660-2670 Light gray and brown lime, little gray shale
- 2670-2680 Gray shale, some white chalky lime, little light brown finely crystalline lime
- 2680-2690 Light gray and white chalky lime
- 2690-2700 Light gray and white chalky lime, little dark gray shale, trace gray brown fine crystalline lime
- 2700-2710 Light gray and white chalky lime, little gray brown fine crystalline lime
- 2710-2720 Gray shale, some light gray to brown lime, Trace sandy lime ,
- 2720-2740 Light gray sucrose and brown finely crystalline lime, little gray shale, trace chert
- 2740-2750 Light gray sucrose and brown finely crystalline lime, trace pale green shale
- 2750-2760 White chalky lime, little gray brown fine crystalline lime, little dark gray shale
- 2760-2770 Light gray to gray brown fine crystalline lime, part finely foss., trace oolitic lime
- 2770-2780 Light gray to gray brown fine crystalline lime, part finely foss.,
- 2780-2790 Light gray to white chalky lime, little buff finely prous lime
- 2790-2800 Light gray sucrose to finely crystalline lime, part oolitic and porous

I. T. I. O.

George

Vol. No. 1

## FORMATION RECORD

- 2800-2805 Light gray sucrose to finely crystalline lime, trace brown dense lime, very slightly porous
- 2805-2810 Light gray chalky lime
- 2810-2815 Light gray chalky lime, part slightly porous
- 2815-2820 Light gray chalky lime, little light brown dense lime
- 2820-2825 Light gray chalky lime, few thin carbonaceous streaks, little light brown dense lime
- 2825-2830 Light gray chalky lime
- 2830-2835 Light gray to buff lime, part porous
- 2835-2845 Gray brown semi-crystalline lime, part finely porous
- 2845-2850 Gray oolitic lime, porous
- 2850-2860 Light gray lime, part oolitic and little brown finely crystalline porous lime
- 2860-2900 Light gray to white lime
- 2900-2910 Light gray to buff sucrose lime
- 2910-2930 White chalky and light gray sucrose lime
- 2930-2940 White chalky and light gray sucrose lime, trace light brown finely crystalline lime
- 2940-2950 White chalky and little light brown finely crystalline lime, little dark gray shale
- 2950-2960 Dark gray shale, little gray lime
- 2960-2970 Dark gray shale, little light brown sucrose to finely crystalline lime
- 2970-2980 Dark gray shale, and fine white angular dense micaceous calcareous sand
- 2980-2990 Fine white angular dense calcareous sand, little sandy shale, little buff lime
- 2990-3000 Gray shale, little light gray to buff lime
- 3000-3040 Gray and dark gray shale, trace brown dense lime
- 3040-3050 Gray and dark gray shale, some light gray lime, part oolitic
- 3050-3060 Gray and dark gray shale, trace brown dense lime and chert
- 3060-3070 Gray and dark gray shale, little brown dense lime
- 3070-3080 Light gray and gray brown finely porous lime
- 3080-3090 Light gray lime, trace oolitic lime
- 3090-3100 Light gray lime, little dark brown finely crystalline lime, little gray dense glassy sand
- 3100-3110 Dark brown dense to finely crystalline lime, trace dense gray sand
- 3110-3120 Gray dense sand, little light gray lime, little gray shale, trace red shale
- 3120-3130 White fine dense calcareous sand, little gray shale, little lime, trace red shale
- 3130-3140 Gray and dark gray shale, little dense fine white calcareous sand
- 3140-3150 Gray shale, little reddish brown shale, trace dense white sand
- 3150-3160 Gray and dark gray shale, little fine white dense sand, trace red shale and chert
- 3160-3170 Light gray to white chalky lime, little gray shale, trace red shale
- 3170-3180 Gray and dark gray shale, little fine white dense calcareous sand, trace lime
- 3180-3190 Gray and dark gray shale, trace red brown shale, trace gray brown lime
- 3190-3200 Gray and dark gray shale, trace red brown and pale green shale
- 3200-3210 Light gray sucrose little grayish brown finely crystalline lime, trace finely porous lime
- 3210-3220 Gray shale, little gray lime, trace white chert
- 3220-3230 Gray shale, little light gray lime
- 3230-3240 Grayish brown sucrose lime, some gray shale, trace red shale
- 3240-3250 Light gray to grayish brown lime, little gray shale
- 3250-3260 Gray and dark gray shale, little reddish brown shale
- 3260-3270 Gray shale, little light gray lime

## FORMATION RECORD

- 3270-3280 Gray shale, trace coal
- 3280-3290 Gray shale, white dense fine to medium sand, little grayish brown lime
- 3290-3300 Fine white dense sand, part calcareous
- 3300-3310 Fine to medium white sand, part calcareous and micaceous
- 3310-3320 Fine to medium white sand, part calcareous and micaceous, little dark gray shale
- 3320-3330 Dark gray shale, little medium white micaceous sand
- 3330-3340 Gray to dark gray shale, little red shale, trace fine impure dense sand
- 3340-3350 Gray to dark gray shale, trace red shale, little light gray lime
- 3350-3360 Gray to dark gray shale, some brown sucrose to finely crystalline lime
- 3360-3370 Gray to dark gray shale, trace black shale
- 3370-3380 Gray to dark gray shale
- 3380-3390 Gray to dark gray shale, some light gray sucrose lime
- 3390-3400 Black carbonaceous shale
- 3400-3410 Black carbonaceous shale, some grayish brown lime
- 3410-3420 Grayish brown sucrose and brown dense to finely crystalline lime
- 3420-3430 White chalky and little grayish brown dense to finely crystalline lime
- 3430-3440 White chalky and little grayish brown dense to finely crystalline lime, trace gray shale
- 3440-3450 White chalky and light gray dense lime, little dark gray shale
- 3450-3455 Gray and dark gray shale, some white chalky lime and light gray lime
- 3455-3460 White chalky lime and light gray lime, little gray shale
- 3460-3465 (Circulated 1 hour at 3465) light gray lime and very fine sand slightly micaceous.
- 3465 (circulated 1 hour and 45 min.) very fine grained sand, slightly micaceous, part shaly.
- (Note: Formation softened at 3458 which is probably top of sand)  
Cored 3465 to 3475, recovered 7 ft.
- Top 3' Dark gray shale  
Next 18" Gray to brown shaley lime and limey shale  
Bottom 2'6" Greenish gray slick shale
- 3475-3480 Gray shale, little dark brown dense to finely crystalline lime
- 3480-3485 Gray shale to dark gray shale, trace brown dense finely crystalline lime
- 3485-3490 Gray to dark gray shale, little gray lime
- 3490-3495 Gray to dark gray shale, trace gray brown lime and fine white sand
- 3495-3500 Gray to dark gray shale, trace light gray lime
- 3500-3505 Gray shale, trace black carbonaceous shale and trace brown argillaceous lime
- 3505-3510 Gray and dark gray shale, trace brown lime (few fragments of coal)
- 3510-3515 Gray and dark gray shale, trace gray dense micaceous sand
- 3515-3520 Gray and dark gray shale, trace gray dense micaceous sand and trace lime
- 3520-3525 Gray and dark gray shale, trace fine shaly sand
- 3525-3530 Gray shale, part sandy, trace fine gray dense micaceous sand
- 3530-3535 Gray shale, trace fine dense gray micaceous sand part shaley
- 3535-3540 Gray shale, little fine dense gray micaceous sand, part calcareous
- 3540-3545 Gray shale, little fine dense gray micaceous sand, part calcareous, trace sandy shale
- 3545-3550 Gray shale, little fine dense gray micaceous sand, trace argillaceous lime
- 3550-3555 Gray shale, little sandy shale
- 3555-3560 Gray shale, trace sandy shale and trace fine dense micaceous sand
- 3560-3565 Gray shale, little light gray lime, trace chert
- 3565-3570 Gray shale, some fine white dense calcareous sand
- 3570-3575 Gray shale, trace fine white dense calcareous sand, trace lime
- 575-3580 Gray shale, little fine white dense micaceous sand

I. t. I. O.

Owner

Farm

George

Well No. 1

## FORMATION RECORD

- 3580-3585 Gray shale, trace lime and fine shaly sand  
3585 Circulated  $1\frac{1}{2}$  hours at 3585) Gray shale little soft gray lime, little fine shaly sand
- 3585-3590 Gray shale, little fine gray impure sand
- 3590-3595 Gray shale, little gray lime, trace fine gray micaceous sand
- 3595-3600 Gray shale, little sandy shale, fine micaceous shaly sand
- 3600-3605 Gray shale, little sandy shale, trace gray lime
- 3605-3610 Gray shale, little light gray lime, trace dark brown lime and trace fine micaceous sand
- 3610-3615 Gray shale, part sandy, trace fine to medium micaceous sand
- 3615-3620 Gray shale, part sandy
- 3620-3625 Gray shale, part gritty, trace gray lime
- 3625-3630 Gray shale, part gritty
- 3630-3632 (Circulated  $1\frac{1}{2}$  hours) gray sandy shale, little gray shale
- 3632-3635 Gray shale, little sandy shale,
- 3635-3640 Gray shale, little sandy shale, trace red shale cavings
- 3640-3655 Gray shale, little sandy shale
- 3655-3660 Gray shale, trace sandy shale
- 3660-3665 Gray shale, little sandy shale, trace gray argillaceous lime
- 3665-3670 Gray shale, little sandy shale
- 3670-3675 Gray shale
- 3675-3680 Gray shale, trace gritty shale
- 3680-3690 Gray shale
- 3690-3695 Gray shale, trace argillaceous lime
- 3695-3700 Gray shale, little grayish brown lime
- 3700-3705 Gray shale, trace buff lime
- 3705-3710 Gray shale, part sandy, little brown finely crystalline lime
- 3710-3715 Gray shale, trace dark brown crystalline lime
- 3715 (Circulated 2 hours) fine gray micaceous sand  
Cored 3715-3733, recovered 6 feet  
Gray, very fine impure sandy lime grading into a fine micaceous shaly sand at the base. The bottom 9" has some thin dark gray shale streaks (Note: the top of the sand is placed at 3705, from the drilling change)
- 3733-3735 Fine gray micaceous sand
- 3735-3745 As above
- 3745-3750 Fine gray micaceous sand, part dense calcareous
- 3750-3755 Fine gray micaceous sand
- 3755-3760 Fine gray micaceous sand, part dense calcareous
- 3760-3770 Fine gray micaceous sand
- 3770-3775 Fine gray micaceous sand, part dense calcareous, trace dark gray shale
- 3775-3785 Fine gray micaceous sand
- 3785-3790 Fine gray micaceous sand, trace gray shale
- 3790-3795 Fine gray micaceous sand, trace brown lime
- 3795-3805 Fine gray micaceous sand, part dense calcareous, little dark gray shale
- 3805-3815 Fine gray micaceous sand, little dark gray shale
- 3815-3820 Fine gray micaceous sand, little dark gray shale, little gray lime
- 3820-3825 Fine gray micaceous sand
- 3825-3830 Fine gray micaceous sand
- 3830-3835 Fine gray micaceous sand, little dark gray shale
- 3835-3840 Gray shale, little brown lime, part argillaceous, little micaceous sand, trace chert
- 3840-3850 Fine gray micaceous sand
- 3850-3855 Gray to dark argillaceous lime, part oolitic, dark oolites, little dark gray shale

## FORMATION RECORD

3855-3860	Gray to dark argillaceous lime, part oolitic, trace black shale
3860-3870	Gray to brown sucrose lime, part argillaceous
3870-3880	Gray to brown sucrose lime, part argillaceous, trace dark gray shale
3880-3890	Dark shaly lime and a little dark gray calcareous shale
3890-3900	Dark shaly lime and dark gray calcareous shale
3900-3920	Dark gray shale, part calcareous, little dark shaly lime
3920-3936	Dark gray shale, part calcareous
3930-3940	Dark gray and black shale, trace brown dense lime
3940-3950	Black shale
3950-3960	Black shale, trace gray lime
3960-3970	Black shale, some grayish brown lime, part argillaceous
3970-3980	Grayish brown sucrose, lime part argillaceous
3980-3990	Grayish brown sucrose lime and black shale
3990-4000	Gray sucrose and brown dense lime, trace brown chert
4000-4020	Light gray sucrose lime, little gray chert
4020-4040	Light gray sucrose lime and brown finely crystalline lime, trace chert
4040-4050	Light gray sucrose lime with carbonaceous seams, little brown finely crystalline lime
4050-4060	Brown dense to finely crystalline lime, trace dark gray shale and chert
4060-4070	Light gray to buff lime, little brown finely crystalline lime, little dark gray shale
4070-4080	Light gray to buff lime, little brown finely crystalline lime
4080-4090	Dark gray shale, little brown and buff sucrose lime, trace brown shale and chert
4090-4100	Brown sucrose to finely crystalline lime
4100-4110	Brown sucrose to finely crystalline lime, part argillaceous, trace chert
4110-4120	Brown sucrose to finely crystalline lime and dark gray shale, trace maroon shale
4120-4130	Gray to brown sucrose lime, trace chert
4130-4140	Gray to brown sucrose lime, little chert
4140-4150	Black shale, little gray to brown sucrose lime
4150-4160	Black shale and gray to brown sucrose lime
4160-4170	Grayish brown finely crystalline lime, trace black shale
4170-4180	Dark gray shale, little grayish brown lime
4180-4190	Dark gray shale and gray to brown lime, part argillaceous
4190-4200	Brown dense to finely crystalline lime, little shaly lime
4200-4210	Dark gray shale, little gray to brown lime
4210-4220	As above, and trace chert
4220-4230	Dark gray shale, little gray to brown lime, little chert
4230-4240	Gray to brown dense lime, little gray calcareous shale, trace chert
4240-4250	Dark gray shale, little brown dense to finely crystalline lime
4250-4260	Brown dense to finely crystalline lime, trace chert
4260-4270	As above
4270-4280	Grayish brown dense lime, little gray calcareous shale, trace chert
4280-4290	As above, and trace micaceous sand
4290-4300	Grayish brown dense lime, little gray calcareous shale
4300-4310	Dark brown dense to finely crystalline lime, little gray argillaceous lime, trace calcareous shale
4310-4320	Dark gray cal. shale, little gray sucrose arg. lime
4320-4330	Dark gray cal. shale, little gray sucrose arg. lime
4330-4340	Dark gray cal. shale
4340-4350	As above, and trace brown dense lime
4350-4360	Gray sucrose lime, little dark gray shale
4360-4365	Dark gray shale and little gray sucrose and brown dense lime
4365-4370	Dark gray shale, trace brown dense lime and trace variegated shale
4370-4375	Dark gray shale, trace variegated shale

## FORMATION RECORD

4375-4380	Dark gray shale, some variegated shale
4380-	Cir. dark gray shale, trace variegated shale, trace white chert
4380'10"	Cir. dark gray shale and little white chert, part weathered
4380-4385	Dark gray shale, little variegated shale and little gray chert
4385	Cir. variegated shale, some green gray slick shale, little gray and green chert
4385-4389	Variegated shale, some green gray slick shale, little gray and dark green chert
4389	Cir. variegated shale, some green gray slick shale, little gray and green chert
	<u>Cored 4389-94'</u> , rec. 6", conglomerate, variegated shales and various colored chert fragments
4394-4400	Variegated shale and chert fragments, little white coarsely crystalline lime.
	Top Miss. lime (chester ?) 4397'.
4400	Cir. white chalky and coarsely crystalline lime
4400-4405	White to gray chalky and coarsely crystalline lime
4405-	Cir. white to gray chalky and coarsely crystalline lime
4405-4410	White to gray chalky and coarsely crystalline lime bry shells
4410-4415	White soft coarsely crystalline lime
4415	Cir. white soft coarsely crystalline lime
4415-4420	White coarsely crystalline lime
4420-4425	White coarsely crystalline lime, part with reddish cast
4425-4430	As above, trace pale green shale
4430-4440	White coarsely crystalline lime, part with reddish cast
4440-4445	As above, and trace pale green shale
4445-4455	White coarsely crystalline lime, part with reddish cast
4455-4460	As above - Ost.
4460-4490	White coarsely crystalline, lime, part with reddish cast
4490-4495	As above, and large Ost.
4495-4515	White coarsely crystalline lime, part with reddish cast
4515-4520	As above, and little green gray shale
4520-4525	White coarsely crystalline lime, part with reddish cast
4525-4530	White coarsely crystalline lime, part with reddish cast, little green gray shale
4530-4535	Gray to green gray shale
4535-4540	As above, little white coarsely crystalline lime
4540-4545	As above
4545-4550	Gray to green gray shale
4551 -	Cir. gray shale
4551-4555	Gray shale, trace green gray greasy shale
4555-4560	As above
4560-4567	Gray shale, (gray to green gray)
4567 -	Cir. gray to green gray shale and brown dense lime
4567-4572	Gray shale and white crystalline lime with little br. dense to crystalline lime
4572-	Cir. gray shale and little brown dense lime
4572-4577	Gray to green gray shale, little gray crystalline and brown dense lime
4577-4582	Gray to green gray shale
4582-	Cir. gray to gray (green gray) shale, trace gray sucrose lime
4582-4585	Gray to green gray shale
4585-4595	As above
4595-	Cir. gray to green gray shale
4595-4600	Gray and green gray shale, <del>part greasy</del>
4600-4605	As above, and part greasy
4605 -	Cir. gray and green gray shale, part greasy

FORMATION RECORD

- 4605-4625 Gray and green gray shale
- 4625 - Cir. As above, part greasy
- 4625-4630 Gray and green gray shale, some light gray sucrose to dense lime
- 4630-4635 Gray and green gray shale, and black fine textured shale
- 4635-4645 Dark gray to black shale 4630' probably top of Chattanooga
- 4645- Cir. dark gray to black shale
- 4645-4665 Dark gray to black shale
- 4665- Cir. Black shale - spores
- 4665-4675 Black shale spores
- 4675 Cir. As above
- 4675-4680 Black shale spores
- 4680 - Cir. As above
- 4680-4690 Black shale spores
- 4690 - Cir. Black shale spores and little med. sub-angular shaly sand and white crystalline dolomite.  
TOP HUNTON 4688' (Note: Had thin bed of Misner sand probably less than 1')
- Cored 4690-98', rec. 7 $\frac{1}{2}$ '. All greenish gray shale, little disseminated pyrite (Sylvan 4690')
- Cored 4698-4709', rec. 8'. Top 3 $\frac{1}{2}$ ' - greenish gray shale  
Bottom 4 $\frac{1}{2}$ ' - gray to white coarsely crystalline lime, few pink crystals.  
(Note: Top Viola 4702'. 2 $\frac{1}{2}$ ' below top of lime that was recored showed oil in a bank about 1/4 to 1/2" thick after being out in sun for some time there was also a fragment of lime 6" below this that showed some porosity with a little oil staining in the pores.
- 4709-4710 Drilled gray coarsely crystalline lime
- Cored 4710-14 $\frac{1}{2}$ ', rec. 3 $\frac{1}{2}$ ' - gray coarsely crystalline lime, few thin shale bands.
- Cored 4714 $\frac{1}{2}$ -24 $\frac{1}{2}$ ', rec. 8' - Top 3' gray coarsely crystalline lime with few buff sucrose dol. seams and few dark shale streaks.  
Balance - brown to buff suc. dol. with few irregular shale streaks.
- 4724 $\frac{1}{2}$ -4730 Gray brown gran. dolomite, little gray suc. lime
- 4730 - Gray brown gran. dolomite and gray sucrose and brown dense lime, little gray chert
- 4730-4735 Gray gran. dol. and gray sucrose to dense lime and little gray chert
- 4735 - Cir. Gray sucrose and gray dense sil. lime, trace chert
- 4735-4740 Gray to buff sucrose dol. and some gray dense sil. lime
- 4740 - Cir. Gray to buff sucrose dolomite and some gray dense sil. lime
- 4740-4745 Gray brown dense sil. lime and little buff sucrose dolomite
- 4745 - Cir. As above
- 4745-4750 Gray dense sil. lime and little buff sucrose dolomite
- 4750 - As above
- 4750-4752 $\frac{1}{2}$  Gray dense sil. lime, and little buff sucrose dolomite
- 4752 $\frac{1}{2}$ -4755 Light gray sucrose lime, little dense sil. lime
- 4755- Cir. Gray sucrose lime, part dolomitic
- 4755-4760 Gray sucrose lime, part dolomitic, and little gray dense sil. lime
- 4760- Cir. Gray brown dense to finely crystalline lime, part sil, little brown gran. dolomite
- 4760-4765 Gray brown dense to finely crystalline lime, part sil.

FORMATION RECORD

4765- Cir. Gray brown dense lime, part sil, some light gray sucrose lime  
 4765-4766 Gray brown sucrose lime, trace brown dense lime  
 4766-4770 Gray brown sucrose lime, little dark brown granular dolomite  
 4770 - Gray brown sucrose lime and little brown dense sil. lime  
 4770-4775 Light gray sucrose lime, trace brown dense sil. lime, trace chert  
 4775 - Cir. Brown dense to finely crystalline lime  
 4776 - Cir. Gray brown crystalline lime  
Cored 4776-86', rec. 9' Top 5' Grayish brown coarsely crystalline  
 foss. lime  
 Bottom 4' - Med. to coarse ang. to sub-angular  
 arg. sand, part tightly cemented,  
 some thin dark gray and green shal  
 seams. TOP SAND 4781'  
Cored 4786-4791', rec. 4'8" Top 1' Gray med. to coarse ang. to sub-  
 rounded arg. sand, part tightly  
 cemented, few dark gray shale seam  
 Balance - Dense med. grained sub-rounded  
 sand, few thin arg. seams  
Cored 4791-4801', rec. 7' All - Med. grained sub-rounded sand, part  
 tightly cemented, few dark gray  
 arg. seams.  
 4801-4807 Free med. to coarse sub-rounded frosted sand  
 4807-4835 As above  
 4835-4840 As above  
 4840-4845 As above, trace dark green gray shale  
 4845-4850 Free med. to coarse sub-rounded frosted sand, little dark green gr. shale  
 4850-4855 Greenish gray shale, little med. dense sand, trace gray. glauc. shale  
 4855-4860 Dark greenish gray shale, trace sand  
 4860 - Cir. Dark greenish gray shale  
 4860-4865 Free fine to med. sub-angular sand and little dark green gray shale  
 4865- Cir. Dark green gray shale  
 4865-4870 Dark green gray shale, trace med. sub-angular sand  
 4870-4875 Dark green gray shale  
 4875-4894 As above  
 4894 - Cir. Dark green gray shale, trace med. sub-angular sand  
Cored 4894-4898', rec. 2'6" Top 3' Med. grained shaly sand with  
 abundant black phosphatic (?) frag.  
 some bright green shale inclusions  
 4" Very coarse grained rounded frosted  
 sand, part argillaceous  
 8" Mixed green greasy shale and  
 impure arg. sand, sub-rounded grain  
 Bottom 15" - Greenish gray greasy shale  
 4898-4909 Greenish gray greasy shale  
 4909- Cir. Greenish gray greasy shale, little med. dense sub-rounded sand  
 4909-4915 Greenish gray greasy shale, trace med. dense sub-rounded sand  
 4916 - Cir. Greenish gray and bright green shale, trace med. dense sub-rounded sa  
 4916-4920 Greenish gray and bright green shale  
 4922 - Cir. As above, and little coarse rounded frosted sand  
 4922-4925 Greenish gray and bright green shale, trace coarse rounded frosted sand  
 4925-4930 Greenish gray and bright green shale, some coarse rounded frosted sand  
 4930- Cir. Greenish gray and bright green shale  
 4930-4935 As above, and little coarse rounded frosted sand  
 4935-4940 Greenish gray and bright green shale  
 4940 - Cir. Greenish gray shale  
 4940-4945 Med. coarse rounded sand

## FORMATION RECORD

4945 -

Cir. Med. coarse rounded sand, trace gray sucrose dolomite  
Cored 4945-55', rec. 1 $\frac{1}{2}$ ' - Top 1' (All broken fragments) gray to buff  
suc. and finely crystalline dolomite  
part showing some porosity  
Bottom - 6" - Dense coarse grained sandy dol.  
very hard

Cored 4955-67', rec. 5' Top 8" (Broken fragments) 2" med. grained  
dol. sand to dense sandy dol.  
oil stained, had strong sulphur odor  
Balance gray sucrose to finely  
crystalline dolomite with green  
shale bands.

Next 1' - Gray dense sandy dol. with little  
gray brown finely crystalline dol.  
2 $\frac{1}{2}$ ' Dark gray to brown sucrose and  
finely crystalline dol., part cherty,  
showing some porosity. Had slight  
sulphur odor on fresh break.

3" Greenish gray shale  
Next 4" (Broken fragments) dark gray finely  
crystalline dol. part showed porosity

Bottom 3" Greenish gray shale  
Cored 4967-82', rec. 3' Top 5" Gray sucrose dol, part arg.  
4" (Broken fragments) dark gray dense to  
fine crystalline dol, little chert  
5" Gray sucrose to dense dol.  
4" Green shale, dol. bank at base  
3" Gray sucrose dolomite  
7" Mixed green shale and dolomite  
Bottom 8" Gray sucrose dolomite

4982' T.D.