

THE UNIVERSITY OF TEXAS
BUREAU OF ECONOMIC GEOLOGY
AUSTIN, TEXAS

Mimeograph Circular No. 24
May 1929

[Stencil Recut, August 1954]

The mimeograph circulars issued from the Bureau of Economic Geology contain the record of cores and cuttings from wells received and described in the Bureau. In some instances drillers logs and other data are given although it is usually impracticable to include logs of all wells, the logs given being selected as representative of the county or area to which the circular relates. The elevations given are for the most part those reported with the drillers log. In some instances the elevation given, as indicated, is that obtained from the location of the well on the topographic map. In all cases the elevation is to be regarded as approximate only.

E. H. Sellards

SOME WELL RECORDS OF MITCHELL COUNTY

Ellwood No. 1, Mid-Kansas Oil & Gas Company

Located in the center of the north quarter of Sec. 19, Blk. 16, S.P. R.R.
Elevation 2025 feet. Description of samples by O. M. Richey; submitted by
W. C. Kinkel. All the samples are cuttings.

	<u>Depth in feet</u>
Reddish brown sandy material and white anhydrite Chert and fragments of reddish brown sandstone were seen to be present in the washed material. The coloration is due to the presence of iron. The clear grains were rounded and well worn - - - - -	700-810
Reddish brown, sandy noncalcareous, anhydrite, and salt - - - - -	810-815
Gray and reddish brown sandy material and white anhydrite - - - - -	815-825
Medium gray dolomitic limestone and anhydrite - - - - -	825-865
Reddish brown sandy shale and anhydrite - - - - -	865-890
A piece of reddish brown, sandy, non-calcareous shale. Anhydrite in the washed material - - - - -	890-935
Mostly salt. A few fragments of reddish brown sandy non-calcareous shale noted - - - - -	955-993
Like sample from 890-935 - - - - -	993-1000
Reddish brown noncalcareous shale - - - - -	1020
Reddish brown noncalcareous shale and anhydrite - - - - -	1090-1100
Like sample from 1190-1100. A few fragments of gray dolomitic limestone present - - - - -	1095-1100

Reddish brown noncalcareous shale and anhydrite - - - - -	1100-1155
Gray and reddish brown noncalcareous shale and anhydriate - - - -	1175-1180
Gray dolomitic limestone, reddish brown and gray noncalcareous shale, and anhydrite (2 samples) - - - - -	1180-1210
Dark gray noncalcareous shale, anhydrite, and fragments of dolomitic limestone - - - - -	1390-1403
Dark gray noncalcareous shale, a little anhydrite, and a large fragment of reddish brown noncalcareous shale - - - - -	1465
Gray noncalcareous shale (4 samples) - - - - -	1505-1594
Medium gray noncalcareous shale, brownish gray dolomitic limestone, and anhydrite (3 samples) - - - - -	1594-1723
Dark gray noncalcareous shale, reddish brown noncalcareous shale, and anhydrite - - - - -	1729-1765
Reddish brown noncalcareous shale, anhydrite, and a few fragments of dark gray noncalcareous shale - - - - -	1765-1770
Dark gray noncalcareous shale, reddish brown noncalcareous shale, and anhydrite (2 samples) - - - - -	1790-1809
Anhydrite, dark gray noncalcareous shale, reddish brown noncalcareous shale, and brownish gray dolomitic limestone - - - - -	1852-1860
Brownish gray dolomitic limestone, a little anhydrite, and reddish brown noncalcareous shale - - - - -	1865-1875
Gray and a little white anhydrite (6 samples) - - - - -	1925-2164
White anhydrite, a little dark gray noncalcareous shale, and some gray dolomitic limestone (2 samples) - - - - -	2164-2210
Gray dolomitic limestone, dark gray noncalcareous shale, some anhydrite and a little clear quartz - - - - -	2494-2515
Brownish gray dolomitic limestone, a little dark gray noncalcareous shale, some anhydrite, and a little clear quartz - - - - -	2494
Light gray dolomitic limestone and dark gray noncalcareous shale. A little anhydrite noted in the washed material (2 samples) - - - - -	2500-2575
Dark gray noncalcareous shale, a few fragments of brownish gray dolomitic limestone, and a little white anhydrite (6 samples) - - - -	2596-2910
Brownish gray dolomitic limestone, some anhydrite a little dark gray noncalcareous shale (2 samples) - - - - -	2910-3073
Gray dolomitic limestone, dark gray noncalcareous shale, and a little anhydrite - - - - -	3090-3110

Brownish gray dolomitic limestone, dark noncalcareous shale, and a little anhydrite (2 samples) - - - - - 3110-3140

Note: Permian. The samples from 700-1875 are apparently from the red beds. The samples from 1925-3140 are very similar as to lithology. This series may represent the Clear Fork.

Foster No. 1, Col-Texas Oil Company

Located 1/2 mile SW of Iatan, Sec. 43, Blk. 29, S.T. & P. Ry., just E. of W. line of Howard County. Elevation 30' above Iatan.

Driller's log

	<u>Depth in</u> <u>ft. to</u>		<u>Depth in</u> <u>ft. to</u>
red rock	285	black lime	1588
white sand, salt water	300	blue shale	1596
red beds	312	oil sand	1606
white sand	318	gray limestone	1626
red beds	350	brown shale	1647
soapstone	588	oil sand	1650
red beds, gypsum	600	brown shale	1682
gray limestone	605	sand and gravel	1685
oil sand	609	salt and shale	1708
gray lime	614	gray limestone	1712
black shale	630	brown shale	1730
red beds with gypsum	705	gray limestone	1760
rock	712	brown shale	1840
red beds	740	white limestone	1900
black slate	760	brown shale	1940
red beds	900	gray limestone	2100
gravel and shale	940	white limestone	2135
red limestone	1000	brown shale	2165
blue shale and shells	1020	blue shale	2171
red beds	1036	blue limestone	2208
gray lime	1040	black slate	2216
blue shale	1048	gray limestone	2308
red shale	1080	white limestone	2326
red beds with gypsum	1120	gray limestone	2345
brown shale	1310	blue slate	2355
rock salt	1318	black limestone	2375
brown shale	1370	gray limestone	2380
rock salt	1400	gray oil sand	2385
brown shale	1426	black limestone	2392
gray limestone	1432	white limestone	2400
brown shale	1465	black slate	2408
white sand	1478	gray lime	2416
gray limestone	1486	oil sand	2420
brown shale	1505	white lime	2434
white sand, 150 ft. water	1540	blue shale	2440
black shale, oil	1562	gray limestone	2460
gray limestone	1568	blue lime	2478

	<u>Depth in</u> <u>ft. to</u>
blue shale & shells	2495
black lime & shale	2560
white limestone	2565
gray lime	2575
brown sand	2579
gray lime	2633
oil sand, production	2655

Casing record:
 Set 15 1/2" at 96'
 " 12 3/4" " 468'
 " 10 " "1697'
 " 8 1/4" "2619'

Well was shot about first week in Jan. 1921. Reported making 50 bbls.

Description of samples by D. D. Christner.

	<u>Depth in feet</u>
Anhydrite and gypsum. The anhydrite is bituminous, and some fragments contain layers and streaks of bituminous material. Some calcareous fragments present. Strong bituminous fumes noted - - - - -	605
Dark gray anhydrite and gypsum. Clear crystals of anhydrite and some fragments of dark dolomitic limestone present - - - - -	1575
Mostly gray dolomitic limestone and anhydrite. The limestone contains streaks of bituminous material. Weak fumes of bitumen and ammonia noted - - - - -	2575
White dolomitic limestone and dark shale. Fumes of bitumen noted -	2590
Gray dolomitic limestone with a considerable amount of dark shale. Fumes of ammonia and bitumen noted - - - - -	2600
Gray dolomitic limestone with a considerable amount of dark shale. Fumes of ammonia and bitumen - - - - -	2615
White dolomitic limestone and gray limestone. Some fragments of black shale present - - - - -	2630
Dark colored dolomitic sandy limestone, very bituminous, and some fragments of anhydrite - - - - -	2642
Dark gray, dolomitic limestone and fragments of black shale. Gives off strong fumes of bitumen - - - - -	2650, 2652

The Triassic probably extends down to 285 ft. From 285 ft. to about 1432 ft. is Permian Red Beds. From 1432 to the bottom of the well is the Lower Permian.

Morrison No. 3-1 A, California Company

Located in the southwest corner of Section 27, Blk. 28, T. N., Westbrook Field. Type Rig--84 feet Standard.

Casing Record: 20" - 29', 15 1/2" - 323', 12 3/4" - 1315', 10" - 1556', 8 1/4" - 2800'

Driller's Log

	<u>Depth in</u> ft. to		<u>Depth in</u> ft. to
red mud	60	salt	1035
sandy blue shale	85	hard gyp	1038
water sand	100	salt	1075
red mud	255	gypsum	1080
sandstone	260	fine red sand	1087
red clay shale	265	gypaum, some salt	1095
gray micaceous sand (water)	270	red sand	1102
red clay, shale, gray sand- stone, lenses	320	gypsum	1107
gray micaceous sand	356	red calcite, sand	1115
red and gray clay shale	365	gypsum	1120
hard red sand	370	red calcite, sand	1130
red and gray clay shale	390	red sandy shale	1150
gray sand with magnetite nodules (water)	410	gypsum	1155
gray sand and chert pebbles	430	red sandy shale, calcite streaks	1235
red sandy shale	445	hard gypsum	1250
soft yellow sand	450	hard red sand	1255
red sandy shale, some gray streaks	503	gypsum	1260
red and gray micaceous sand	515	red water sand	1272
red sandy shale	520	white quartz sand, some gypsum	1298
coarse red and gray quartz sand and gyp	550	lense of dolomite	1300
massive gypsum	557	hard white quartz sand	1317
dolomite	565	red clay shale & gyp	1325
massive gypsum	570	pink quartz sand	1330
red sandy shale and gyp	605	salt	1333
gray sand & gyp	610	fine quartz sand	1342
gyp, some sand	617	red clay shale	1360
red sandy shale	620	pink quartz sand	1370
fine white quartz sand (water)	640	maroon clay shale & gyp	1375
red sandy shale, some thin sands	685	red sand and salt	1380
fine red calcite sand	690	maroon clay shale	1387½
red sandy shale, trace gyp	730	salt	1391
red & gray calcitic sand	735	maroon clay shale with gray streaks (2' lense of anhydrite at 1400' and 1412'. Lense of dolomite at 1430')	1475
very fine bright red sand gypsum	755	fine pink quartz sand	1485
red sandy shale	760	maroon clay shale	1495
salt	767	fine pink quartz sand	1502
fine red sand	790	gray lime	1508
salt	793	soft gray shale	1515
fine red sand	815	gray lime	1520
red sandy shale & gyp	820	soft gray shale, some slate	1530
red sand, salt & gyp	840	gray lime	1535
red sandy shale, some salt salt	890	anhydrite	1542
red sandy shale & salt	907	gray shale	1545
salt	917	gray lime	1558
shale	927	gray slate	1570
salt	932	maroon clay shale	1578
red sandy shale & gyp	947	gray lime	1585
red shale & clay	955	maroon clay shale	1595
salt	960	anhydrite	1598
red clay shale & gyp	980	blue slatay shale	1617
	1007	gray lime	1625
		blue shale	1630
		gray lime	1640

(Mitchell County)

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	<u>Depth in</u> ft. to		<u>Depth in</u> ft. to
gray shale	1645	bituminous shale	2266
gray lime	1657	mottled lime	2277
gray shale	1665	mottled lime and blue slate	2292
gray and brown lime with quartz	1677	brown lime, some anhydrite	2305
soft gray shale	1682	blue slate & bituminous shale	2310
gray lime with quartz crystals	1705	light gray lime	2320
dark slatey shale	1710	gray slate	2335
gray lime	1720	gray lime	2340
soft gray shale	1723	bituminous shale	2348
light brown lime with quartz	1735	light gray lime	2353
gray lime, trace of slate	1760	bituminous shale & blue slate	2358
slate and thin coal seam	1763	gray lime	2378
gray lime, trace of anhydrite and quartz	1790	light brown lime	2388
dark bituminous shale	1797	bituminous shale	2392
soft gray lime, trace of bituminous shale	1890	brown lime, shows some dry oil	2400
dark slate	1900	bituminous shale	2404
gray calcareous shale	1906	brown lime & bituminous	2441
gray lime	1922	gray lime	2453
gray shale	1925	blue slate	2458
mottled gray lime	1940	brown lime	2485
gray lime	1965	light gray lime	2512
gray slate	1968	brown and gray lime	2532
gray lime	1983	blue slate	2536
gray slate	1987	light gray lime & some blue slate	2592
gray lime	1995	blue slate	2596
mottled gray & black lime	2013	gray lime	2613
gray lime	2020	blue slate	2617
mottled lime, some quartz and anhydrite	2037	gray lime	2638
bituminous shale	2045	blue slate	2642
mottled lime some bituminous shale	2098	light brown lime, some blue slate	2681
gray shale	2103	blue slate	2687
soft light brown lime	2118	brown lime	2713
bituminous shale	2125	bituminous shale	1722
gray lime and gray shale	2145	light brown lime	2761
anhydrite	2150	bituminous shale	2766
bituminous shale	2168	light brown oil trace	2785
gray lime	2175	gray lime	2815
anhydrite	2178	bituminous shale	2823
blue slate	2183	gray lime	2827
reddish brown slatey shale	2192	bituminous shale	2840
anhydrite	2197	light brown lime	2859
blue slate	2203	bituminous shale	2866
gray lime	2213	hard sandy brown lime	2875
reddish brown slatey shale	2220	brown lime	2887
anhydrite	2223	blue slate	2891
blue slate with streaks of gray lime	2238	brown lime	2918
anhydrite	2242	blue slate	2922
blue slate	2248	sandy brown lime	2927
gray lime	2257	soft brown sandy lime, oil coming in	2932
		sandy brown lime, showing oil	2940
		sandy brown lime	3025
		sandy brown lime, soft streaks showing oil	3045

(Mitchell County)

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	<u>Depth in</u> <u>ft. to</u>		<u>Depth in</u> <u>ft. to</u>
brown lime, porous	3080	dark gray lime	3955
hard sandy brown lime, 30		gray lime	3969
bbls. oil per 24 hrs.		blue shale	3971
after 180 qt. shot. 300'		dark blue sandy shale	3981
oil in hole in 18 hrs.		light blue shale	4026
after bailing test	3103	dark blue lime	4031
brown lime	3167	dark brown lime, slight show oil	4035
gray lime	3175	very hard dark brown lime	4080
fine gray lime, water	3185	broken lime & blue shale	4100
dark gray lime	3190	water lime (brown lime)	4105
gray lime	3285	sandy brown lime	4118
gray lime	3354	blue shale	4120
sandy gray lime, water	3360	gray lime	4154
gray sandy lime	3380	brown lime and slate	4161
gray lime	3460	blue shale	4185
yellow lime, 1 bbl. water		light blue shale, caving	4195
per hr.	3465	blue shale	4200
gray lime	3490	blue shale caving	4210
gray lime	3512	blue shale	4215
gray lime making some water	3515	hard sandy blue shale	4221
brown lime slightly sandy	3657	hard brown sandy shale	4235
gray lime, making water	3679	broken lime, brown	4260
gray lime	3690	broken gray lime	4446
gray lime making water	3710	blue shale	4449
dark gray lime	3720	broken gray lime	4452
light brown lime	3722	broken gray lime	4462
gray lime	3737	blue shale	4500
gray lime	3757	broken gray lime	4501
light gray lime	3775	blue shale	4514
gray lime	3820	gray lime	4518
soft light brown lime with		blue shale	4535
some anhydrite	3827	broken gray lime	4550
hard light lime	3829	blue shale	4585
soft gray and some light		slate	4590
brown lime	3836	dark gray slate	4600
light to dark gray sandy lime	3878	dark gray slate	4605
very slight show of oil by		gray slate	4615
chloroform test.		blue shale	4644
gray and brown shale, sandy		dark gray lime	4608
lime, slight show of oil		gray lime	4675
by chloroform test	3880	black shale	4687
gray and reddish brown,		brown lime	4695
slightly sandy lime slight		black shale	4700
show oil by chloroform test	3885	dark gray lime	4715
gray "platy" sandy lime.		dark gray lime	4720
Slight show oil chloroform		black shale	4725
test	3893	dark gray lime	4747
gray slightly sandy lime,		black shale	4752
show oil chloroform test	3896	gray slate	4802
light to dark gray lime		gray lime	4815
slightly sandy show oil by		gray lime, 7½ bbls. salt water	
chloroform test	3904	per day	4817
dark gray lime	3905	water sand, making 2 bbls.	
gray lime	3910	salt water per day	4824
gray lime	3947	light gray sand	4830
		dark gray lime	4835

	<u>Depth in</u> <u>ft. to</u>		<u>Depth in</u> <u>ft. to</u>
dark gray lime	4840	gray lime soft making	
dark gray sand	4845	18 bbls. water 24 hrs.	5076
dark gray lime	4875	salt water, gray lime	5087
gray lime	4884	gray lime	5092
hard gray lime	4888	gray hard slate	5110
broken gray lime	4892	gray slate	5130
broken gray lime	4897	dark gray slate	5160
sandy gray lime	4917	dark gray slate	5170
hard gray lime	4926	hard black lime	5180
black lime	4982	black lime	5190
sandy dark lime	4985	gray slate	5240
broken black lime	4995	hard gray lime	5252
dark gray lime	5000	dark gray water sand	5260
black lime	5010	water sand	5276
dark gray lime	5015	hard gray lime	5287
broken black lime	5040	hard gray sand	5291
hard gray lime	5050	gray lime	5295
black lime	5070	hard gray sand. Plugging.	5304

Morrison No. 3-1 A, California Company

Located in the southwest corner of Section 27, Blk. 28, T.N. Description of samples by J. A. Udden and R. T. Short; submitted by Leonard W. Orynski. All the samples are cuttings.

Depth in feet

Light gray limestone. In the washed material a little pyrite is present. Several poorly preserved specimens of *Endothyra crassa* (?), palechinid spine and fragments of crinoid stem noted - - 3803-3810

Very light gray, in part almost white limestone. In the washed material some pyrite noted (4 samples) - - - - - 3810-3835

Light limestone. In the washed material *Endothyra crassa* and some crinoid fragments noted - - - - - 3851-3853

Light gray, organic fragmental limestone - - - - - 3853-3863

Gray limestone and some very dark gray, calcareous shale - - - 3863-3870

Gray and dark gray limestone (4 samples) - - - - - 3870-3885

Gray limestone and some dark gray shaly limestone (4 samples)- 3885-3905

White and gray limestone (2 samples) - - - - - 3905-3915

Gray limestone - - - - - 3915-3920

Gray and light gray limestone (2 samples) - - - - - 3920-3928

Brownish gray limestone. In thin section the limestone was seen to be granular and to contain traces of organic fragments and some small areas of bituminous material. Several sponge spicules and an ostracod

were noted. A little pyrite present. In the washed material pyrite and a few quartz grains were noted. Several sponge spicules and an ostracod present - - - - - 3950-3955

Gray limestone. In washed material a few quartz grains and some pyrite. Sponge spicules present - - - - - 3955-3960

Finely ground up cuttings of dark gray shale and gray limestone - - - - - 3960-3961

Gray calcareous shale (8 samples) - - - - - 3971-4005

Dark gray, calcareous shale - - - - - 4005-4010

Gray, calcareous shale. In washed material pyrite was noted. A few pyritized sponge spicules - - - - - 4013-4020

Dark gray shale and a little gray limestone - - - - - 4020-4025

Gray shale and some dark gray limestone. Imprints of vegetation were noted in the shale. In thin section the limestone is seen to be finely granular, its largest granules showing a yellowish brown color in transmitted light (2 samples) - - - - - 4025-4035

Dark, in part black, calcareous shale, and light gray very fine grained limestone - - - - - 4035-4037

Dark gray shale and light gray, hard and fine grained and siliceous shaly limestone - - - - - 4037-4040

From light gray to almost black, impure limestone of fine texture - - - - - 4041-4045

Light to dark gray, shaly limestone and calcareous shale of fine texture (2 samples) - - - - - 4044-4050

Light gray to black, calcareous shale and impure limestone of fine texture (2 samples) - - - - - 4050-4057

Dark gray and light gray limestone and a little dark gray shale - - - - - 4063-4070

Gray, impure limestone and light gray limestone - - - - - 4075-4080

Gray, calcareous shale, some of which is darker than the rest (2 samples) - - - - - 4082-4092

Gray shale and gray shaly limestone - - - - - 4092-4100

Gray, shaly limestone and some lighter gray limestone -- - - - 4100-4105

Dark gray limestone, and shale (3 samples) - - - - - 4105-4124

Finely ground gray limestone - - - - - 4124-4134

Dark gray, impure limestone of very fine texture, splitting in thin chips (3 samples) - - - - - 4134-4155

Dark, almost black limestone of fine texture - - - - -	4154-4161
Dark gray, calcareous shale (3 samples) - - - - -	4161-4190
Dark gray, shaly limestone, dark gray, calcareous shale and light gray limestone - - - - -	4213-4217
Dark gray shale and gray, shaly limestone (4 samples) - - - - -	4217-4240
Dark gray, shaly limestone and dark gray, calcareous shale (7 samples) - - - - -	4240-4295
Dark and light gray, shaly limestone - - - - -	4295-4300
Gray limestone. In the washed material some pyrite noted. Ostracods and sponge spicules present. In thin section numerous sponge spicules were noted. A <i>Nodosaria</i> , a <i>Valvulina</i> (?) similar to that found in the Spur Well from 4415-4480', a bryozoan, a <i>Trochammina</i> and other organisms. Specks of bituminous material and pyrite - - - - -	
Dark gray and a little lighter gray, shaly limestone (2 samples) - - - - -	4300-4309
Dark gray and a little lighter gray, shaly limestone (2 samples) - - - - -	4309-4330
Black, impure limestone of fine texture and calcareous, black shale - - - - -	4330-4360
Dark gray, shaly limestone (3 samples) - - - - -	4360-4370
Dark, almost black limestone of fine texture - - - - -	4370-4387
Black limestone and black calcareous shale - - - - -	4387-4395
Dark, almost black limestone of fine texture - - - - -	4395-4410
Almost black limestone and some black, calcareous shale (2 samples) - - - - -	4410-4420
Black shale and black limestone - - - - -	4420-4435
Dark gray, calcareous shale with some black limestone(2 samples)	4435-4450
Dark gray, calcareous shale and some gray limestone - - - - -	4450-4455
Gray, slightly calcareous shale - - - - -	4455-4460
Dark gray, calcareous shale - - - - -	4470-4480
Dark gray, slightly calcareous to non-calcareous shale (4 samples) - - - - -	4480-4505
Dark gray, slightly calcareous shale - - - - -	4515-4518
Dark gray, non-calcareous shale - - - - -	4518-4533

Depth in feet

Dark gray, calcareous shale (2 samples) - - - - -	4535-4545
Dark gray, calcareous shale - - - - -	4545-4553
Dark gray, non-calcareous shale and a few fragments of soft, white limestone. In the washed material some pyrite and shell fragments noted - - - - -	4555-4565
Dark gray, slightly calcareous shale (2 samples) - - - - -	4565-4585

Richardson No. 1, California Company

Located on Section 64, Blk. 27, T. & P. Survey, and about 6 miles southwest of Colorado, Texas. Description of samples by D. D. Christner and R. T. Short; submitted by L. W. Orynski.

Depth in feet

Brown calcareous shale and some brown sandy shale - - - - -	45-85
Gray calcareous sandy shale and some very fine grained sandstones. A <u>Globigerina</u> and a <u>Textularia</u> noted. Pyrite is present - - -	85-120
Gray and dark gray very fine grained silt rock, containing some small pockets of fine sandstone - - - - -	120-125
Like sample from 85-120 feet. Several forms of foraminifera were noted - - - - -	125-180
Coarse gravelly sand, many broken fragments of pebbles up to ten mm. in length are present. Some pyritized fragments of wood are present. Some phosphatic material is also present (2 samples) - -	180-210
Reddish brown sandy shale, containing many irregularly circular areas of greenish gray sand and gray sandy shale - - - - -	210-270
Reddish brown, slightly calcareous, coarsely micaceous silt rock and light gray fine grained micaceous sandstone - - - - -	270-280
Brown indurated silt rock and some coarse gravelly sand - - - - -	280-440
White fine grained sandstone, containing much gypsum - - - - -	440-455
Reddish brown sandy shale, containing spots and irregular streaks of gypsum and light greenish gray fine sandstone - - - - -	455-490
Gray sandy shale and brown finely micaceous very fine grained sandstone and silt - - - - -	490-520
White to slightly brownish gypsum - - - - -	520-535
White gypsum and anhydrite and a few fragments of brown shale - -	535-545

	<u>Depth in feet</u>
Brick red, sandy shale, containing many small lumps of gypsum and some small irregular greenish gray areas (2 samples) - - -	590-638
Mainly salt. Much red sandy salt, shale and some very fine grained sandstone are present - - - - -	638-845
Gypsum, some anhydrite and brown shale - - - - -	845-852
White and pink gypsum, anhydrite and much salt - - - - -	852-905
Reddish brown, sandy shale. Some anhydrite and a little salt noted - - - - -	905-920
Red sandstone, red shale and red sandy shale - - - - -	970-1010
Mainly anhydrite. Pink gypsum noted - - - - -	1010-1090
Very fine grained pinkish sandstone and red sandy shale. Considerable amount of anhydrite present - - - - -	1090-1095
Very fine grained gray dolomite - - - - -	1330-1340
Light gray, gray, and dark gray very fine and even grained dolomite containing crystalline areas of anhydrite - - - - -	1460-1465
Dark gray dolomite which is impregnated with bituminous material (2 samples) - - - - -	1465-1475
Dark gray dolomitic shale and gray very fine grained sandstone -	1790-1810
Gray and dark gray dolomite and some anhydrite. Several indistinct outlines were noted which suggest an organic origin - - -	1810-1820
Gray, very fine grained to finely granular dolomite and some anhydrite - - - - -	1920-1940
Light gray and gray dolomite and dark gray, non-calcareous shale (2 samples) - - - - -	1940-1985
Dark brown shale and anhydrite (2 samples) - - - - -	1985-2045
Green and dark brown indurated shale, containing much anhydrite. Some fine sand and a very little dolomite are present - - - - -	2050-2100
Gray dolomite. In washed material some white anhydrite was noted	2172-2180
Gray dolomite and a little dark gray shale - - - - -	2442-2455
Gray dolomite and some black shale - - - - -	2460-2475
Gray and dark gray dolomite and a little black shale - - - - -	2475-2575
Gray dolomite and some black shale - - - - -	2575-2590
Gray and dark gray dolomite and a little black shale - - - - -	2590-2755

Gray dolomite and some black shale - - - - -	2755-2770
Gray dolomite (2 samples) - - - - -	2770-2782
Gray dolomite and dolomitic limestone and very dark gray, non-calcareous shale - - - - -	2790-2800
Light gray dolomite and dark gray and dark greenish gray shale (2 samples) - - - - -	2800-2820
Gray dolomite (4 samples) - - - - -	2820-2860
Dark gray, non-calcareous shale and gray dolomite - - - - -	2860-2870
Dark gray shale of fine and even texture and light gray dolomite (2 samples) - - - - -	2870-2890
Dark greenish gray shale of fine and even texture and very light gray dolomite - - - - -	2890-2900
Light gray dolomite and some dark gray non-calcareous clay - - -	2920-2930
Dark gray dolomite, dark gray shale and a little anhydrite. In washed material some pyrite noted - - - - -	2930-2940
Gray and light gray dolomite and dark gray and dark greenish gray, non-calcareous shale - - - - -	2940-2950
Dark gray, non-calcareous shale and a little light gray dolomite	2950-2960
Dark gray, non-calcareous shale and a very light gray dolomite -	2960-2970
Light gray and gray dolomite and dark gray non-calcareous shale (2 samples) - - - - -	2980-2990
Gray dolomite and dark gray non-calcareous shale (2 samples) - -	2990-3010
Gray dolomite and a little dark gray shale - - - - -	3010-3020
Gray dolomite and dark gray, non-calcareous shale - - - - -	3020-3030
Gray and light gray dolomite, dark gray, non-calcareous shale and some anhydrite (2 samples) - - - - -	3030-3050
Gray dolomite and dark gray non-calcareous shale (2 samples) - -	3050-3070
Dark gray and dark greenish gray non-calcareous shales and light gray dolomite (2 samples) - - - - -	3070-3090
Dark greenish gray shale, dark gray shale and a little white anhydrite (2 samples) - - - - -	3090-3110
Dark gray shale, gray dolomite and white anhydrite (3 samples) - -	3110-3140
Gray dolomite and a little black shale - - - - -	3140-3150

Light gray dolomite and a little dark gray shale (3 samples) -	3150-3180
Light gray dolomite and dark gray non-calcareous shale (2 samples) - - - - -	3180-3200
Light gray dolomite and dark gray non-calcareous shale (2 samples) - - - - -	3200-3220
Brownish gray dolomite and a very little dark gray shale and anhydrite (2 samples) - - - - -	3220-3240
Gray and light gray dolomite and a little dark gray shale - -	3240-3250
Light gray dolomite and a little dark gray non-calcareous shale (2 samples) - - - - -	3250-3270
Dark gray dolomite and a little black shale - - - - -	3270-3280
Black non-calcareous shale and gray dolomite (2 samples) - - -	3280-3300
Gray and light gray dolomite and dark gray shale - - - - -	3300-3310
Dark gray non-calcareous shale and light gray dolomite. In the washed material pyrite and anhydrite were noted (2 samples) - -	3310-3330
Light gray limestone and dark gray non-calcareous shale - - -	3330-3340
Light gray limestone and dolomite and dark gray non-calcareous shale (2 samples) - - - - -	3340-3360
Dark gray non-calcareous shale, light gray limestone and light brown dolomite. In the washed material some anhydrite, pyrite and a little carbonized wood were noted. In thin section the dolomite was seen to be crystalline while the limestone has numerous rhombohedral crystals of dolomite scattered through a fine grained matrix. In one fragment these were seen to grade into each other. Numerous brown streaks which may be bituminous (?) material were noted, the bituminous(?) material apparently having come into the rock along a fracture. An area of anhydrite present. A Valvulina(?) and other indistinct traces of organic fragments noted - - - - -	3360-3370
Light brown dolomite with a very little white limestone and dark gray shale - - - - -	3370-3380
Finely ground gray and light gray dolomitic limestone and a little black shale (2 samples) - - - - -	3380-3400
Gray dolomitic limestone and dark gray non-calcareous shale - -	3400-3410
Gray dolomite and dolomitic limestone and some dark gray non- calcareous shale (2 samples) - - - - -	3410-3430
Gray and light gray limestone and dark gray shale. In the washed material some anhydrite and a little pyrite. In thin section the limestone was seen to be crystalline and to contain numerous	

specks of bituminous material. Crinoid fragments, Endothyra(?)
Trochamina(?), Climacamina antiqua(?), shell fragments and other
 indeterminate organic fragments noted - - - - - 3430-3440

NOTE: The samples from 45 to 210 feet may be from the basal Cretaceous. However, the only evidence that leads to this possibility is the presence of foraminifera and a pebble conglomerate at 210 feet. The samples from 210-520 feet show the characteristics of the Triassic. The samples are all phosphatic and some of them contain coarse mica flakes. The samples from 500-1400(?) are apparently from the red beds. The lower boundary is by no means definite as the absence of samples both for some distance above and below makes a definite boundary impossible. The samples from 1460-3430 feet are very similar as to lithology. They consist of a series of gray to dark gray dolomites interbedded with some dark gray to black non-calcareous shales. The dolomite is non-fossiliferous for the most part, however, a few of the samples contain indistinct traces of organic life. This series may represent the Clear Fork. The samples from 3430-4350 feet are also very similar as to lithology.

They are a series of highly fossiliferous light to dark gray limestones with some interbedded shale and dolomites. The samples practically all carry an abundance of fossils except where the rock has been dolomitized and the fossils thus obliterated. Mr. Christner makes the following statement in regard to the samples below 3440 feet in this well: "The samples from 4350-4568 feet are very much like the samples examined from the Cain Well in Tom Green County from the depths of 3920-3960 to 4052 feet, which have been determined as Bend in age. The samples from 3440 down to 4350 feet may possibly belong to the Wichita-Albany. There is not sufficient data available from deep wells in Mitchell County from which a more definite correlation can be made." (Signed) D. D. Christner. The rocks below 4350 feet are for the most part dark gray to black chert limestones with some interbedded dark gray to black shale. This series of rocks contains numerous sponges spicules and may correlate with the Bend of central Texas, or the Dimple formation of Trans-Pecos Texas. R.T.S.