

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 99

Roesser & Pendleton-J. J. Weber No. 1
Emmons County, North Dakota
Well #23 - Permit #40

By D. F. Towse and S. B. Anderson
December, 1954

Roesser & Pendleton - J. J. Weber No. 1, Emmons County, North Dakota, SE
1/4 Sec. 35, T.133N., R.76W. Elevation 2012 KB., 2002 GL., Total Depth 5556.

The Roesser & Pendleton-Weber well was spudded August 19, 1950, and 10
3/4 inch casing was set at 185 feet.

The well was completed as a dry hole September 18, 1950, plugged and
abandoned.

Cement plugs were set as follows:

30 sacks at 5200	15 sacks at 2800
20 sacks at 3950	20 sacks at surface

The well was cored at the following intervals:

3374-3397 Recovered 23'
3378-3821 Recovered 43'
5246-5256 Recovered 3½'

No drill stem tests were run on this well.

Formation tops were determined from samples and electric logs. Colors
determined by rock color chart.

FORMATION TOPS

Cretaceous System	
Niobrara	1280
Greenhorn	1857
"Muddy"	2290
Dakota	2500
Jurassic System	
Morrison	2660
Sundance	2692 (Elec. Log)
Piper	2845
Triassic System	
Spearfish	3000
Mississippian System	
Amsden ?	3050
Big Snowy	3100
Charles	3290
Mission Canyon	3430
Lodgepole	3665
Englewood	4010

Devonian System	
Nisku	4060
Duperow ?	4102
Silurian System	
Interlake	4273
Ordovician System	
U. Stony Mtn.	4287
L. Stony Mtn.	4372
Red River	4470
U. Winnipeg ss.	5052
Winnipeg Shale	5088
Winnipeg ss.	5240
Cambrian System ?	
Deadwood	5350
Pre-Cambrian	5545

100-120	Shale, light gray N7, slightly sandy.
-300	No samples.
-420	Shale, light olive gray, micaceous.
-480	Shale, medium light gray, micaceous.
-500	Shale as above, some yellow brown bentonite
-540	Shale as above.
-560	Shale as above, white bentonite, pyrite.
-640	Shale as above.
-740	Shale, light gray, bentonitic, flaky.
-760	No samples.
-780	Shale as above.
-800	Shale as above, white bentonite.
-820	Shale, medium light gray.
-840	Shale as above, some fibrous calcite.
-920	Shale as above.
-960	Shale as above, some bentonite.
-980	Shale as above, yellow brown bentonite.
-1000	Shale as above, some fibrous calcite.
-1040	Shale as above.
-1060	Shale as above, yellow brown bentonite.
-1260	No samples.
-1270	Shale, medium gray, bentonitic, slightly calcareous.
-1280	Shale as above, very calcareous, with small white specks.
-1285	No samples.
-1290	Shale as above.
-1300	Shale, medium light gray, very calcareous, with white specks.
-1340	Shale, as above, very calcareous, abundant white specks.
-1350	Shale as above, some bentonite.
-1360	No samples.
-1370	Shale, medium light gray, calcareous, few specks, much bentonite, dirty sample.
-1400	Shale as above, dirty samples.
-1410	Shale, medium gray, calcareous, much bentonite to fibrous calcite.
-1420	No samples.
-1430	Shale, medium light gray, calcareous.
-1450	No samples.
-1460	Shale as above, much bentonite.

-1470 Shale as above.
-1480 Shale as above, much bentonite.
-1490 Shale as above
-1500 No samples.
-1510 Shale as above, much bentonite.
-1550 Shale as above.
-1570 Shale, medium light gray, some bentonite.
-1580 Shale as above, some bentonite, iridescent shell fragments.
-1590 Shale as above, some pyrite.
-1610 Shale as above, some white bentonite.
-1620 Shale as above.
-1630 Shale as above, iridescent shell fragments.
-1640 Shale as above, some bentonite, to fibrous calcite.
-1650 No samples.
-1670 Shale as above.
-1700 Shale as above, some white bentonite.
-1710 Shale as above.
-1720 Shale as above, bentonite. _
-1750 Shale as above.
-1760 Shale as above, some bentonite.
-1770 Shale as above, bentonite, iridescent shell fragments.
-1780 No samples.
-1790 Shale, medium gray, bentonitic.
-1800 Shale as above, white bentonite.
-1820 Shale as above.
-1830 Shale as above, trace fibrous calcite.
-1840 Shale as above, bentonite.
-1850 Shale as above.
-1860 Shale as above, bentonite.
-1870 Shale, medium gray, white specks, very calcareous, medium gray limestone, soft.
-1880 Shale as above, white specks, fibrous calcite, medium gray limestone.
-1890 No samples.
-1900 Shale as above.
-1920 Shale as above, some limestone.
-1930 Shale as above, much white chalky limestone, fibrous calcite.
-1940 Shale as above.
-1950 Shale as above, very light gray bentonite.
-1960 Shale as above, bentonite, fibrous calcite.
-1970 Shale, medium gray, calcareous, no specks, some limestone.
-1980 Shale as above, fibrous calcite.
-1990 Shale as above, some white bentonite.
-2000 Shale as above, much soft granular limestone as above.
-2010 Shale, medium gray, calcite as above.
-2020 Shale as above, some limestone as above.
-2030 Shale as above, some limestone, some bentonite.
-2040 Shale as above, some limestone.
-2050 Shale and limestone as above, fibrous calcite.
-2056 No samples.
-2060 Shale, medium gray, slightly calcareous, white bentonite.
-2070 Shale, medium gray, micaceous, sparkly, white bentonite, pyrite.
-2080 Shale as above, fibrous calcite.
-2090 Shale as above, some bentonite, pyrite.
-2100 Shale as above, white to light gray bentonite, fibrous calcite.

-2110 Shale as above.
 -2120 Shale as above, flaky.
 -2130 Shale as above, white bentonite, fibrous calcite.
 -2140 Shale as above, white bentonite, shell fragments.
 -2160 Shale as above.
 -2170 Shale as above, some bentonite.
 -2180 Shale as above, bentonite, fibrous calcite.
 -2190 Shale as above, some bentonite, some fine grained bentonitic sandstone.
 -2200 Shale as above, shell fragments, bentonitic sandstone.
 -2210 No samples.
 -2220 Shale medium gray as above.
 -2230 Shale as above, gray bentonite.
 -2240 Shale as above, much gray bentonitic.
 -2250 Shale as above.
 -2260 Shale as above, light gray bentonite.
 -2270 Shale as above, shell fragments.
 -2280 Bentonite, very light gray, slightly sandy.
 -2290 Shale as above, much fine grained gray bentonitic sandstone, Globigerina.
 -2300 Sandstone, fine grained, micaceous, some medium coarse grained, loose, some coal
 -2310 Sandstone as above.
 -2350 No samples
 -2360 Shale, medium dark gray, finely micaceous.
 -2370 Shale as above.
 -2380 Shale as above, some fine medium grained quartz sandstone, loose.
 -2440 Shale as above.
 -2450 Shale as above, white bentonite with biotites.
 -2460 Shale as above, some gray bentonite.
 -2470 Shale as above.
 -2480 Shale as above, some bentonite.
 -2490 Shale as above.
 -2790 No samples.
 -2800 Shale, green gray, much cave.
 -2810 Shale as above, much light brown 5YR6/4 sandy shale, very slightly calcareous.
 -2820 Shale as above, much loose subround coarse quartz sand, probable cave.
 -2830 Shale as above.
 -2840 Shale and cave as above.
 -2850 Shale as above.
 -2860 Limestone, very light gray, porous, coarse oolitic and fragmental.
 -2880 Limestone, very light gray.
 -2890 Limestone as above, same medium gray shale.
 -2900 Shale, medium gray, dirty sample.
 -2910 Shale as above, some green limestone as above.
 -2920 Limestone, white, very fine grained.
 -2930 Limestone, white and pinkish gray, very fine grained, clayey, some green gray shale.
 -2940 Limestone, white and pinkish gray, some green gray shale.
 -2950 Limestone, white, pinkish gray and pale red 10R6/2, shale as above.
 -2960 Shale, green gray, fine grained.
 -2970 Limestone, white, fine grained, clayey.

- 2980 Gypsum, white, medium granular, some light brown 5YR6/6 shale, few coarse rounded sand grains.
- 2990 Limestone as above, sand as above, few coarse rounded sand grains.
- 3000 Shale, mixed green gray and pale red, gypsum.
- 3020 Shale, gray green as above, fine crystalline anhydrite.
- 3030 Shale as above, some moderate red shale 5R5/4.
- 3040 Shale as above, some gypsum.
- 3050 Shale and anhydrite as above.
- 3060 Shale and anhydrite as above, coarse crystalline gypsum.
- 3070 Gypsum, coarse crystalline, white
- 3080 Shale, medium gray, much gypsum.
- 3090 Shale, green gray, some medium gray shale.
- 3100 Shale as above, some calcareous shale.
- 3110 Shale, dark gray, carbonaceous to coaly, some gypsum.
- 3120 Shale, green gray, some gypsum.
- 3130 Shale and gypsum as above, some calcareous shale.
- 3140 Shale, pale red brown 10R5/4, much gray anhydrite.
- 3150 Shale, dark gray carbonaceous as above, some red brown shale and gypsum.
- 3160 Shale, light gray, bentonitic, iridescent shell fragments, much cave.
- 3170 Shale as above, some pale red 5R6/2 limestone and shale, some gypsum, cave.
- 3180 Limestone, very light gray, medium granular, some gypsum.
- 3190 Limestone, white, yellow gray, medium granular.
- 3200 Limestone as above, chert and medium gray shale.
- 3210 Gypsum, white medium crystalline, some loose sand, mostly cave.
- 3220 Gypsum as above, some red brown shale, much cave.
- 3230 Shale, light gray, medium gray dense limestone, some gypsum, much cave.
- 3250 Shale as above, dark gray carbonaceous shale, some limestone, much cave.
- 3260 Limestone, white to pink gray, fine granular, dirty.
- 3270 Limestone, white to pink gray, some loose sand, dirty.
- 3280 Shale, medium brown and medium gray, some limestone and gypsum.
- 3290 Limestone, pink gray, fine grained to medium crystalline.
- 3300 Limestone as above, some loose coarse rounded sand.
- 3310 Limestone, pink gray, some medium fragmental.
- 3320 Limestone as above, some medium gray shale.
- 3350 Limestone, pink gray.
- 3360 Limestone as above, some medium gray to dark gray shale.
- 3370 Limestone as above.
- 3376 Limestone as above, slight stain, some light fluorescence.

Core 3374-97 (Chips)

- 3379 Limestone, very light gray to yellow gray, medium granular, few vugs, very slight stain, very small pinpoint fluorescence.
- 3384 Limestone, medium light gray, fine grained massive, with streak of white rounded sandy limestone, with coarse rounded gray to white quartz grains.
- 3389 Limestone, conglomerate, white limestone sharpstone to 3/4", poorly sorted, much gray limestone matrix.

- 3394 Limestone, fractured, white to yellow gray, with carbonaceous residue on fractures, medium granular dolomite and limestone in thin 1/4" beds, slight fluorescence, odor with acid, tight.
- 3397 Limestone, yellow gray, fine crystalline to medium fragmental, salt in some vugs.
- 3400 Limestone, yellow gray, mostly cave.
- 3410 Limestone, yellow gray, medium fragmental as above.
- 3420 Limestone as above, some medium gray shale.
- 3430 Limestone as above, some chert, shell fragments.
- 3440 Limestone as above, trace medium light gray splintery shale.
- 3450 Limestone as above, some chert.
- 3480 Limestone as above.
- 3490 Limestone as above, some chert.
- 3500 Limestone as above, some gypsum.
- 3510 Limestone as above, slightly vugular.
- 3520 Limestone, yellow gray.
- 3530 Limestone, coarse fragmental, porous, slightly oolitic.
- 3540 Limestone, yellow gray.
- 3550 Dolomite, pale yellow brown, coarse fragmental, porous.
- 3560 Limestone, yellow gray, coarse oolitic, porous.
- 3570 Limestone, yellow gray, coarse fragmental, slightly porous, some fine grain sandy dolomite, pale yellow brown, light stain, good fluorescence, odor of acid, no cut.
- 3600 Yellow gray limestone.
- 3610 Limestone, light gray, medium grained, porous.
- 3620 Limestone, light gray, some white chalky limestone.
- 3630 Limestone, light gray to yellow gray, coarse fragmental, porous.
- 3660 Limestone, yellow gray, coarse fragmental, porous.
- 3670 Limestone, yellow gray, much medium gray shale.
- 3680 Limestone as above, loose oolitic.
- 3690 Limestone as above, chert and medium gray shale.
- 3710 Limestone as above, much medium to light gray shale.
- 3720 Limestone as above, chert.
- 3730 Limestone as above, much medium gray shale.
- 3740 Limestone as above, shale as above, chert.
- 3750 Limestone, white to pink gray, fine grained, some loose medium sand.
- 3760 Limestone as above.
- 3778 Limestone as above, much medium gray shale.

Cored 3678-3821 (chips 1 foot)

- 3784 Limestone, medium light gray, fine grained, dense, with some dark gray shale.
- 3785 Limestone, medium gray, fine grained with abundant brachiopod fragments.
- 3790 Limestone, medium light gray, fine grained, dense.
- 3798 Limestone, medium light gray, fine to medium grain to crystalline, dense, brachiopods.
- 3799 Limestone, medium dark gray, medium crystalline, thin bedded with thin light gray beds.
- 3805 Limestone, medium light to light gray, medium crystalline, sandy with some very sandy streaks, some thin bedding, mostly tight.
- 3809 Limestone, light gray, shaly, fine grained, tight.
- 3810 Limestone, light gray, medium crystalline and fragmental dense.

- 3811 Limestone, light gray, fine grained to medium fragmental, carbonaceous shaly material.
- 3813 Limestone, medium light gray, coarse crystalline to fragmental, brachiopod shells.
- 3816 Limestone, medium light gray, fine grained, some stylolitic fractures.
- 3817 Limestone, medium light gray, medium crystalline to fragmental.
- 3819 Limestone, yellow gray, with white crystalline specks, medium crystalline to fragmental, some pinpoint porosity.
- 3820 Limestone, very light brown gray, 5YR7/1, medium crystalline, tight, small brachiopod shells.
- 3821 Limestone, medium light gray, fine crystalline, with very thin streaks of dark shale.
- 3825 No samples.
- 3845 Limestone, light gray to white, medium grain.
- 3850 Limestone, white to yellow gray, fine grained to medium fragmental, porous.
- 3865 Limestone as above.
- 3870 Limestone as above, some medium gray shale.
- 3875 Limestone as above, shell fragments.
- 3915 Limestone, white to yellow gray.
- 3920 Limestone as above, some medium gray shale.
- 3925 Limestone, white to yellow gray, medium fragmental, porous as above, some medium gray shale.
- 3960 Limestone, white chalky to fine crystalline.
- 3980 Limestone as above, some brown-black carbonaceous shale.
- 4000 Limestone, very pale orange, some moderate brown shale, shale as above.
- 4020 Limestone as above, medium gray shale.
- 4030 Limestone and shale as above, pyrite.
- 4040 Limestone and shale as above.
- 4050 Medium gray shale, some dark gray shale.
- 4070 Shale, medium dark gray.
- 4080 Limestone, yellow gray, coarse crystalline.
- 4081 Sandstone, loose, medium to coarse, angular to subround quartz, white, pink, light gray.
- 4090 Sandstone as above.
- 4100 Dolomite, light brown gray, coarse crystalline, few small vugs.
- 4110 Dolomite, light brown gray as above, some granular, porous.
- 4130 Dolomite, light brown gray.
- 4140 Dolomite, white, medium granular, porous.
- 4160 Limestone, light brown gray, medium granular, porous.
- 4200 Limestone, light brown gray to very pale brown 5YR6/2, medium granular, porous, stain plus good fluorescence. No Cut.
- 4210 Cherty.
- 4220 Limestone, white, pinkish gray and medium crystalline, cherty, some dusky yellow gray 5GY5/2 shaly limestone.
- 4230 Limestone, white, pinkish gray.
- 4240 Limestone as above, some medium gray shale.
- 4260 Limestone as above.
- 4270 No Sample.
- 4280 Limestone as above, much loose, coarse subround sand.
- 4290 Dolomite, white, very fine grained.
- 4330 Limestone, white, pinkish gray, very fine grained.

-4340 No sample.
 -4350 Limestone as above, much medium to light gray shale.
 -4380 Dolomite, white to yellow gray, fine granular, porous, slightly sandy.
 -4400 Limestone, light gray, fine grained, cherty, medium gray shale.
 -4410 Limestone and shale as above, (lost circulation material - oats).
 -4420 Limestone as above, some medium gray shale.
 -4460 Limestone as above, much medium gray shale.
 -4470 Limestone as above, few loose sand grains, much medium gray shale, bryozoa.
 -4480 Limestone and shale as above, few loose sand grains.
 -4500 Limestone, white, fine grained.
 -4510 Dolomite, very light gray to pink gray, coarse fragmental, good intergranular porosity.
 -4530 Limestone as above.
 -4540 Limestone as above, some medium gray shale.
 -4550 Limestone as above.
 -4560 Limestone, white to pinkish gray, fine grained, some medium gray shale.
 -4580 Limestone as above.
 -4590 Limestone, white to pinkish gray, slightly dolomitic, some chert.
 -4600 Limestone as above, few vugs.
 -4650 Limestone, white to pinkish gray, fine granular as above, slightly sandy.
 -4670 No samples.
 -4680 Limestone, white to pinkish gray, fine grained as above.
 -4690 Limestone as above, some chert and medium gray shale, crinoid columned.
 -4700 Limestone, white to pinkish gray.
 -4720 Limestone as above, very fine grained.
 -4740 Limestone as above, some medium granular porosity.
 -4760 Limestone as above.
 -4770 Limestone as above, some medium grain, porous.
 -4780 Limestone as above, much chert.
 -4820 Limestone as above.
 -4830 Limestone, white to very light gray, coarse fragmental porous with gray chert.
 -4840 Limestone, white to very light gray.
 -4850 Limestone, white to pinkish gray and fine grained as above.
 -4860 Limestone, pinkish gray, fine crystalline, much greenish gray fine grain shale.
 -4890 Limestone as above.
 -4900 Limestone as above, shell fragments, pyrite.
 -4910 Limestone as above.
 -4920 Limestone as above, greenish gray shale.
 -4930 Limestone as above, some greenish gray shale.
 -4940 Limestone as above, much greenish gray shale, shell fragments.
 -4950 Limestone and shale as above.
 -4970 Limestone as above, some light olive gray, medium crystalline limestone.
 -4980 Limestone as above.
 -4990 Limestone as above, some greenish gray shale.
 -5000 Limestone as above.
 -5010 Limestone as above, some medium gray shale.

-5030 Limestone white to very light gray, fine grained.
 -5040 Limestone as above, trace moderate brown shale.
 -5050 Limestone as above.
 -5060 Limestone as above, trace medium gray shale.
 -5070 Limestone as above.
 -5100 Silt, light gray, porous, coarse silt to very fine sandstone.
 -5120 Shale, light gray.
 -5130 Shale, green gray, fine grained.
 -5160 As above, flaky, splintery.
 -5180 As above, some limestone and pyrite.
 -5190 As above, some limestone, trace sandstone.
 -5200 Shale, dark gray, carbonaceous, flaky.
 -5220 Shale, greenish gray as above, some rusty orange shale.
 -5230 Shale as above, trace limestone.
 -5240 Shale, green gray as above, some silt.
 -5246 No samples.
 -5256 Sandstone, Core 5246-56 (rec. 5 1/2' (chips) (some green gray shale interbedded).
 -5260 Sandstone, mostly cave, (fine medium grain, well sorted, pink gray to light gray, porous, sa-sr quartz, no shows at 5256.)
 -5270 No samples.
 -5280 Sandstone as above, few coarse rounded frosted quartz.
 -5340 Sandstone, loose, coarse, subround quartz, frosted.
 -5350 Sandstone, fine grained, yellow gray, porous, poor sorting, some medium grains.
 -5360 Sandstone, fine grained, yellow gray, much loose coarse sand.
 -5370 Sandstone as above, much rounded, glauconite.
 -5400 Sandstone as above.
 -5410 Sandstone as above, some medium gray shale, glauconite.
 -5420 Sandstone as above.
 -5430 Sandstone as above, with glauconite and dark femic pellets.
 -5440 Sandstone as above.
 -5460 Sandstone as above, pyrite.
 -5470 Sandstone as above, some muscovite.
 -5480 Sandstone as above.
 -5500 Sandstone as above, some medium gray shale.
 -5510 Sandstone as above.
 -5530 Sandstone as above, some greenish gray shale.
 -5550 Sandstone as above.
 -5555 Granite.
 -5556 Granite, medium green.
 Total Depth