

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 272

Summary of the Pel-Tex Petroleum Co., Conoco - Herrmann No. 1
Mercer County, North Dakota
Well No. 4177 - Permit No. 4189

y Clarence G. Carlson
May 1967

The Pel-Tex Petroleum, Conoco - Herrmann No. 1 well is located in NE SW Section 17, T. 145N., R. 88W., Mercer County, North Dakota. Elevation: 2192 G.L., 2203 K.B.

The well was spudded November 8, 1966, drilled to a total depth of 8,057 feet, plugged and abandoned December 2, 1966.

Cores: 7962-8022

Drill Stem Tests:

7790-7853 Open 10 minutes, shut in 1 hour, open 3 hours, shut in 2 hours. Preliminary opened with very weak blow. Opened with no blow on second flow; remained dead throughout test. Recovered 280 feet of drilling mud; IHP 4265#, IFP 79#, ISIP 3610#, FHP 4265#, FFP 205#, FSIP 3282#, BHT 172° F.

Casing Record: None

Plugging Record:

Cement plugs set as follows
20 sacks 7980-7910
20 sacks 7800-7730
20 sacks 4720-2650
20 sacks 640 thru surface casing
5 sacks surface

Logs:

Laterolog-gamma ray
Sonic, Calipes
Microlaterolog

The formation tops were determined from samples and logs and corrected to log tops. Not all formations were called in the following list. Color names are from the Rock Color Chart of the National Research Council.

FORMATION TOPS

Cretaceous System	
Greenhorn	3954
Mowry	4334
Fall River-Lakota	4700
Jurassic System	5147
Rierdon	5562
Triassic System	
Spearfish	5994

Permian System	
Opeche	6150
Pennsylvanian System	
Minnelusa	6293
(?) Tyler	6870
Mississippian System	
Big Snowy Group	6920
Kibbey Limestone	7169
Madison	7307
Ratcliffe interval	7597
Frobisher-Alida interval	7814

2330-2360	Shale, medium gray and medium light gray, platy and fissile.
2390-2510	Shale, light brownish gray and light to medium light gray, bentonitic.
2510-2540	Shale, medium light gray, lumpy.
2540-2600	Shale, medium dark gray.
2600-2830	Shale, medium light gray, lumpy.
2830-2890	Shale, medium dark gray, platy to lumpy.
2890-2980	Shale, as above; shale, light brownish gray, bentonitic.
2980-3040	Shale, medium dark gray, fissile to platy.
3040-3070	Shale, medium gray, bentonitic, disaggregated.
3070-3310	Shale, medium dark gray, fissile to platy.
3310-3960	Shale, medium light gray, lumpy to platy.
3960-4750	Shale, dark gray, platy.
4750-4780	A few chips of sandstone, colorless to light gray, very fine to fine grained, slightly calcareous; mostly shale.
4780-4810	Shale, as above.
4860-5140	A few chips of sandstone, light gray, very fine to fine grained, slightly calcareous; shale, medium and dark gray.
5140-5240	Shale, medium gray and dark gray.
5240-5360	Shale, as above and sandstone, light gray, very fine to fine grained, calcareous.
5360-5440	Traces of shale, greenish gray, fissile, slightly calcareous; sandstone, light gray, very fine to fine grained, slightly calcareous, gray shale cavings.
5440-5560	Gray shale cavings; a little sandstone, as above.
5560-5660	Shale, greenish gray, fissile, calcareous.
5700-5720	Shale, as above.
5720-5760	Shale, as above; sandstone, light gray, very fine to fine grained, calcareous.
5760-5790	Shale, greenish gray and olive gray, fissile, calcareous.
5790-5800	Traces of shale, pale reddish brown, lumpy, calcareous, much cave.
5800-5830	Dolomite, yellowish gray, finely crystalline; a little chert; much shale cave.
5830-5890	Dolomite, yellowish gray, finely crystalline, limy, some chert, light gray.
5890-5940	Limestone, very light gray, finely crystalline.
5940-5980	Limestone, as above; traces of shale, pale reddish brown.
5980-6060	Shale, pale reddish brown to moderate reddish brown, lumpy, slightly calcareous; a little anhydrite.
6060-6080	Shale, as above and siltstone, moderate reddish orange, slightly calcareous, some anhydrite.
6080-6150	Traces of shale and siltstone, as above; mostly gray shale cave.

6150-6180 Traces of siltstone, moderate reddish orange, calcareous, mostly gray shale cave.

6180-6190 Limestone, light gray, finely crystalline; some siltstone, as above.

6190-6300 Siltstone, moderate reddish orange, scattered sand grains, calcareous; some shale, pale reddish brown, lumpy.

6300-6360 Siltstone, as above; some anhydrite.

6360-6370 Dolomite, moderate orange pink to grayish pink, very finely crystalline.

6370-6440 Dolomite, as above; a little chert, white.

6440-6480 Dolomite, very light gray to grayish pink, finely crystalline.

6480-6610 Dolomite, as above; some sandstone, pinkish gray, very fine to fine grained, calcareous.

6610-6630 Sandstone, pinkish gray to light gray, very fine to fine grained, calcareous; dolomite as above.

6630-6680 Dolomite, grayish pink to light gray, finely crystalline.

6680-6700 Dolomite, as above; shale, grayish red purple, platy, slightly calcareous.

6700-6750 Dolomite, very light gray to grayish pink, very finely crystalline.

6750-6780 Dolomite, as above; some shale, pale red and grayish red purple, platy, calcareous.

6780-6810 Dolomite, as above; shale, variegated, greenish gray, dusky yellow and various shades of red, platy to splintery, calcareous.

6810-6920 Shale, dusky yellow and various shades of red, calcareous; dolomite, as above.

6920-6950 Shale, dark gray and variegated, as above.

6950-7050 Shale, variegated, greenish gray, olive gray and various shades of red, fissile to platy, calcareous.

7050-7060 Shale, as above; traces of sandstone, very light gray, very fine to fine grained.

7060-7070 Sandstone, light gray, very fine to fine grained.

7070-7100 Sandstone, light gray to pale red, very fine to fine grained, silty, calcareous.

7100-7170 Sandstone, pale red to pale reddish brown, very fine to fine grained, silty, calcareous.

7170-7180 Dolomite, pale red, finely crystalline, sandstone, as above.

7180-7190 Dolomite, light gray, finely crystalline.

7190-7230 Limestone, very light gray, fine grained, earthy.

7230-7250 Traces of shale, moderate reddish brown to pale red.

7250-7310 Siltstone, moderate reddish orange, calcareous.

7310-7330 Siltstone, as above; some shale, pale reddish brown, calcareous.

7330-7340 Shale, as above.

7340-7350 Shale, as above; some anhydrite.

7350-7370 Shale, variegated, mostly cave.

7370-7400 Limestone, light gray, finely crystalline, anhydritic; some anhydrite, white.

7400-7420 Limestone, light brownish gray, finely crystalline; some anhydrite, white.

7420-7430 Salt, colorless; anhydrite, white.

(log indicates salt 7382-7413)

7430-7440 Limestone, light yellowish gray, very finely crystalline.

7440-7470 Limestone, light yellowish gray, fine grained, fragmental and earthy.
7470-7480 Limestone, light gray, finely crystalline; some anhydrite; white.
7480-7500 Anhydrite, white and light gray; dolomite, light brownish gray, fine grained, granular.

(log indicates salt 7496-7504)

7500-7510 Limestone, light gray, fine to medium grained, granular; anhydrite, white.
7510-7540 Anhydrite, white to light gray.
7540-7580 Limestone, yellowish brown, fine grained, pinpoint porosity; anhydrite, as above.
7580-7680 Anhydrite, white and light gray, limy.

(log indicates salt 7616-7650)

7680-7700 Anhydrite, as above; some limestone, yellowish brown, fine grained to finely crystalline,
7700-7720 Anhydrite, white and light gray.
7720-7750 Limestone, yellowish brown, fine grained, fragmental and finely crystalline, dense.
7760-7780 Limestone, yellowish gray, fine grained, pinpoint porosity.
7780-7830 Limestone, as above; anhydrite, light gray.
7830-7840 Limestone, yellowish gray, fine grained, fragmental.
7840-7950 Anhydrite, light gray to white.
7950-7960 Anhydrite, white.
7962-7966 Limestone, brownish gray, microcrystalline, dense, with some white to colorless anhydrite inclusions.
7966-7967 Limestone, brownish gray, oolitic or pelletoidal, mostly recrystallized to very finely crystalline, dense.
7967-7968 Limestone, brownish gray, pelletoidal with a finely crystalline matrix.
7968-7969 Limestone, as from 66-67.
7969-7970 Limestone, light brownish gray, oolitic to pelletoidal with matrix infilled by colorless calcite.
7970-7972 Limestone, very light brownish gray, oolitic to pelletoidal.
7972-7978 Limestone, brownish gray, oolitic to pisolitic, mostly recrystallized to finely crystalline, dense.
7978-7980 Limestone, light brownish gray, oolitic to pisolitic, partially recrystallized to finely crystalline, limestone, some infill with clear calcite.
7980-7982 Limestone, light yellowish gray, fine grained, granular, some stylolites.
7982-7984 Limestone, light yellowish gray, fine grained, fragmental, granular.
7984-7986 Limestone, light yellowish gray, pelletoidal to oolitic, some clear calcite infill.
7986-7990 Limestone, light yellowish gray, oolitic to pelletoidal, partially recrystallized to finely crystalline.
7990-7995 Limestone, light yellowish gray, fine grained, fragmental (ostracod at 90).
7995-7997 Limestone, light brownish gray, fine grained, fragmental.
7997-7998 Limestone, as above; but oil stained.

7998-8003 Limestone, very light brownish gray, fine grained, fragmental, scattered stylolites.

8003-8011 Limestone, light brownish gray, fine to medium crystalline, dense; spotty dead oil stain (05-11).

8011-8020 Limestone, light brownish gray, fine to medium crystalline, fragmental, fossiliferous, spotty dead oil stain, dense.

8020-8021 Dolomite, very light brownish gray, fine grained, granular, limy with thin carbonaceous banding.

8023-8030 Cavings.

8030-8040 Limestone, light brownish gray, fine grained, fragmental.

8045 Limestone, light brownish gray, fossiliferous, fragmental with a finely crystalline matrix.