North Central Oil Corporation, Arthur Pearson #1, Bottineau County, North Dakota, Location: C NW NW Sec. 36-163N-83W. Elevation: 1564 ground.

The North Central Oil Corporation, Arthur Pearson #1 was spudded October 19, 1956, was drilled to a total depth of 4014 feet and completed as an oil well November 17, 1956. The initial production was 255 barrels per day, 200 to 1 gas-oil ratio, 9.5% water, 28.5 gravity.

Logging Record:
Schlumberger electric log and microlateral log.

Coring Record:
3812-3825; 3825-69; 4004-14.

Testing Record:
DST #1, 3814-25, misrun.

DST #2, 3812-25, open 2 hours, recovered 183' mud, slightly cut with salt water. FP 105#, 30 min. SIP 1650'.

DST #3, 3847-69, open 2 hours, recovered 130' mud, slightly water cut with few flecks of oil. FP 115-195#, 30 min. SIP 1845#.

DST #4, 4000-4014, open 1 hour, recovered 70' heavily oil and gas cut mud, 210' oil FP 75#, 20 min. SIP 1550#.

DST #5, 3998-4014, open 3 hours, recovered 100' heavily oil and gas cut mud, 400' clean oil. FP 75-250#, 45 min. SIP 1649#.

Casing Record:
8 5/8" set at 349' KB with 175 sacks of cement.
5 1/2" set at 4001' KB with 100 sacks of cement.

Perforation Record:
Open hole. Acidized with 250-250-250-1000 gallons from 4001' to 4014'.

Formation tops were determined from samples and electric logs, corrected to the electric logs. Doubtful or obscure formations were not picked. Color names and identifying numbers were taken from the 1948 Rock-Color Chart which is distributed by the National Research Council, Washington, D.C.
Cretaceous System
  Pierre formation  400
  Niobrara formation 1748
  Greenhorn formation 2029
  Basal Cretaceous Ss. 2548

Jurassic System 2970
  Piper limestone 3372

Triassic System
  Spearfish formation 3638

Mississippian System
  Charles formation 3850

360-420 Shale, medium light gray, lumpy, sandy. Dolomite fragments, very light gray to yellowish gray, grainy, sublithographic.

420-470 Shale, medium light gray, lumpy to platy, slightly micaceous.

470-660 Shale, medium light gray, platy, well indurated.

660-840 Shale, light gray to medium gray, lumpy to compact.

840-1140 Shale as above, compact.

1140-1900 Missing.

1900-1940 Shale, medium dark gray, white calcareous specks; shale, medium light gray to medium dark gray, calcite veinlets. Inoceramus prisms, shell fragments.

1940-2030 Shale, medium light gray, some fragments bentonitic to medium dark gray compact. Crystalline pyrite, Inoceramus prisms. Shale as above.

2030-2080 Shale, medium dark gray, compact, white calcareous specks, crystalline calcite veinlets and inclusions, Inoceramus prisms. Shell fragments.

2080-2130 Shale, grayish black, platy, compact; shale, as above; crystalline pyrite; Inoceramus prisms.

2130-2150 Shale, medium light gray to medium gray, calcareous, compact Inoceramus prisms, shell fragments.

2150-2170 Shale medium dark gray, platy, calcareous to dark gray, platy.

2170-2360 Shale, medium dark gray, platy to medium gray shale with some fragments sandy, calcareous.

2360-2390 Shale as above, shale, dark gray, platy.

2390-2540 Shale, medium dark gray, platy to medium light gray, slightly bentonitic. Irregular fragments.

2540-2560 Shale as above; quartz coarse sand grains and granules, sub-round to sub-angular, vitreous to frosted, colorless.

2560-2580 As above; Occasional medium grained sandstone fragments, sub-angular, well sorted, calcareous cement.

2580-2640 Quartz sandstone, coarse grains to granules, sub-round to sub-angular, frosted and pitted, colorless, very friable.

2640-2660 Quartz sandstone, colorless, medium grained, sub-angular, well sorted, frosted, pitted, calcareous cement; sandstone as above.

2660-2750 Shale, medium light gray to medium dark gray, lumpy to platy. Shell fragments, crystalline pyrite.

2750-2770 Shale as above, siltstone, very light gray, calcareous.

2770-2780 As above; sandstone, fine grained, very light gray, well sorted, pyritic.
2780-2810 Very coarse quartz sand grains, colorless to grayish pink, sub-angular to sub-round, frosted, pitted, sandstone as above.
2810-2850 Shale, medium gray to medium dark gray, soft, platy; scattered sand grains and sandstone fragments as above. Cavings.
2850-2880 Sandstone, very light gray, fine grained, sub-angular, vitreous to frosted, calcareous.
2880-2890 Sandstone, very light gray, medium grained, sub-round to sub-angular, vitreous to frosted, friable, calcareous.
2890-2920 Sandstone as above; unconsolidated quartz granules, sub-angular colorless to pale red.
2920-2940 Siltstone, very light gray, calcareous; shale, medium light gray to medium dark gray, platy.
2940-2960 Shale as above.
2960-3000 Shale as above; siltstone to very fine sandstone, very light gray, calcareous.
3000-3010 Shale, medium dark gray, platy, to medium light gray, lumpy, soft.
3010-3040 Missing.
3040-3080 Shale as above.
3080-3170 Shale, medium light gray to greenish gray (5GY6/1), platy, shell fragments.
3170-3210 Shale, grayish red (10R4/2) platy to splintery; shale as above.
3210-3220 Shale as above, limestone fragments, very light gray, sublithographic, very fine granular texture.
3220-3230 Shale, grayish red (10R4/2) to light olive gray, platy to splintery, calcareous; limestone as above.
3230-3270 As above; siltstone to very fine grained sandstone, very light gray to light greenish gray (5GY8/1), calcareous.
3270-3290 Limestone, very light gray, granular, sublithographic to light gray, lithographic, subcrystalline and fractured. Sandstone, light gray, very fine grained, calcareous cement.
3290-3300 Sandstone as above.
3300-3370 Shale, grayish red (10R4/2) to light greenish gray, splintery, sandstone, very light gray, fine to medium sub-angular fragments, calcareous cement.
3370-3380 Shale as above.
3380-3420 Dolomitc limestone, very light gray, sublithographic, very fine granular texture, small vugs and minor pinpoint porosity, secondary crystalline anhydrite replacement. Fossiliferous.
3420-3435 Sandstone, very light gray, fine to medium grained, sub-angular, calcareous cement. Limestone as above.
3435-3490 Limestone, very light gray, sublithographic, subcrystalline to very fine granular texture, dense.
3490-3540 Shale, medium light gray to medium gray, platy, calcareous, limestone as above; anhydrite, white, crystalline.
3540-3600 Anhydrite, white to light gray, crystalline to subcrystalline; limestone as above.
3600-3610 Anhydrite, white, crystalline to light gray, subcrystalline, dense. Pyrite crystals.
3610-3640 Anhydrite as above interbedded with very light gray, subcrystalline, sublithographic limestone.
3640-3660 Shale, moderate brown (5YR4/4) compact.
3660-3670 Siltstone, pale yellowish brown to light brown, slightly calcareous, anhydritic. A few medium sand grain inclusions. Shale as above.
3670-3740 Sandstone, light brown (5YR6/4), very fine grained, slightly calcareous. Shale, siltstone as above.
3740-3750 Sandstone, light brown (5YR6/4), very fine to medium grained, sub-rounded, some interbedded anhydrite, slightly calcareous, fair sorting.
3750-3760 Sandstone, light brown, very fine grained, some medium grain inclusions, as above.
3760-3791 Shale, pale brown, platy, compact. Sandstone as above.
3791-3800 Circulation 1 hour. Shale, pale red, platy, compact. Sandstone as above.
3800 Sandstone, light brown (5YR6/4), very fine grained, anhydritic, shale as above.

Core Chips
3812-3813 Dolomitic limestone, very light gray, subcrystalline, sub-lithographic, argillaceous. Reddish stains and dark gray, very thin stringers throughout.
3813-3814 Dolomitic limestone, very light gray, subcrystalline, sub-lithographic. Rust spots.
3814-3815 Dolomitic limestone as above. Some dark, crystalline inclusions.
3815-3820 Limestone, very light gray, grainy texture with scattered light olive gray crystals, sublithographic. Occasional vugs filled or partially filled by calcite crystals and anhydrite inclusions.
3820-3832 Limestone, very light gray, grainy, disseminated fossilfragments, fine fragmental texture. Occasional vugs as above.
3832-3834 Limestone, very light gray, very fine grainy texture, slightly fragmental, sublithographic, pale brown secondary crystalline calcite inclusions.
3834-3836 Limestone, very light gray, subcrystalline, sublithographic.
3836-3839 Limestone, very light gray, finely fragmental, fossiliferous, sublithographic. Occasional pale red banding.
3839-3842 Limestone, very light gray, subcrystalline, sublithographic.
3842-3843 Limestone, very light gray, finely crystalline, shale streaks.
3843-3844 Limestone, very light gray, subcrystalline, a few shell fragments.
3844-3846 Limestone, very light gray, grainy, finely fragmental, very fossiliferous, sublithographic.
3846-3848 Limestone, light gray, as above.
3848-3853 Limestone, yellowish gray (5Y7/2) to light olive gray (5Y6/1) grainy, finely fragmental, fossiliferous. Intergranular porosity. Slight oil odor. Good fluorescence and good cut with Ccl.
3853-3857 Limestone, very light gray, subcrystalline, sublithographic.
3857-3861 Limestone, very light gray, subcrystalline with secondary pale brown crystalline anhydrite.
3861 Limestone, very light gray, subcrystalline, siliceous.

Samples
3870-3885 Anhydrite, pale red (5R6/2), subcrystalline, dense, calcareous.
3885-3893 Anhydrite, pale yellowish brown (10YR6/2), crystalline, limestone matrix. Limestone, very light gray, very finely granular.
3893 Circulation 1 hour. Anhydritic limestone, yellowish gray, fine granular texture. Anhydrite as above.
3900-3905 Anhydrite, light gray, subcrystalline, dense.
3905-3920 Anhydrite, light gray to pale red, dense.
3920-3960 Anhydrite, light gray, subcrystalline, dense.
3960-3970 Anhydrite as above. Anhydritic limestone, yellowish gray, fine granular texture.
3970-4000 Anhydrite as above.
4000-4011 Cavings.
4011 Circulation 1 hour. Limestone, very light gray, fine granular texture, dolomitic.

Core Chips
4012-4014 Limestone as above. Slight oil shows.
4014-4017 Limestone, pale yellowish brown (10YR6/2), granular, oolitic, vuggy. Good porosity. Oil odor. Good fluorescence and good cut with Ccl₄.
4017-4018 Limestone, yellowish gray (5Y8/1), granular, oolitic, vuggy. Good porosity. Good fluorescence, good cut with Ccl₄ - not as good as above.
4018 Limestone, yellowish gray to very light gray, as above.
4021 Total depth.