

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 126

Summary of the Shell Oil Co. - Joseph Bacher #1  
Pierce County, North Dakota  
Permit #729 - Well #716

By Clarence Carlson

Shell Oil Co. - Joseph Bacher #1, Pierce County, North Dakota. NW NE  
Section 3, T. 158N., R. 70W. Elevation 1597 G.L.

The Shell Oil Co. - Joseph Bacher #1 was spudded October 1, 1954, and 8  
5/8 inch casing was set at 241 feet with 175 sacks of cement. The well was  
drilled to a total depth of 2875 feet, dry and abandoned October 6, 1954.

Plugging Record

2840' with 10 sacks	245' with 10 sacks
2575' with 10 sacks	1830' with 20 sacks
2270' with 10 sacks	surface with 5 sacks

No cores or tests.

Formation tops determined from samples and electric logs, corrected to  
electric logs. Colors determined from the rock color chart. Not all formation  
tops called in following list.

FORMATION TOPS

Cretaceous System	
Niobrara Formation	970
Greenhorn Formation	1395
Dakota Sand	1778
Jurassic System	
Jurassic Shale	2090
Piper Lime	2255
Triassic System	
Spearfish Formation	2458
Mississippian System	
Lodgepole Formation	2560
Englewood Formation	2788
Devonian System	
Nisku Formation	2825

0-60	Glacial till, light brownish gray, silt and sand, sand being medium to coarse, rounded to subangular quartz.
60-120	Shale, medium light gray, lumpy, compact.
120-180	Shale, medium light gray, micaceous, lumpy, spongy to compact, slightly silty.
180-210	Shale, medium gray, lumpy, compact.
210-250	Shale as above and medium gray, flaky, calcareous with some white specks.

250-330 Shale, medium gray, platy, compact to spongy.  
 330-820 Shale, medium gray to medium light gray, lumpy, compact.  
 820-870 Shale, medium light gray to medium gray, lumpy, disaggregated, bentonitic.  
 870-940 Shale, medium gray, lumpy, compact.  
 940-970 Shale, dark gray and medium gray, lumpy, compact.  
 970-1050 Shale, medium gray and light olive gray, lumpy, compact.  
 1050-1330 Shale, medium gray and dark gray, lumpy, compact.  
 1340-1380 Shale, dark gray, flaky, spongy to compact.  
 1390-1400 Shale, dark gray, and medium gray, foliated, spongy to compact, with many Inoceramus fragments.  
 1400-1460 Shale, medium to medium dark gray, lumpy, compact, calcareous, white specks, many Inoceramus fragments.  
 1460-1500 Shale, medium gray, lumpy, compact, many Inoceramus fragments.  
 1500-1530 Shale, dark gray and medium gray, lumpy to platy, compact.  
 1540-1550 Shale as above.  
 1560-1660 Shale, medium gray and dark gray, lumpy, compact.  
 1660-1740 Shale, medium dark gray, platy, spongy to compact.  
 1740-1810 Shale, medium gray, lumpy, compact,  
 1810-1830 Shale, medium dark gray, medium gray, platy, compact. Some very light gray bentonite.  
 1830-1850 Shale as above. Some sandstone very light gray, fine grained.  
 1850-1870 Sandstone, very light gray and grayish orange, very fine to fine grained, calcareous. Shale as above.  
 1870-1910 Sand, loose, medium to coarse, rounded to subangular, some sandstone as above. Shale as above.  
 1910-1930 Shale, medium gray and medium dark gray, platy, compact, a little loose, medium to coarse grained sand.  
 1930-1970 Shale, as above and greenish gray, platy, compact. Some sandstone, very light gray, fine grained, calcareous.  
 1970-2010 Shale, medium gray and dark gray, platy, compact.  
 2010-2030 Shale as above. Sandstone, very light gray, fine grained.  
 2030-2060 Shale, pale brown, medium light gray, platy to lumpy compact. Some greenish gray, compact.  
 2060-2080 Shale as above. Some sandstone, fine grained, very light gray, friable with carbonaceous streaks.  
 2060-2090 Shale, medium gray and pale brown, platy, compact.  
 2090-2110 Shale as above. A little sandstone, light gray, fine grained.  
 2110-2150 Shale, medium gray, light brownish gray, platy, spongy to compact.  
 2150-2200 Shale, medium gray, light greenish gray, platy, compact, a little pale brown, lumpy, compact.  
 2200-2220 Shale, pale reddish brown, platy, brittle, calcareous, some medium gray and greenish gray, platy, compact. Some sandstone very light gray, fine grained.  
 2220-2235 Shale, pale reddish brown, greenish gray, platy, calcareous. Some sandstone, very light gray, fine grained, gypsum cemented.  
 2235-2245 Shale as above. A little white gypsum.  
 2245-2255 Shale, pale reddish brown, medium gray and greenish gray, platy, compact.  
 2265-2285 Limestone, very light gray to yellowish gray, finely crystalline. Much shale in samples, probably cavings, some white gypsum.  
 2285-2295 Shale, medium gray, greenish gray, pale reddish brown, platy, compact, some gypsum.  
 2295-2305 Limestone, very light gray, finely crystalline to sublithographic.

2305-2320 Limestone as above. Some shale, medium gray and pale reddish brown, platy, compact.

2320-2370 Limestone, yellowish gray, finely crystalline.

2370-2375 Limestone as above and limestone, medium light gray, very fine grained argillaceous. Some white and colorless anhydrite.

2375-2390 Anhydrite, white to colorless,

2395-2425 Anhydrite, white to colorless. Some shale, medium gray, platy, compact, slightly calcareous.

2425-2435 Anhydrite, white to colorless. Some shale, pale reddish brown and medium gray, platy, compact, calcareous.

2435-2445 Anhydrite, white to colorless. Shale, pale reddish brown, yellowish gray, platy to lumpy, compact, calcareous.

2445-2470 Anhydrite, white to colorless. Shale, pale reddish brown, medium gray, platy, compact.

2470-2485 Shale, pale reddish brown, lumpy, compact, slightly calcareous.

2485-2490 Shale as above. Some sandstone, grayish orange, fine grained with a few medium to coarse, rounded grains, gypsiferous cement. Some white gypsum.

2490-2505 Sandstone, moderate reddish orange, very fine to medium grained, micaceous, gypsiferous cement. Some shale, pale reddish brown, lumpy, calcareous.

2505-2525 Sandstone as above, and siltstone, pale reddish brown, micaceous, calcareous.

2525-2545 Sandstone, moderate reddish orange, fine to medium grained, slightly calcareous.

2545-2565 Sandstone as above. Some shale, pale reddish brown, lumpy, compact.

2565-2585 Limestone, grayish orange pink, fine to medium grained, fragmental, fossiliferous, some reddish mottling.

2585-2610 Limestone, yellowish gray to pinkish gray, fine grained granular, fragmental in part. Some white chert.

2610-2640 Limestone as above. Much chert, white and pinkish gray.

2640-2655 Limestone, yellowish gray, fine grained, grainy, some chert, white and pinkish gray.

2655-2705 Limestone as above. Much chert, pinkish gray.

2705-2715 Limestone, pinkish gray to very light gray, fine grained, grainy, some chert, pinkish gray, white.

2715-2725 Limestone, yellowish gray, fine grained, some chert as above.

2725-2780 Limestone as above. Much chert, pinkish gray, white.

2780-2800 Limestone, yellowish gray, fine grained to finely crystalline.

2800-2805 Limestone, light greenish gray, lumpy, compact, argillaceous.

2805-2815 Limestone, grayish orange pink, fine to medium grained, granular, slightly dolomitic and silty.

2815-2820 Limestone, light gray, fine grained, granular, slightly argillaceous, also limestone as above.

2820-2830 Limestone, pale red, 5R6/2, fine grained, argillaceous, some limestone light gray as above.

2830-2840 Limestone, yellowish gray, finely crystalline dense. Some anhydrite, white.

2840-2850 Anhydrite, white, sugary to dense.

2850-2855 Limestone, light gray, fine to medium grained, dolomitic.

2855-2875 Dolomite, light brownish gray to pinkish gray, fine to medium grained, granular, limey.