

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 132

Summary of the Owen Drilling Company - Hyde Associates Waters #1  
Bottineau County, North Dakota  
Well No. 544 - Permit No. 557

By Clarence Carlson  
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Owen Drilling Company - Waters #1, Bottineau County, North Dakota. NE NW  
Section 22, T. 161N., R. 76W. Elevation GL 1496.

The Owen Drilling Company - Waters #1 was spudded February 23, 1954 and  
8 5/8 inch casing was set at 310 feet with 125 sacks of cement. The well was  
drilled to a total depth of 3430 feet, dry and abandoned March 10, 1954.

No DST or Cores.

Logs - Electric and Microlog

Plugging record.

3001 feet - 35 sacks  
1994 feet - 35 sacks  
610 feet - 25 sacks  
surface - 5 sacks

Formation tops determined from samples and electric logs. Colors  
determined from the rock color chart. Not all lithologic units called in the  
following list.

FORMATION TOPS

Cretaceous System	
Niobrara Formation	1258
Greenhorn Formation	1552
Dakota Sand	1995
Jurassic System	2313
Piper Line	2595
Triassic System	
Spearfish Formation	2842
Mississippian System	
Mission Canyon Formation	2975
Lodgepole Formation	3232

315-555	Shale, medium gray, lumpy, compact.
555-615	Shale, medium light gray, lumpy, compact, micaceous.
615-885	Shale, medium light gray, lumpy, compact.
915-1095	Shale, medium light gray, lumpy, compact.
1095-1185	Shale, medium dark gray, flaky, spongy.
1185-1245	Shale, medium gray, lumpy, spongy to compact.
1245-1275	Shale, medium dark gray, white specked, calcareous lumpy to foliated, compact.
1275-1330	Shale, medium gray, white specked, calcareous lumpy, compact.

1330-1540 Shale, medium dark gray, flaky, spongy.

1540-1630 Shale, medium dark gray, white specked, calcareous, lumpy to foliated, compact, many Inoceramus fragments.

1630-1810 Shale, medium dark gray, flaky, spongy to compact.

1810-1860 Shale, medium dark gray, platy, compact.

1860-1880 Shale, medium gray to medium dark gray, platy compact.

1900-2000 Shale, medium dark gray and medium gray, platy, compact.

2000-2030 Sandstone, fine to medium, clear, subangular quartz with some loose, coarse, subrounded quartz.

2030-2080 Sand, loose, medium to coarse, subrounded to angular, clear quartz.

2080 Sandstone, white to very light gray, fine to medium grained, calcareous.

2130-2150 Shale, medium dark gray, flaky to platy, compact some sandstone as above.

2150-2170 Sandstone, white to grayish orange pink, fine grained, calcareous, some shale as above and a little shale, very light gray, lumpy, waxy, compact.

2170-2180 Shale, medium dark gray, foliated, spongy to compact.

2180-2200 Shale, medium gray and pale reddish brown, lumpy compact, calcareous, a little white anhydrite.

2200-2250 Shale, medium gray, foliated, compact to spongy, a little sandstone, white, fine to medium grained, calcareous.

2250-2290 Shale, light greenish gray, platy, compact, calcareous, some shale, as above.

2290-2310 Shale, as above, some white to pinkish gray, sugary to dense anhydrite, some loose, medium quartz grains.

2310-2340 Shale, light greenish gray, platy, compact, calcareous some pale reddish brown, lumpy, calcareous.

2340-2360 Shale, as above, a few pieces of limestone, white fine grained with carbonaceous streaks.

2360-2370 Shale, as above.

2370-2380 Shale, greenish gray, splintery, compact, calcareous.

2380-2400 Shale, as above, with a few pieces of light gray limestone with carbonaceous streaks.

2400-2490 Shale, light greenish gray, splintery, compact, calcareous.

2490-2530 Shale, as above, some sandstone, light gray, very fine to fine grained, calcareous.

2530-2570 Shale, light greenish gray and pale reddish brown, splintery, compact, calcareous, some sandstone as above.

2570-2580 Shale, as above, some white and pink anhydrite, a little sandstone as above.

2590-2605 Shale, pale reddish brown, splintery, compact, slightly calcareous, some greenish gray shale.

2605-2615 Shale, pale reddish brown, splintery, compact slightly calcareous, a little light gray, fine grained limestone.

2615-2620 Shale, pale reddish brown and greenish gray splintery, compact, calcareous.

2620-2625 Limestone, light gray, fine to medium grained, silty, fragmental, much shale, as above.

2625-2635 Shale as above.

2635-2650 Limestone, yellowish gray to very light gray, fine grained, dense.

2650-2700 Limestone, as above, some anhydrite, white and pink, much shale, pale reddish brown, greenish gray.

2700-2730 Limestone, light gray, fine grained with a little white chert.  
 2730-2745 Limestone, light gray to yellowish gray, fine to medium grained, fragmental in part, a little white chert.  
 2745-2760 Limestone, as above, shale, medium dark gray to medium gray, splintery, compact.  
 2760-2770 Shale, pale reddish brown, lumpy to platy, compact, calcareous, a little white anhydrite.  
 2770-2780 Shale, as above, some limestone yellowish gray, fine grained, some white chert.  
 2780-2810 Shale, pale reddish brown and medium gray, platy compact, some white anhydrite.  
 2815-2820 Shale, pale reddish brown, lumpy to platy compact, calcareous, some white anhydrite.  
 2830-2860 Shale, as above, some white anhydrite.  
 2860-2880 Siltstone, moderate reddish orange, calcareous, some white anhydrite.  
 2880-2885 Siltstone, moderate reddish orange, calcareous with a few medium, rounded, frosted quartz grains.  
 2885-2905 Siltstone as above and loose sand, fine to medium grained, rounded, frosted, quartz.  
 2905-2930 Siltstone, moderate reddish orange, sandy, calcareous some anhydrite.  
 2930-2945 Sandstone, moderate reddish orange, very fine to medium grained, slightly calcareous.  
 2945-2965 Sandstone, very light gray, fine to medium, rounded, frosted quartz grains.  
 2965-2975 Siltstone, moderate reddish orange, with some medium rounded quartz grains.  
 2975-3000 Limestone, very light gray, fine grained, fragmental, anhydritic.  
 3000-3025 Limestone, yellowish gray, fine to medium grained, grainy.  
 3025-3030 Limestone, as above, some coarse crystals of pale brown, anhydrite.  
 3030-3035 Limestone, yellowish gray, microsucrosic, dolomitic.  
 3035-3040 Limestone, yellowish gray, fine grained with some pale brown, anhydrite crystals.  
 3040-3050 Anhydrite, pale red, dense.  
 3050-3055 Limestone, yellowish gray, fine grained, granular.  
 3055-3070 Anhydrite, white to very light gray, dense.  
 3070-3075 Anhydrite, as above, limestone, yellowish gray, fine grained, oolitic.  
 3075-3085 Limestone, yellowish gray, fine grained, oolitic, good inter-granular porosity.  
 3085-3095 Limestone, yellowish gray, fine grained, oolitic to granular.  
 3100-3110 Limestone, yellowish gray, oolitic to fine grained, granular.  
 3110-3115 Limestone, as above, and anhydrite, white to light gray, dense.  
 3115-3150 Limestone, yellowish gray, fine grained, granular, some oolitic.  
 3150-3170 Limestone, yellowish gray, oolitic, fine grained.  
 3170-3210 Limestone, yellowish gray, fine grained, granular.  
 3210-3220 Limestone, yellowish gray, fine to medium grained, fragmental, fossiliferous.  
 3220-3230 Limestone, yellowish gray, fine to medium grained, fragmental, fossiliferous, a few pieces of chert.  
 3230-3275 Limestone, yellowish gray, fine to medium grained, fragmental, fossiliferous, cherty.

3275-3285 Chert, light gray, some limestone, light gray, fine grained, fragmental.

3285-3370 Limestone, light to medium light gray, fine to medium grained, fragmental, fossiliferous.

3370-3395 Limestone, light brownish gray, fine to medium grained, fragmental, fossiliferous.

3400-3430 Limestone, light brownish gray to light gray, fine to medium grained, fragmental, fossiliferous, cherty.