

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 123

Summary of the Calvert Exploration Co. - Cyrus & Joseph Ranberg #1
Pierce County, North Dakota
Well #538 - Permit #551

By Clarence Carlson

Calvert - Ranberg #1, Pierce County, North Dakota. NE SE Section 17, T. 154N., R. 72W. Elevation 1566 K.B., 1555 G.L.

The Calvert - Ranberg #1 was spudded February 11, 1954 and 10 3/4" casing was set at 197 feet with 150 sacks of cement. The well was drilled to a total depth of 4,440 feet, dry and abandoned March 3, 1954.

Plugging Record

0' - 45' with 15 sacks	2752' - 2797' with 15 sacks
197' - 242' with 15 sacks	2800' - 2845' with 15 sacks
2010' - 2055' with 15 sacks	3550' - 3595' with 15 sacks
2305' - 2350' with 15 sacks	4278' - 4323' with 15 sacks

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

FORMATION TOPS

Cretaceous System

Niobrara Formation	1078
Greenhorn Formation	1528
Dakota Sand	2010

Jurassic System

Jurassic Shale	2368
Piper Lime	2538

Triassic System

Spearfish Formation	2752
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Mississippian System

Mission Canyon Formation	2835
Lodgepole Formation	2970

Devonian System

Nisku Formation	3528
Duperow Formation	3598
Souris River Formation	3850
Dawson Bay Formation	4050
Winnipegosis Formation	4130
Ashern Formation	4210

Silurian System

Interlake Group	4280
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250-280	Shale, light gray, lumpy, compact, silty, micaceous.
280-310	Shale, medium gray, lumpy, compact, a little very light gray bentonite.

310-490 Shale, medium gray, lumpy, compact.
 490-550 Shale, medium gray, platy, compact to brittle.
 550-790 Shale, medium light gray, platy, brittle to compact.
 790-850 Shale, medium light gray, platy, brittle, a little light gray bentonite.
 830-920 Shale, medium light gray, platy, compact.
 920-940 Shale, medium light gray, as above, and some light olive gray 5Y6/1, lumpy, compact.
 940-960 Shale, light gray, bentonitic, micaceous, lumpy, spongy to compact.
 960-990 Shale, as above, some very light gray, micaceous bentonite.
 990-1000 Shale, light gray to medium gray, lumpy to platy, compact.
 1000-1070 Shale, medium dark gray, lumpy, compact.
 1070-1080 Shale, medium dark gray, lumpy to flaky, spongy. Some white to very light gray bentonite.
 1080-1200 Shale, medium light gray, calcareous, lumpy, white specks.
 1200-1430 Shale, medium gray, lumpy, compact.
 1430-1550 Shale, medium gray to medium dark gray, lumpy, compact.
 1550-1560 Shale, medium dark gray, lumpy compact with many Inoceramus fragments.
 1560-1610 Shale, medium to medium dark gray, lumpy to platy, compact, white specks, calcareous, some Inoceramus fragments.
 1610-1640 Shale, as above, many Inoceramus fragments.
 1640-1660 Shale, medium gray, lumpy, compact.
 1660-1740 Shale, medium dark gray, lumpy, spongy to compact.
 1740-1760 Shale, medium dark gray, platy to lumpy, spongy to compact. A little white bentonite.
 1760-1910 Shale, medium dark gray, platy, compact.
 1910-1980 Shale, medium grey, platy to lumpy, spongy.
 1980-2000 Shale, as above, some light gray siltstone.
 2000-2020 Shale, as above. Sandstone, fine grained, subangular quartz with pyrite cement, some sandstone, white, very fine to fine grained.
 2020-2040 Sandstone, fine to medium grained, subangular, quartz with pyrite cement, some sandstone white, very fine to fine grained, friable. Some shale, medium gray.
 2040-2070 Sandstone, as above with some siderite concretions. Some shale, medium gray, platy, spongy to compact.
 2070-2100 Shale, medium gray, platy, spongy to compact, some pyrite and siderite concretions.
 2100-2120 Sandstone, medium to very coarse ranging to granule size, subangular, colorless to orangish gray, poorly cemented, some pyrite cement.
 2120-2150 Shale, medium gray, platy, spongy to compact. A little sandstone as above.
 2150-2180 Shale, as above. Some sandstone medium to coarse grained, subangular, some pyrite cemented.
 2180-2210 Sandstone, orangish gray to white, fine to coarse grained, subangular. Some pyrite, some shale, medium gray.
 2210-2260 Sandstone, white, fine to medium grained, subangular, calcareous cement. Some shale, medium gray, probably cave.
 2260-2270 Sand, medium to very coarse, gravely, subangular to subrounded quartz.
 2270-2280 Sandstone, white, fine to medium grained, calcareous.

2280-2290 Sand, loose, medium to very coarse, subangular to subrounded, vitreous quartz.

2290-2300 Sand, coarse grained to pebble size, subangular to subrounded quartz and a few pieces of chert.

2300-2310 Shale, medium gray. Some sand, as above.

2310-2330 Shale, medium gray and medium dark gray. Sandstone, fine grained, subangular quartz, poorly cemented, pyrite cement. Some loose, coarse to pebbly quartz.

2330-2360 Shale, as above, some loose, coarse to pebbly, subrounded quartz.

2360-2380 Sandstone, white, fine to medium grained, calcareous. Some limestone, white, fine grained with carbonaceous streaks, some shale, medium gray and medium dark gray.

2380-2420 Sandstone, as above and some loose coarse, rounded quartz. Some limestone as above, some shale, medium gray. (sample from 2400-10, mostly limestone).

2420-2460 Shale, medium gray and medium dark gray. A few pieces of limestone, as above.

2460-2470 Limestone, very light gray, sublithographic.

2470-2500 Shale, grayish red, greenish gray and medium gray, slightly calcareous, platy, spongy, compact.

2500-2540 Shale, medium light gray, platy, spongy to compact, calcareous.

2540-2550 Limestone, yellowish gray, fine grained, granular to finely crystalline, dense.

2550-2560 Limestone, as above. Some sandstone, fine to medium grained with gypsum cement.

2560-2590 Shale, medium gray, platy, compact.

2590-2600 Limestone, light gray to yellowish gray, very fine grained. Shale, medium gray, platy, compact.

2600-2610 Limestone, very light gray to yellowish gray, sublithographic.

2610-2650 Limestone, yellowish gray, very finely crystalline, dense.

2650-2670 Limestone, yellowish gray 5Y7/2, fine grained, argillaceous.

2670-2690 Limestone, yellowish gray, finely crystalline, dense. Some shale, medium gray, platy.

2690-2700 Limestone, very light gray, fine grained to finely crystalline, anhydrite colorless to white, dense to sugary.

2700-2730 Anhydrite, white, sugary. Shale, medium gray and greenish gray, platy, compact.

2730-2740 Anhydrite, white, sugary. Limestone, yellowish gray, finely crystalline dense.

2740-2750 Anhydrite, white, sugary to dense. Some limestone, as above. Shale, moderate reddish brown, calcareous, lumpy, compact.

2750-2770 Anhydrite, white, sugary to dense. Shale, as above.

2770-2780 Siltstone, moderate reddish orange, slightly calcareous. Shale, pale reddish brown, calcareous, lumpy, compact. Anhydrite, white, sugary to dense.

2780-2790 Sandstone, moderate reddish orange, slightly calcareous, fine to coarse grained. Anhydrite cement.

2800-2830 Sandstone, as above. Much shale, medium gray and pale reddish brown, probably cavings.

2830-2850 Limestone, very light gray, fine grained, some pinkish gray fine grained. Some anhydrite, white, and shale, pale reddish brown.

2850-2860 Limestone, yellowish gray to pinkish gray, fine grained. Some white anhydrite.

2860-2870 Limestone, yellowish gray, fine grained, oolitic with some anhydrite filling.

2870-2880 Limestone, yellowish gray to pinkish gray, fine grained and finely crystalline in part, oolitic in part.

2880-2890 Limestone, very light gray, oolitic with finely crystalline filling of pore space.

2990-2940 Limestone, very light gray to yellowish gray, oolitic and fine grained, granular.

2940-2950 Limestone, yellowish gray, fine grained, oolitic, fragmental, some white chert.

2950-3000 Limestone, yellowish gray, fine grained, fragmental fossiliferous with some reddish mottling.

3000-3010 Limestone, yellowish gray, oolitic with fine grained filling, some finely dense.

3010-3020 Limestone, light gray to yellowish gray, fine to medium grained, oolitic and fragmental, fossiliferous.

3020-3090 Limestone, light gray to yellowish gray, fine to medium grained fragmental, fossiliferous.

3090-3100 Limestone, light gray to yellowish gray, as above. A little pink chert.

3100-3160 Limestone, light gray, fine to medium grained, fragmental, fossiliferous.

3160-3180 Limestone, light gray as above, some white chert.

3180-3200 Limestone, light to medium gray, fine to medium grained, rounded fragmental, fossiliferous, argillaceous.

3200-3270 Limestone, light gray, fine to medium grained, fragmental, fossiliferous.

3270-3280 Limestone, light gray, finely crystalline dense, some fragmental limestone as above.

3280-3290 Limestone, light gray, fine grained, fragmental, fossiliferous.

3290-3300 Limestone, light brownish gray, microsucrosic, limestone as above.

3300-3310 Limestone, light gray to yellowish gray, fine grained, fragmental to finely crystalline.

3310-3330 Limestone as above and chert, medium gray.

3330-3350 Limestone, light gray, finely crystalline dense and some fine grained, fragmental.

3350-3370 Limestone, light gray, fine grained, argillaceous.

3370-3390 Limestone, light gray, finely crystalline to fine grained, fragmental with some white chert.

3390-3400 Chert, medium gray, limey. Some limestone, light gray, finely crystalline to fine grained.

3400-3420 Limestone, light gray, fine grained, argillaceous, some chert as above.

3420-3440 Chert, medium gray, slightly limey, some limestone as above.

3440-3480 Limestone, light gray, fine grained, argillaceous. Chert, as above.

3480-3520 Limestone, very light gray, fine grained, some white chert.

3520-3530 Shale, medium dark gray.

3530-3540 Limestone, yellowish gray, finely crystalline to fine grained.

3540-3560 Limestone, light brownish gray, medium to fine grained, granular.

3560-3600 Limestone, light brownish gray, fine to medium crystalline, granular in part. Some white anhydrite.

3600-3610 Limestone as above, and light gray, fine grained, argillaceous. Some shale, medium gray to medium dark gray.

3610-3620 Limestone, yellowish gray to very light gray, finely crystalline to fine grained, with some white anhydrite. Some limestone, light brownish gray, fine grained, granular.

3620-3640 Limestone, light brownish gray, fine to medium crystalline, granular with a little white anhydrite.

3640-3660 Limestone, yellowish gray, fine grained, slightly vuggy. Some white anhydrite.

3660-3680 Limestone, light brownish gray, fine grained, fragmental with a few shell fragments.

3680-3690 Limestone, light brownish gray, fine grained, grainy, some yellowish gray, sublithographic.

3690-3720 Limestone, yellowish gray, fine grained to finely crystalline.

3720-3740 Limestone, yellowish gray, finely crystalline to fine grained.

3740-3770 Dolomite, light brownish gray, fine to medium crystalline, granular, with a little anhydrite, white.

3770-3790 Dolomite, yellowish gray, fine grained, some white anhydrite.

3790-3820 Dolomite, light brownish gray, fine to medium crystalline, dense to granular.

3820-3830 Limestone, yellowish gray, finely crystalline, earthy.

3830-3840 Limestone, yellowish gray, fine to medium grained, fragmental in part.

3840-3850 Limestone, yellowish gray, fine to medium grained, granular. Some anhydrite fill and coral fragments.

3850-3860 Limestone, yellowish gray, finely crystalline dense. Some limestone, fine to medium grained, granular.

3860-3870 Limestone, yellowish gray, fine grained.

3870-3880 Limestone, yellowish gray, finely crystalline, earthy with some medium crystals of pale brown anhydrite.

3880-3930 Limestone, yellowish gray, fine grained, granular.

3930-3960 Limestone, yellowish gray, fine grained to finely crystalline.

3960-3990 Limestone, yellowish gray, sublithographic.

3990-4000 Limestone, light gray to light brownish gray, fine grained, microsugrosic.

4000-4030 Limestone, yellowish gray to light gray, fine to medium grained, fragmental, some finely crystalline.

4030-4050 Dolomite, light brownish gray to light gray, fine grained, microsugrosic, limey.

4050-4070 Limestone, yellowish gray, fine grained, fragmental.

4070-4100 Dolomite, light brownish gray, fine grained, microsugrosic, limey.

4100-4110 Limestone, light brownish gray, finely crystalline, dense and some fine grained, granular.

4110-4130 Limestone, light brownish gray, fine grained, granular.

4130-4140 Limestone, light brownish gray, fine grained, granular to finely crystalline, with a few shell fragments.

4140-4160 Limestone, light brownish gray, fine grained, fragmental. A little yellowish gray, dense, anhydrite.

4160-4200 Limestone, yellowish gray, finely crystalline, dense.

4200-4220 Limestone, yellowish gray, fine grained, granular, some shell fragments.

4220-4250 Limestone, moderate reddish orange, fine grained, grainy argillaceous.

4250-4280 Limestone, light brownish gray, fine grained, microsugrosic.

4280-4290 Limestone, very light gray, fine grained, fragmental, also limestone as above.

4290-4300 Limestone, light brownish gray, fine grained, microsucrosic, with some coral fragments.

4300-4310 Limestone, light brownish gray, fine grained, microsucrosic with a few brachiopod fragments, some limestone, light brownish gray, finely crystalline.

4310-4330 Limestone, grayish orange pink, 5YR7/2, finely crystalline to fine grained, fragmental.

4330-4340 Limestone, pinkish gray, fine grained, microsuorotic.

4340-4350 Dolomite, yellowish gray, finely crystalline, dense, slightly limey.

4350-4360 Limestone, very light gray to white, finely crystalline to fine grained microsucrosic.

4360-4380 Limestone as above and dolomite, yellowish gray, limey finely crystalline, dense.

4380-4410 Limestone, very light gray to pinkish gray, finely crystalline to fine grained.

4410-4430 Limestone, white to very light gray, finely crystalline, dense.

4430-4440 Limestone, grayish orange pink, finely crystalline, dense, some limestone, yellowish gray, finely crystalline, dense.