

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 144

Summary of the Calvert Exploration Company - Andrew Lawson #1
Burke County, North Dakota
Well No. 1006 - Permit No. 1018

By Clarence Carlson
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The Calvert Drilling Company - Andrew Lawson #1 is located in the NE of NW, of Section 36, T. 162N., R. 88W. Elevation 1861 G.L., 1872 K.B.

The Calvert Drilling Company - Lawson #1 was spudded October 21, 1955 and 10-3/4" casing was set at 617 feet with 380 sacks of cement. The well was drilled to a total depth of 5680 feet, plugged and abandoned November 14, 1955.

Logs: Electric

Cores: None

Tests: None

Plugging record:

5525 - 5475 - 20 sacks of cement
4850 - 4800 - 20 sacks of cement
3620 - 3570 - 20 sacks of cement
637 - 592 - 20 sacks of cement
surface - 5 sacks of cement

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

FORMATION TOPS

Cretaceous System

Pierre Formation	1030
Niobrara Formation	2720
Greenhorn Formation	3044
Dakota Group	3434
Dakota Group Sands	3622

Jurassic System

Piper Lime	4583
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Triassic System

Spearfish Formation	4833
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Mississippian System

Charles Formation	5165
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750 - 780 Shale, light gray to medium light gray, lumpy to platy compact, some siltstone, very light gray.

780 - 810 Lignite.

810 - 840 Shale, medium gray, lumpy, compact and medium light gray, silty, lumpy, some lignite.

840 - 870 Shale, medium light gray, bentonitic, silty, lumpy.

870 - 890 Lignite.

890 - 930 Sandstone, very light gray, fine to medium grained, subangular, calcareous, a little shale, medium light gray.

930 - 960 Shale, medium light gray, lumpy, compact, little lignite.

960 - 990 Shale, as above, a little sandstone light gray, fine grained, argillaceous.

990 - 1020 Lignite, sandstone very light gray, fine to medium grained calcareous, a little shale, medium light gray.

1020-1050 Shale, light gray, silty, bentonitic and light brown 5YR6/4, silty, lumpy.

1050-1080 Shale, light gray, silty, bentonitic.

1080-1110 Sandstone, very light gray, fine to medium grained, calcareous.

1110-1230 Shale, medium light gray and light brown, 5YR6/4, lumpy, compact.

1230-1410 Shale, medium light gray to medium gray, lumpy, compact.

1410-1510 Shale, medium light gray, lumpy, compact.

1510-1570 Shale, medium light gray, lumpy, compact, bentonitic.

1570-1610 Shale, as above and medium dark gray, platy compact.

1610-1670 Shale, medium light gray, lumpy, compact, bentonitic.

1670-1770 Shale, medium dark gray and medium gray, platy, spongy to compact.

1770-1800 Shale, medium light gray, platy, compact.

1800-1830 Shale, as above and medium light gray, lumpy, compact, bentonitic.

1830-2580 Shale, medium light gray, platy, compact.

2580-2760 Shale, medium, light gray and medium gray, platy, compact.

2760-2790 Shale, medium gray, platy, compact, calcareous, white specks.

2790-2820 Shale, medium, gray and medium light gray, platy, compact, some white specked shale.

2820-3030 Shale, medium gray, platy, compact.

3030-3060 Shale, medium dark gray, platy to foliated, compact, some medium gray, platy, compact.

3060-3120 Shale, medium dark gray, calcareous, white specked platy to foliated, compact, many Inoceramus fragments.

3120-3240 Shale, medium dark gray, calcareous, some white specks, some medium gray, platy.

3240-3390 Shale, medium dark gray, foliated, compact.

3390-3450 Shale, medium gray and medium dark gray, platy, compact.

3450-3630 Shale, medium dark gray, platy, compact.

3630-3660 Sand, loose, fine to very coarse, angular quartz, some sandstone, very light gray, fine grained subangular, friable.

3660-3750 Sandstone, white to very light gray, fine grained, some loose sand, as above and some siderite nodules.

3750-3810 Sandstone and sand, as above, a little medium gray, lumpy shale, much other shale, probably cavings.

3810-3840 Shale, medium light gray, lumpy, compact, soapy a little sandstone, orangish gray, fine grained subangular.

3870-3930 Sandstone, white to very light gray, fine grained subangular, some shale, medium gray, lumpy, compact.

3930-3960 Sand, loose, medium to very coarse, subrounded to subangular, some shale, medium light gray, lumpy to platy, compact.

3960-3990 Sand, loose as above and sandstone, very light gray, fine to medium grained, subangular, some shale, as above.

3990-4020 Sandstone, very light gray, fine grained, slightly calcareous some shale, light greenish gray, 5G8/1, slightly calcareous, micaceous, foliated, compact.

4020-4050 Shale, medium gray, lumpy to platy, compact, some light greenish gray, as above, a little sandstone as above.

4050-4110 Sandstone very light gray, fine grained, calcareous some shale, light greenish gray, 5G8/1, foliated compact.

4110-4140 Sandstone, as above, some shale, medium gray, and light greenish gray platy, compact.

4140-4170 Shale, medium gray, and greenish gray, 5GY6/1 platy, compact, some pieces of limestone, white to very light gray, fine grained, rounded fragmental.

4170-4260 Shale, medium gray and medium dark gray, platy compact.

4260-4320 Shale, medium light gray, platy, compact and pale brown 5YR5/2, platy, compact.

4320-4350 Shale, greenish gray 5G6/1, grayish red 10R4/2 slightly calcareous, splintery, compact, some limestone, very light gray to yellowish gray, fine grained, argillaceous.

4350-4440 Shale, greenish gray 5G6/1 grayish red 10R4/2 and medium gray, slightly calcareous, splintery compact.

4440-4500 Shale, variegated, as above, mostly greenish gray and medium gray, some sandstone light gray, fine grained slightly calcareous.

4500-4550 Shale, medium gray, slightly calcareous, platy, compact, some greenish gray, as above a little sandstone light gray, fine grained, calcareous.

4550-4560 Limestone, white to very light gray, fine grained, slightly silty, rounded, fragmental, some shale, variegated, platy to splintery, compact.

4560-4570 Shale, greenish gray 5GY6/1, slightly calcareous splintery, compact.

4570-4580 Shale, greenish gray and grayish red 10R4/2, slightly calcareous, splintery, compact, a little sandstone very light gray, fine grained, calcareous.

4580-4590 Limestone, very light gray, fine grained, silty, fragmental, shale, variegated, splintery, compact slightly calcareous.

4590-4600 Shale, as above, a little limestone, as above.

4600-4620 Sandstone, fine to medium grained, subangular, colorless quartz, slightly calcareous, some shale greenish gray, splintery, compact, slightly calcareous.

4620-4630 Shale, variegated, as above, some limestone, light gray, fine grained, earthy.

4630-4640 Limestone, yellowish gray, fine grained, earthy, slightly argillaceous, some chert.

4640-4650 Shale, greenish gray, slightly calcareous, splintery, compact, a little limestone as above.

4650-4690 Shale, greenish gray 5GY6/1 and grayish red 10R4/2, slightly calcareous splintery, compact.

4690-4740 Limestone, light gray, very fine grained to sublithographic.

4740-4750 Limestone, light gray, sublithographic, some shale, medium gray, calcareous.

4750-4770 Shale, medium light gray to light brownish gray, calcareous with some white gypsum, some greenish gray shale.

4770-4810 Shale, greenish gray and grayish red, mostly splintery, some lumpy, compact, a little white gypsum.

4810-4830 Shale, medium dark gray, splintery, compact, a little gypsum, also shale, as above.

4830-4840 Gypsum, white, sugary, shale, variegated, as above.

4840-4850 Shale, grayish red, lumpy to platy, compact, very calcareous, some gypsum.

4850-4860 Siltstone, very light gray, calcareous and pale reddish brown, sandy, slightly calcareous, some gypsum.

4860-4870 Siltstone, pale reddish brown, sandy, slightly calcareous, some gypsum.

4870-4960 Sandstone, moderate reddish orange to pale reddish brown, very fine grained, silty, micaceous, slightly calcareous, some gypsum cement.

4960-4990 Sandstone, pale reddish brown to moderate reddish orange, very fine to medium grained, slightly calcareous.

4990-5010 Sandstone, moderate reddish orange, very fine grained, micaceous, with a few scattered medium quartz grains.

5010-5040 Sandstone, moderate reddish orange, very fine grained and some very fine to medium grained, rounded, frosted grains.

5040-5070 Sandstone, moderate reddish orange, very fine grained, with a little shale, moderate reddish brown, slightly calcareous, compact.

5070-5110 Sandstone, moderate reddish orange, very fine grained and some very fine to medium grained.

5110-5160 Sandstone, moderate reddish orange, very fine to medium grained and loose medium, rounded frosted quartz grains.

5160-5170 Limestone, grayish pink 5R8/2, mostly fine grained, earthy, dolomitic, some fine grained, oolitic to fragmental.

5170-5180 Limestone, white, fine grained with pale red mottling and some limestone pale red, fine grained, argillaceous.

5180-5200 Limestone, pale red 5R6/2, fine grained, oolitic.

5200-5214 Limestone, very light gray, fine grained, rounded, fragmental.

5214 Circulation 1 1/2 hrs. - Limestone, very light gray to yellowish gray, fine grained, rounded, fragmental with a few ostracodes.

5214-5220 Limestone, yellowish gray to light gray, some pale red mottling, fine grained, fragmental.

5220-5230 Limestone, white to very light gray, sublithographic.

5230-5240 Limestone, white to pinkish gray 5YR8/1, fine grained, fragmental and oolitic with some anhydrite filling and a little pinkish gray dense anhydrite.

5240-5250 Limestone, pale red 5R6/2, dense, brittle, very argillaceous.

5250-5280 Anhydrite, white to very light gray, dense, some limestone as above.

5280-5290 Anhydrite, white and colorless, dense to sugary.

5290-5300 Anhydrite, white to light gray, dense, calcareous.

5300-5310 Limestone, yellowish gray, fine grained, fragmental, some limestone, pale brown, very finely crystalline, dense.

5310-5330 Limestone, yellowish gray, fine grained, fragmental some anhydrite, white.

5330-5340 Limestone, yellowish gray, fine grained, fragmental in part, granular in part.

5340-5360 Limestone, very light gray, fine grained, arenaceous being fine grained, rounded, with some white anhydrite, some limestone yellowish gray, as above.

5360-5370 Limestone, yellowish gray, fine grained, fragmental a little white anhydrite and a little limestone, light gray arenaceous.

5370-5383 Limestone, light brownish gray to yellowish gray, fine grained to very finely crystalline, fragmental in part.

5383-5390 Limestone, light gray, fine grained, argillaceous, a little white anhydrite.

5390-5400 Anhydrite, white, dense, calcareous, a little limestone, yellowish gray, fine grained, fragmental.

5400-5420 Anhydrite, white to very light gray, dense, slightly calcareous.

5420-5430 Anhydrite, as above, some limestone, yellowish gray to light brownish gray, fine grained, fragmental in part, argillaceous.

5430-5440 Limestone, as above, a little white anhydrite.

5440-5460 Limestone, yellowish gray, fine grained, grainy, fragmental in part, some finely crystalline, dense limestone, pale brown.

5460-5470 Limestone, yellowish gray, microsucrosic, slightly argillaceous.

5470-5480 Anhydrite, light gray to white, dense, calcareous.

5480-5500 Limestone, yellowish gray to light brownish gray, fine grained, fragmental, finely crystalline, dense in part, with a few argillaceous streaks.

5500-5520 Anhydrite, light gray, dense, calcareous, some limestone, yellowish gray, as above.

5528 Circulation 1 3/4 hrs. - samples are mostly shale cavings, a little limestone, yellowish gray fine grained, fragmental.

5520-5530 Very poor samples - some limestone light brownish gray, fine grained, grainy.

5538 Circulation - Limestone, yellowish gray, microsucrosic.

5530-5540 Limestone, yellowish gray, microsucrosic.

5540-5550 Limestone, yellowish gray, fine grained, fragmental in part.

5550-5560 Limestone, yellowish gray to pale brown, finely crystalline, dense, fragmental in part.

5560-5580 Limestone, yellowish gray, fine grained, fragmental, with a few ostracodes.

5580-5600 Limestone, yellowish gray, fine grained, fragmental, a little oolitic limestone, somewhat recrystallized.

5600-5630 Limestone, pale brown to yellowish gray, finely crystalline, dense, fragmental in part.

5630-5650 Limestone, yellowish gray to light gray, finely crystalline to fine grained, fragmental in part, a little oolitic to pisolitic, tightly cemented a little colorless to white anhydrite filling.

5650-5680 Limestone, yellowish gray, finely crystalline to fine grained fragmental, a little oolitic.