

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 269

Summary of the Calvert Drilling, Inc. - Dorothy Elliott #1
Eddy County, North Dakota
Well No. 1197 - Permit No. 1209

By John P. Bluemle
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The Calvert Drilling, Inc. - Dorothy Elliott #1, Eddy County, North Dakota. Location: Center SW NW Section 35, T. 148N., R. 67W. Elevation: 1546 Ground, 1557 K.B., Total Depth: 2229.

The Calvert Drilling, Inc. - Dorothy Elliott #1 was spudded July 22, 1956, drilled to a total depth of 2229 feet, found dry and plugged July 26, 1956. No drill stem tests were taken and no cores were cut. Electric and gamma ray-neutron logs were run by Schlumberger.

Logging Record:

Schlumberger electric log - Run one, 7/26/56, 136-2228
Schlumberger gamma-ray-neutron - Run one, 7/26/56, 136-2229

Casing Record:

Set 10 3/4" surface casing at 136.03 feet (K.B.) with 85 sacks of cement and 2 sacks of calcium chloride.

Plugging Record:

<u>Interval Plug Set</u>	<u>Sacks Cement</u>
2140 to 2080 feet	20
1760 to 1700 feet	20
336 to 286 feet	25
10 to 0 feet	5

Formation tops were determined from samples and electric logs. Doubtful or obscure formation tops were not picked. Color names are from the 1951 Rock Color Chart distributed by the Geological Society of America.

FORMATION TOPS

Cretaceous System	
Niobrara Formation	662
Greenhorn Formation	1242
Belle Fourche Formation	1296
New Castle Formation	1566
Skull Creek Formation	1599
Fall River Formation	1713
Jurassic System	
Undifferentiated	1963
Redbeds	2086
Mississippian System	
Tilston Interval	2110
Lodgepole Formation	2136
Total Depth	2229

30' Sample Interval from 220-1650

220-280 Shale, medium to light olive gray, non-calcareous, massive; a few large grains of sand mixed in; some fine mica in shale; texture ranges from earthy to resinous.

280-370 Shale, as above, except very slightly calcareous and dolomitic, at 310 feet there are some yellowish gray inclusions of limestone.

370-460 Shale, light olive gray, very slightly calcareous and dolomitic, massive, blocky; chips of soft, yellowish gray limestone included at 400 feet.

460-640 Shale, light olive to medium gray, slightly calcareous and dolomitic, massive to fissile; silty; brownish stains on shale at 520; light gray chips at 580 feet.

640-670 Shale, medium light gray, surfaces stained dark yellowish brown; slightly calcareous, chunky to disaggregated.

670-730 Shale, highly bentonitic, grayish black to medium gray, non-calcareous; earthy, disaggregated; bentonite is yellowish gray to white.

730-740 Interval missing.

740-830 Shale, brownish gray, highly calcareous, abundant white specks and limestone inclusions; earthy, fissile, quite disaggregated; specks are pressed and parallel the bedding.

830-890 Shale, light olive gray, highly calcareous, white specks, massive, fissile; a few grains of sand; pyrite.

890-950 Shale, brownish gray, could be classified as mudstone; chips of dark gray shale included; calcareous; at 920 the color becomes light olive gray.

950-1100 Shale, as above with dark gray, fissile chips; dark shale is non-calcareous; amount of dark shale drops off at 980.

1100-1160 Shale, light brownish gray, white specks, earthy, lumpy to fissile; chips of bentonite.

1160-1220 Shale, medium dark gray, fissile, non-calcareous; also some shale as above.

1220-1250 Shale, medium dark gray, slightly calcareous, fissile and flaky, spongy; chips of limestone, yellowish gray, grainy; calcite prisms of *Inoceramus*.

1250-1370 Shale, brownish gray, highly calcareous, white specks and limestone inclusions; abundant free calcite prisms and as inclusions in shale; *Globigerina*.

1370-1430 Shale, brownish gray, highly calcareous, fissile; light bluish gray bentonite; abundant free calcite prisms.

1430-1470 Shale, dark gray, non-calcareous, fissile; also shale, as above.

1470-1570 Shale, olive gray, fissile; sand, medium grained, subangular; calcite prisms; calcareous.

1570-1650 Sandstone, slightly calcareous, cemented; rounded grains of free quartz; also shale and calcite prisms, as above.

10' Sample Interval from 1650-2230

1650-1700 Shale, medium dark gray, slightly calcareous, fissile; sand, medium grained, subrounded, mainly quartz; fragments of *Inoceramus* shell noted at 1670.

1700-1710 Shale, olive gray, silty, slightly calcareous, fissile; sand, as above.

1710-1740 Sand, medium to coarse, angular to subrounded, mostly quartz; shale, as above; limonite staining on shale at 1720. Sand becomes coarser downward.

1740-1770	Sand, medium to coarse, angular to subangular with some rounded quartz grains; color of sand is primarily shades of yellow and brown; a few chips of gray shale increasing at 1760; pyrite at 1760.
1770-1800	Sand, as above but generally finer; siltstone, medium light gray; pellets of iron carbonate, becoming abundant at 1780.
1800-1820	Sand, as above with abundant iron carbonate pellets; pyrite, finely divided and lumpy; limestone chips, yellowish gray, oolitic; sand becomes well-rounded at 1810.
1820-1850	Sand, as above; siltstone, pale brown, non-calcareous; shale, medium light gray, slightly calcareous, fissile; iron carbonate pellets.
1850-1880	Siltstone, medium light gray, fissile to massive, slightly calcareous; limestone, coarsely crystalline to slabby, white to yellowish gray; sand mixed in and abundant iron carbonate pellets.
1880-1900	Sand, medium grained, subangular to subrounded; abundant iron carbonate pellets; siltstone and shale, as above.
1900-1920	Siltstone, medium light gray, as above; abundant iron carbonate pellets; limonite staining on siltstone surfaces; pellets become more abundant downward.
1920-1970	Siltstone and iron carbonate pellets, as above; limestone, coarsely oolitic to sandy, pinkish gray, intergranular porosity; becomes shaly downward and dominantly sand at 1940.
1970-2000	Limestone, yellowish gray, oolitic, silty, intergranular porosity, fossiliferous; sand and shale, as above; a few pieces of reddish brown siltstone at 1980, mainly as cementing material; pyrite, both free and as cement.
2000-2030	Limestone, light olive gray, fossiliferous, silty to micrsucrosic, black curved lines in limestone with some pyritic replacement on parted lines; calcite inclusions; little porosity; the limestone becomes more fossiliferous and variable in color downward with whorls and bands of shades of gray.
2030-2080	Limestone, much as above with a few slabby pieces; samples become poor with much sand and shale.
2080-2090	Siltstone, pale reddish brown, calcareous; sandstone, cemented with calcareous cement, well-rounded grains, a few reddish stains; limestone, mottled very pale orange and pale yellowish brown, slabby, dense.
2090-2100	Siltstone, pale reddish brown, calcareous; sandy.
2100-2120	Limestone, very pale orange, grainy to slabby, dense, a few chalky pieces; some vuggy porosity at 2110; anhydrite.
2120-2140	Limestone, pale yellowish brown, dolomitic, grainy to micr-sucrosic, fossiliferous, abundant cavernous porosity; a few chips of pale red, silty calcic dolomite at 2130; some pinpoint porosity; sucrosic texture.
2140-2170	Limestone, grayish orange pink, grainy to slabby, fossiliferous, color is variable with various shades of red and pink prominent; dense; a few grayish red (5R4/2) chips at 2150.
2170-2180	Limestone, predominantly grayish orange pink with orange specks; slabby to fractured, essentially non-porous; also gray, fissile shale.
2180-2190	Limestone, as above; also calcic dolomite, pale red (10R6/2) sucrosic, dense.

2190-2210	Limestone, very pale orange, pinkish veins common, fragmental to slabby, dense, uneven texture, silty.
2210-2220	Limestone, mottled, pale red and grayish orange pink, fragmental calcite inclusions; a few oolitic pieces; inter-granular porosity.
2220-2230	Limestone, very pale orange, fossiliferous, grainy to fragmental, some pinpoint porosity.
2229	Circulation 1/2 hour. Limestone, very pale orange with reddish silty inclusions; grainy to slabby and fragmental, some pinpoint porosity.
2229	Total depth.