

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 266

Summary of the Calvert Drilling, Inc. - Woodrow Topp #1  
Foster County, North Dakota  
Well No. 1208 - Permit No. 1220

by John P. Bluemle  
April, 1963

The Calvert Drilling, Inc. - Woodrow Topp #1, Foster County, North Dakota. Location; Center SW NE Section 2, T. 147N., R. 64W. Elevation; 1492 Ground, 1503 K.B., Total Depth: 2053.

The Calvert Drilling, Inc., - Woodrow Topp #1 was spudded July 31, 1956; drilled to a total depth of 2053 feet, found dry and plugged August 4, 1956. One drill stem test was taken; no cores were cut. Electric and gamma ray-neutron logs were run by Schlumberger.

Logging Record:

Schlumberger electric log - run one 8/4/56, 110-2052.  
Schlumberger gamma ray-neutron - run one 8/4/56, 90-2052.

Drill Stem Test:

DST #1. (Mississippian) - Tested interval from 1895-1958. Open 40 minutes. Shut in 30 minutes. Recovered 1868' very slightly muddy fresh water. Hydrostatic pressure 1025 psi, initial flow pressure 350 psi, final flow pressure 800 psi, and shut in pressure 850 psi.

Casing Record:

Set 10 3/4" surface casing at 110 feet with 75 sacks of cement.

Plugging Record:

<u>Plug Set</u>	<u>Sacks Cement</u>
1900 feet	20
1497 feet	20
top casing	5
bottom casing	25

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	627
Greenhorn Formation	1048
Belle Fourche Formation	1125
"Muddy"	1378
Skull Creek Formation	1393
Fall River Formation	1496

Jurassic System

Undifferentiated (Ss. Shales & Carbonates)	1763
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Redbeds	1803
Mississippian System	
Lodgepole Formation	1876
Basal Miss. Shale	1985
Devonian System	
Duperow Formation	2046
Total Depth	2053

200-310	Shale, medium light gray, resinous, massive, compact; becomes micromicaceous at 250 and platy at 280.
310-340	Shale, light brownish gray, as above, sand grain inclusions; slightly calcareous.
340-430	Shale, greenish gray (5Y6/1), slightly calcareous, resinous, Inoceramus calcite prisms, sandy inclusions.
430-490	Shale, as above, black organic inclusions; some light olive gray shale, calcareous; iron staining at 460.
490-520	Shale, light olive gray with moderate yellowish brown limonite staining on surfaces; very slightly calcareous.
520-550	Interval missing.
550-580	Shale, as above with pronounced limonite staining on surfaces.
580-610	Shale, medium dark gray, blue gray bentonite; earthy, massive to lumpy.
610-640	Shale, medium dark gray, slightly calcareous, lumpy, earthy, highly bentonitic, disaggregated.
640-730	Shale, light brownish gray, micromicaceous, highly calcareous, massive, compact with limy inclusions and large white specks; tends to appear resinous on fresh surfaces.
730-760	Shale, medium gray, as above.
760-1030	Shale, medium light gray, less calcareous than above pyritic, white specks absent, resinous, compact, fractured; poor samples.
1030-1060	Shale, medium dark gray, slightly calcareous, micromicaceous; resinous, fractured, loose and disaggregated, pyritic.
1060-1090	Shale, as above, plus medium-light gray calcareous and bentonitic shale; calcite prisms of Inoceramus.
1090-1210	Shale, medium gray, highly calcareous, abundant white specks appear pressed; resinous, fissile to massive, compact, calcite prisms; color becomes olive gray at 1120 with bluish gray bentonite and increased calcite prisms.
1210-1300	Shale, medium gray, calcareous, resinous, flaky; less white specks.
1300-1330	Shale, dark gray, slightly calcareous, resinous, splintery.
1330-1420	Sand, fine to medium grained, subrounded to rounded, clear to frosted with iron stains; a few chips of shale.
1420-1480	Sand, as above; a few chips of shale, yellowish gray, calcareous, massive, silty, compact.
1480-1560	Shale, medium dark gray, resinous, slightly calcareous and bentonitic, fissile to platy; splintery at 1510; iron-stains at 1520.
1560-1590	Shale, medium dark gray, slightly calcareous, splintery, brittle; a few iron carbonate pellets, becoming abundant at 1570; shale is very platy and resinous at 1580.
1590-1610	Shale, as above; sand, medium grained, subangular to rounded, frosted to clear; some particles of reddish clay.

1610-1620 Sand, medium grained subrounded to rounded, frosted to clear, argillaceous, pyritic; shale, as above.

1620-1640 Sand, as above, with iron-carbonate pellets; siltstone, very light gray with abundant finely divided pyrite.

1640-1670 Sand, as above; shale, medium dark gray, brittle, resinous, with black biotite inclusions, slightly calcareous.

1670-1710 Siltstone, olive gray, very compact and hard, non-calcareous to calcareous; some silty limestone; very light gray, soft.

1710-1720 Siltstone, light olive gray, calcareous, limonite staining; also iron-stained calcite.

1720-1780 Sand, medium to coarse grained, subrounded to rounded, quartz with considerable pyrite; rounded pieces of bluish gray chert and agate; a few chips of yellowish gray limestone at 1770.

1780-1790 Siltstone, quartz grains cemented with pyrite, non-calcareous. Very porous; also sand, as above.

1790-1825 Siltstone, pale reddish brown, argillaceous with rounded grains of quartz; chips of light brown limestone at 1800; also light gray speckled limestone.

1825-1860 Siltstone, moderate reddish brown, calcareous; becoming slightly less calcareous downward.

1860 (circulation-3/4 hour) Siltstone, as above; calcareous; sand, medium grained; limestone, pinkish gray, sucrosic with brownish stains.

1860-1865 Siltstone, as above; limestone, pinkish gray, sucrosic, porous, a few chalky pieces.

1865-1885 Limestone, as above; becomes sandy with rounded to subrounded grains of sand; a few pieces are slabby at 1880.

1885-1895 Limestone, pinkish gray, grainy to chalky, loose with some fractural porosity.

1895-1950 Limestone, as above, but becoming slabby with large calcite crystal inclusions; fossiliferous at 1945.

1950-1955 Limestone, pinkish gray, sucrosic to slabby, pinpoint porosity.

1955-1960 Shale - caving from above.

1960-1980 Limestone, pinkish gray, sucrosic; both pinpoint and tubular porosity; some vugs; siltstone, pale reddish brown, calcareous.

1980-1990 Limestone, grayish orange pink, pink caste as from specks of silt; slabby to sucrosic; pyrite inclusions in limestone.

1990-2000 Limestone, as above, plus pale reddish brown siltstone.

2000-2005 Limestone, pinkish gray mottled moderate orange pink, slabby; black linear inclusions.

2005-2010 Limestone, pinkish gray, slabby, negligible porosity.

2010-2020 Limestone, grayish orange pink, slabby; argillaceous with abundant iron stains.

2020-2050 Siltstone; moderate reddish brown, argillaceous, sandy; highly calcareous.

2053 Total depth.