

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 89

Summary of Ray Holbert Drilling Company - Sarah Dunbar No. 1  
Foster County, North Dakota  
Permit # 303 - Well # 287

by LaVerne B. Nelson  
August 1954

Ray Holbert - Sarah Dunbar No. 1, Foster County, North Dakota. NW NW Section 13, T. 146N., R. 63W. (660 feet from North line and 660 feet from West line). Elevation GL 1513 feet, KB 1518 feet.

The Ray Holbert Drilling Co.- Sarah Dunbar No 1 was spudded March 10, 1953. 10 3/4" casing was set to a depth of 150 feet and cemented with 150 sacks of cement. 9 5/8" casing was set from 150' to 300' with 150 sacks of cement. The well was drilled to a total depth of 3118 feet (Schl.). (3121 feet driller). The well was plugged and abandoned March 31, 1953.

Plugging record

Surface with 2 sacks of cement	1780 feet with 10 sacks of cement
300 feet with 10 sacks of cement	2300 feet with 10 sacks of cement
1300 feet with 10 sacks of cement	2950 feet with 10 sacks of cement

DST

DST #1 2372-2446

Tool open 1 hour, shut in 15 minutes. Strong blow for 5 minutes, reset tool for 43 minutes recovered 140' fluid, being 70' slightly water cut mud, 70' very slightly gas cut mud w/RBSO, slight odor, tool plugged, no pressures.

DST #2 2372-2446

Tool open 1 hour, recovered 2160' fresh water, no show. Flow pressure 750#, 15 minutes shut-in pressure 990#, hydrostatic pressure 1190#.

DST #3 2792-3030 - Misrun

DST #4 2792-3030

Tool open 25 minutes, shut-in 15 minutes, recovered 350' muddy water and sediment. Flow pressure and shut-in pressure 1570#, hydrostatic pressure 1650#.

Formation tops were determined from samples and electric logs. Depths were determined from electric log depths unless otherwise stated. Colors were determined from rock color chart.

FORMATION TOPS

Cretaceous System	Greenhorn	1010 (electric log)
Muddy zone		1325 (electric log)
Dakota		1464
Mississippian System		

Lodgepole	1750
Englewood	1877
Devonian System	1935
Silurian System	
Interlake	2090
Ordovician System	
Upper Stony Mountain	2180
Lower Stony Mountain	2257
Red River	2290
Winnipeg Shale	2840
Winnipeg Sand	3037
Pre Cambrian	
Granite	3107

1390-1400	Shale, medium dark gray, flaky, disaggregated, calcareous, silty, some very fine, rounded, frosted quartz sand, traces of rounded, small, yellowish gray dolomite fragments, and white bentonite and pyrite.
1400-1440	Missing samples.
1440-1460	Shale, medium light gray, lumpy, compact, calcareous, trace of fine grained, cemented, glauconitic sand, and pyrite cemented quartz grains, trace of yellowish gray, sublithographic dolomite and fragmental limestone.
1460-1520	Shale, medium light gray, lumpy, compact, calcareous little brown, lithographic dolomite and yellowish gray limestone, some pyrite and bluish white, micaceous bentonite, trace of glauconitic, fine grained, cemented sand.
1520-1570	Shale, medium gray. Lumpy, spongy, bentonitic. Little bluish white micaceous bentonite. Pyrite and pyrite cemented quartz grains little brown lithographic dolomite and yellowish gray limestone.
1570-1600	Sandstone, quartz pebbles, angular, frosted and pitted. Little pyrite cemented quartz grains.
1600-1620	Siltstone, medium gray, argillaceous. Little moderate reddish orange silt. Little medium subangular quartz grains.
1620-1690	Sandstone, fine to medium, subangular, frosted pitted, white, shaly.
1690-1750	Sandstone, some fine grained as above with many well rounded pebbles of quartz and dolomite.
1750-1760	Siltstone, medium gray, argillaceous trace of white, chalky limestone.
1760-1840	Limestone, white, soft, chalky silty medium gray shale.
1840-1900	Limestone, yellowish gray grainy dolomite, good interstitial and pinpoint porosity. Some crinoid stems.
1900-1930	Shale, pale reddish purple, silty and mustard yellow silty shale. Some medium gray shale. Streak of white subcrystalline anhydrite.
1930-1980	Dolomite, light brown and pale red, subcrystalline, little fair pinpoint porosity. Streaks of yellowish gray, sucrosic, calcitic dolomite.
1980-2010	Limestone, yellowish gray, lithographic, fragmental fossiliferous in part. Much dolomite as above.
2010-2040	Limestone, pale red and light brown, lithographic, dense, a little dusky red purple mottling.

2040-2080 Limestone, yellowish gray, grainy, dolomitic, some good pinpoint porosity. Trace of clear transparent calcite rhombs. Bands of salmon colored calcite crystals.

2080-2100 Limestone, yellowish gray, sublithographic, dense, with streaks of grainy limestone with fair porosity.

2100-2140 Dolomite, grayish orange pink, microsucrosic, calcitic. Some limestone as above.

2140-2150 Limestone, grayish orange pink, microsucrosic, dolomitic, argillaceous.

2150-2160 Dolomite, grayish orange pink, slabby good tubular and pinpoint porosity.

2160-2180 Dolomite, pinkish gray, slabby good porosity.

2180-2270 Limestone, moderate yellow, argillaceous, grainy dolomitic limestone, and pinkish gray, grainy dolomitic limestone, good porosity.

2270-2300 Limestone, yellowish gray, lithographic, dense.

2300-2310 Dolomite, pinkish gray, subcrystalline to microsucrosic. Some interstitial porosity.

2310-2330 Limestone, yellowish gray to light brown, sublithographic to microsucrosic, dolomitic. Little greenish gray compact, massive, calcareous, bentonitic shale, little dolomite as above.

2330-2360 Dolomite, grayish orange pink, sucrosic, calcitic some pale red purple, sublithographic dolomite.

2360-2379 Limestone, white to very pale orange, microsucrosic, dolomitic, some pale red banding and mottling.

2379 Circulation 45 minutes. Limestone as above.

2379-2381 Limestone, as above.

2381 Circulation 1 hour 15 minutes. Limestone as above.

2390-2400 Limestone, very pale orange, microsucrosic, dolomitic, much very pale orange, sucrosic, calcitic dolomite.

2400-2470 Dolomite, pinkish gray to very pale orange, subcrystalline with some rhombic, some streaks of good porosity.

2470- Circulation 2 hours 15 minutes. Dolomite as above.

2470-2510 Dolomite, very pale orange to pale yellowish brown, subcrystalline, rhombic in part. Streaks of good porosity.

2510-2530 Dolomite as above, much grayish orange pink, subcrystalline, some good tubular porosity.

2530-2550 Dolomite very pale orange, subcrystalline, rhombic in part, good vuggy porosity.

2550-2600 Limestone, white, fragmental, in sucrosic limestone matrix, some pale red mottling. Fossiliferous brachiopods. No porosity.

2600-2660 Limestone, white, oolitic, fragmental microsucrosic, fair interstitial porosity. Traces of white chert.

2660-2670 Dolomite, very pale orange, sucrosic to subcrystalline some good tubular porosity.

2670-2840 Limestone, white to very pale orange, microsucrosic, fragmental in part. Poor to no porosity.

2840-2850 Lost circulation, poor samples.

2850-2900 Shale, pale brown, lumpy, calcareous, some microsucrosic limestone, some greenish gray, lumpy, bentonitic, calcareous shale.

2900-2910 Shale, pale brown, lumpy, calcareous, some greenish gray, lumpy, bentonitic, calcareous, some limestone as above.

2910-2950 Shale, greenish gray, pale red purple, and medium gray, slightly calcareous bentonitic, some very pale orange microsucrosic limestone. A little moderate red, calcareous silt.

2950-3040 Shale, grayish red, greenish gray, brittle, soapy to waxy luster, bentonitic, slightly calcareous, thin bedded.

3040-3099 Sandstone, fine (90%) to medium grained, well rounded, glauconitic, frosted quartzose, cemented, slightly calcareous, some moderate reddish orange silt.

3108 Granite, (electric log) samples end at 3099.