

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 120

Summary of the Turner Oil Co. - Theodore Belanus #1
Pembina County, North Dakota
Permit #713 - Well #700

By Dan E. Hansen
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Turner Oil Company - Theodore Belanus #1, Pembina County, North Dakota, NE 1/4, SE 1/4 Section 28, T. 164N. R. 56W. (2222 feet from south line, 500 feet from east line), Elevation 952 GL.

The Turner Oil Company - Belanus #1 was spudded September 1, 1954, by Zachmeir and Wetch of Mandan, North Dakota. 8 1/4" surface casing was set at 209 feet with 80 sacks of cement. The well was drilled to a total depth of 1544 feet and ended in the Precambrian.

No cores or drill stem tests taken. Schlumberger electric log run. Cement plugs of 10 sacks each were set at the following depths: 1510, 750, 206, and at surface.

Formation tops determined from samples and electric log. Colors were determined from Rock Color Chart.

FORMATION TOPS

Cretaceous System	
Dakota	210?
Silurian System	
Interlake Group	510
Ordovician System	
Upper Stony Mountain	696
Lower Stony Mountain	760
Red River Formation	852
Winnipeg Formation	1433
Winnipeg Sand	1528
Precambrian	1540

0-220	Samples missing.
220-230	Silt, medium-gray, soft, lumpy, micaceous, bentonitic.
230-260	Sandstone, medium-grained, angular subrounded, loose quartz grains. Some pyrite cemented, fragments of pyritized carbonaceous material.
260-270	Silt as above.
270-310	Sandstone, fine-coarse-grained, subangular-subrounded, loose, clear, quartz grains. Some medium-gray calcareous and bentonitic silty shale. Coal fragments.
310-330	Sandstone, as above, much pyrite cement.
330-360	Clay, massive, soft, calcareous, pale red brown and sandstone as above red stained, some white, kaolinitic clay.

360-380	Sandstone and silt, very-fine grained, quartzose, light gray, calcareous with light gray, fine medium-grained crystalline, vuggy limestone.
380-390	Silt, light gray, calcareous.
390-400	Silt, as above and very silty, light gray, dense limestone.
400-410	Clay, red-brown, soft, calcareous with light green-gray, sandy (very fine grained) silt.
410-420	Clay and sandstone, light-green-gray, calcareous clay with very fine grained quartz.
420-450	Clay, moderate-brown, very calcareous.
450-460	Clay, light gray, very calcareous,
460-470	Sandstone, very-fine grained, light gray to white, very calcareous with pale yellowish brown clay, calcareous. Few loose grains of medium coarse rounded quartz.
470-480	Clay, light gray, calcareous, with fine-grained sandstone as above.
480-500	Clay, pale yellowish brown, silty, with few loose quartz grains, sandstone as above, and pale red brown silt.
500-510	Clay, grayish red, calcareous.
510-520	Limestone, dolomitic, white grayish pink, few fragments contained fine grained quartz.
520-590	Dolomite, very pale orange, some red stained, very fine grained, dense to microsucrosic, white, pink, chert. Red silt at 580-590.
590-600	Dolomite, very pale orange, fine grained microsucrosic and medium grained oolitic, spherical, elliptical.
660-650	Dolomite, very pale orange, red stains, limey, fine medium grained, granular. Some red brown silt. Traces cherty fragments.
650-660	Dolomite, pale red, fine grained, crystalline, dense, vuggy, vugs generally filled with moderate orange pink dolomite.
660-690	Dolomite, very pale orange, fine grained, crystalline, dense, some chert some red staining, with red brown clay.
690-710	Siltstone, dolomitic, pale to moderate red. Much loose, fine medium grained rounded frosted clear quartz grains.
710-740	Dolomite, white very pale orange, fine grained, grainy to crystalline, some vuggy porosity.
740-750	Dolomite, light brown, as above.
750-770	Dolomite, grayish orange pink, fine grained, granular, with dolomite as above.
770-830	Limestone, grayish orange pink, fine coarse grained, fragmental, fossiliferous. Many bryozoan fragments. Red stain and shaly.
830-840	Limestone, as above, plus red brown, calcareous silt.
840-860	Limestone, yellowish gray, fine grained, crystalline to sublithographic some paper thin light gray shale.
860-960	Limestone, yellowish gray, pinkish gray, fine medium grained, granular and fragmental to fine grained crystalline.
960-970	Sample missing.
970-990	Limestone as above.
990-1060	Limestone, white yellowish gray, fine medium grained granular to sublithographic. Trace chert.
1060-1165	Limestone, pale yellowish brown, fine medium grained, granular, crystalline, vuggy and intergranular porosity, anhydrite filling, trace, fossiliferous.
1165-1200	Limestone, grayish orange pink, yellowish brown, as above.
1200-1265	Limestone, as above, plus fragmental limestone, coarse grained.

1265-1435 Limestone, light gray, yellowish gray, fine grained, crystalline and medium coarse grained, fragmental, slightly shaly, fossiliferous, dense.

1435-1528 Shale, greenish gray, compact, splintery, waxy.

1528-1536 Sandstone, fine medium grained, subangular to rounded, frosted, clear, loose quartz grains.

1536-1538 Shale and sandstone, as above, plus large fragments of pink clear feldspar biotite, and quartz.