

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 122

Summary of William Herbert Hunt - L. C. Anderson #1
Mountrail County, North Dakota
Well No. 528 - Permit No. 541

By LaVerne B. Nelson
October 1955

W. H. Hunt - L. C. Anderson #1, Mountrail County, North Dakota, NW 1/4, NE 1/4 Section 25, T. 157N., R. 89W. (1980 feet from east line, 660 feet from north line). Elevation 2271 K.B.

The Hunt - Anderson #1 was spudded February 18, 1954. 10 3/4" casing was set at 263 with 300 sacks of cement. The well was completed as a dry hole May 13, 1954 at a total depth of 10,671 feet.

Cement plugs were set at following depths:

Surface with 10 sacks cement
285' - 342' - 30 sacks cement
4513' - 4600' - 30 sacks cement
6663' - 6750' - 30 sacks cement
7313' - 7400' - 30 sacks cement

DRILL STEM TESTS

- DST #1 - 7373-7419 - Tool open 4 hours. Attempted to shut tool in, unable to move pipe and close tool. Stuck drill pipe. Reversed out, no shows.
- DST #2 - 7422-7491 - Tool open 2 1/2 hours. Shut in 30 minutes. Recovered 90 feet of drilling mud, no shows. FP 28-40#, HP 4005-3835#, BHSIP 55#.
- DST #3 - 7580-7675 - Tool open 4 hours. Shut in 30 minutes. Recovered 120 feet of drilling mud, no show and 450 feet of black salty sulfur water. FP 20-330#, HP 4100-3995#, BHSIP 3250#.
- DST #4 - 8537-8553 - Tool open 1 1/2 hours. Shut in 30 minutes. Recovered 60 feet of drilling mud, no shows, FP 0, BP 4490-4890#, BHSIP 385#.
- DST #5 - 8967-9051 - Tool open 4 hours. Shut in 30 minutes. Recovered 1450 feet salt water, no shows. FP 330-1262#, HP 4895-4780#, BHSIP 3568#.
- DST # 6 - 9103-9177 - Tool open 4 hours. Shut in 30 minutes. Recovered 1016 feet of muddy water cushion and 1138 feet of salt water, no shows. FP 608-882#, HP 4895-4813#, BHSIP 3595#.
- DST # 7 - 10,156-10,208 - Misstrun.

Formation tops were determined from radioactivity log and samples corrected to radioactivity log tops. Not all lithologic units were called in the following list. Colors were determined from the rock color chart.

FORMATION TOPS

Cretaceous System	
Pierre Formation	1790
Niobrara Formation	3480
Greenhorn Formation	3955
Fall River Formation (formerly called "Dakota" silt)	4610
Jurrassic System	4910
Piper Lime	5700
Triassic System	
Spearfish Formation	5892
Pennsylvanian System	
Big Snowy Group	6210
Kibbey Sand	6340
Kibbey Lime	6465
Charles Formation	6625
Mission Canyon Formation	7050
Lodgepole Formation	7395
Englewood Formation	8404
Devonian System	
Lyleton Formation	8465
Nisku Formation	8670
Duperow Formation	8793
Souris River Formation	9255
Dawson Bay Formation	9516
Prairie Evaporite	9660
Winnipegosis Formation	10,190
Ashern Formation	10,265
Silurian System	
Interlake Formation	10,355

340-460	Silty shale, medium light gray, lumpy, bentonitic.
460-930	Silty shale, medium light gray, earthy, bentonitic, lumpy.
930-960	Silty shale, as above. Few fine grained, subangular quartz grains.
960-990	Shale, light gray, earthy luster, lumpy, spongy, bentonitic, silty.
990-1410	Shale, as above. Some fine to medium grained, subangular, frosted quartz grains. Traces of fine grained, pink dolomite.
1410-1470	Shale, light gray, earthy luster, lumpy, spongy, silty.
1470-1620	Shale, medium light gray and light brown, earthy, iron stained, lumpy, spongy, silty.
1620-1860	Shale, light olive gray, earthy luster, lumpy, spongy, silty, some lignite.
1860-1980	Shale, medium gray and light brown, earthy luster, lumpy, spongy, silty. Some black lignite.
1980-2040	Shale, medium gray, earthy luster, lumpy, spongy, silty.
2040-2250	Shale, medium gray, earthy luster, massive, compact, slightly bentonitic.
2250-2310	Shale, medium gray, earthy luster, lumpy, spongy.

2310-2340 Shale, dark gray, earthy luster, lumpy, disaggregated.
2340-2430 Shale, light olive gray, earthy luster, lumpy, compact, bentonitic. Some medium dark gray, fissile, shale.
2430-2510 Shale, medium gray, earthy luster, flaky, disaggregated.
2510-2550 Shale, medium gray, earthy luster, lumpy, spongy.
2550-2560 Shale, medium gray, earthy luster, flaky, disaggregated.
2560-2580 Shale, medium light gray, earthy luster, lumpy, compact. Traces of black lignite.
2580-2630 Shale, light olive gray, earthy luster, lumpy and flaky, disaggregated. Trace of white limestone.(inclusions?)
2630-2670 Shale, medium light gray, earthy luster, flaky to fissile, spongy, slightly bentonitic.
2670-2700 Shale, medium dark gray, earthy luster, flaky, disaggregated. Slight trace of iron staining.
2700-2730 Shale, medium gray, earthy, lumpy, disaggregated.
2730-2790 Shale, medium gray, earthy, massive, compact, slightly bentonitic.
2790-2830 Shale, dark gray, earthy luster, massive, compact.
2830-2850 Shale, medium light gray, earthy luster, compact, spongy. Trace of Inoceramus prisms and shells.
2850-3000 Shale, medium gray and medium dark gray, flaky disaggregated, earthy luster. Trace of lignite.
3000-3120 Shale, medium light gray to greenish gray, earthy, lumpy, spongy, bentonitic. Trace of brown, hard, dense, dolomitic siltstone.
3120-3180 Shale, light olive gray, earthy luster, lumpy, spongy, bentonitic. Trace of brown siltstone.
3180-3210 Missing samples.
3210-3420 Shale, medium gray, earthy luster, lumpy and flaky, spongy, bentonitic.
3420-3450 Shale, medium light gray to light olive gray, earthy, lumpy, spongy, bentonitic. Some well rounded pebbles of detrital limestone and brown, dense, hard, siltstone.
3450-3510 Shale, medium gray, earthy, flaky and lumpy, disaggregated, bentonitic. Some limestone inclusions and brown, dense, hard siltstone.
3510-3750 Shale, medium light to greenish gray, flaky and lumpy, disaggregated earthy, bentonitic, spongy.

Greenhorn 3730
3750-3900 Shale, medium dark gray, earthy luster, fissile to flaky, spongy, some white specks, calcareous.
3900-4180 Shale, medium dark gray to dark gray, earthy, fissile, spongy, white specks, calcareous. Some limestone fragments and Inoceramus prisms.
4180-4440 Shale, dark gray, earthy luster, fissile to platy, spongy to slightly brittle.
4440-4560 Shale, medium gray, earthy luster, fissile, disaggregated to spongy, bentonitic.
4560-4590 Missing samples.
4590-4650 Sandstone, fine grained, angular, pitted and frosted, loosely cemented, friable, white quartzose sandstone.
4650-4670 Siltstone, dense, hard, silica cemented, dolomitic, pale yellowish brown, siltstone. Traces of glauconite.

4670-4720 Shale, medium dark gray, earthy, lumpy and flaky, spongy.

4720-4820 Sandstone, fine grained, well rounded, frosted, well cemented with pyrite and silica. Some iron staining.

4820-4850 Sandstone, as above. Some medium grained, subangular, vitreous and pitted quartz grains.

4850-4910 Sandstone, medium grained, subangular, frosted and vitreous, white quartz grains. Few rose tinted grains.

4910-4960 Shale, medium dark gray, earthy luster, flaky and fissile, spongy. Some silt and very fine grained, calcite cemented sandstone.

4960-5010 Sandstone, very fine grained calcite cemented, micaceous, well rounded, friable, white with green glauconite specks. Some siltstone and medium dark gray and greenish gray shale.

5010-5030 Sandstone, as above. Much greenish gray, soapy luster, flaky, spongy shale. Some medium dark gray shale.

5030-5100 Sandstone, very fine grained,, friable, white, slightly micaceous, glauconitic, calcite cemented.

5100-5120 Sandstone, as above. Some greenish gray, soapy luster, flaky, spongy shale and medium dark gray, earthy luster, flaky to fissile shale.

5120-5140 Greenish gray and medium dark gray as above. Decrease in amount of sandstone as above.

5140-5220 Sandstone, very fine grained, coated and vitreous, friable, calcite cemented, glauconitic. Some shale as above.

5220-5240 Shale, greenish gray, soapy luster, flaky, spongy, and dark gray, earthy, platy, compact. Little sandstone as above.

5240-5280 Limey sandstone, very fine grained, very highly calcareous, calcite becoming nearly 50% of matrix, also medium grained sand inclusions.

5280-5390 Shale, varicolored greenish gray, light olive gray, pale reddish brown, and dark gray, waxy to soapy luster, flaky and splintery, spongy to compact.

5390-5460 Shale, greenish gray, platy to massive, brittle to compact, earthy to soapy luster, Some grayish red, massive, compact, resinous luster, shale.

5460-5540 Shale, varicolored greenish gray, grayish red, light olive gray, dark gray, waxy luster, splintery and flaky, slightly brittle.

5540-5580 Sandy Limestone, fine grained matrix, with very fine grained quartz sand grains dispersed throughout.

5580-5590 Shale, greenish gray, grayish red, dark gray, light olive gray, soapy luster, splintery, compact to slightly brittle. Traces of very fine to sublithographic limestone.

5590-5620 Limestone, sublithographic, dense, light brownish gray. Much shale as above.

5620-5710 Shale, greenish gray, soapy luster, splintery and platy, brittle and grayish red and dark gray shale. Little limestone as above. Some purple and white shale.

5710-5780 Limestone, sublithographic, dense, white to yellowish gray. Some shale as above.

5780-5810 Shale, varicolored greenish gray, light olive gray, grayish red, dark gray, waxy and soapy luster, splintery, slightly brittle. Some limestone as above.

5810-5910 Shale and Gypsum. Shale as above. Trace of white granular gypsum. Trace of limestone.

5910-6210 Sandstone, very fine grained, slightly calcareous, possibly calcite cemented, friable, pale reddish brown, quartzose sandstone, slightly micaceous. Some grayish red, resinous luster, massive, compact shale, and greenish gray shale. Trace of gypsum and anhydrite inclusions.

6210-6240 Shale, varicolored moderate yellow, grayish red, greenish gray, grayish red purple, white, massive, brittle, resinous luster. Some sandstone as above.

6240-6300 Shale, varicolored moderate reddish orange pink, grayish red purple, massive, vitreous luster calcareous, brittle. Some black, waxy luster, fissile shale.

6300-6340 Shale, varicolored moderate orange pink, pale red, grayish red purple, greenish gray and black, resinous to soapy luster, compact, brittle.

6340-6400 Sandstone, fine to very fine grained, iron stained, moderate reddish orange, fairly well cemented, slightly calcareous.

6400-6470 Sandstone and shale, as above. Much dark gray to black fissile shale and grayish red and green shale. Radioactivity log indicates thin (5-10 foot) shale breaks between sandstone.

6470-6480 Anhydrite, white to light brown, massive, dense.

6480-6520 Limestone, sublithographic and medium fragmental with brown anhydrite fragments and cavity fillings, very pale orange, quite dense.

6520-6590 Shale, moderate reddish orange, resinous luster, massive, compact, slightly dolomitic and silty. Some moderate reddish orange, argillaceous siltstone.

6590-6620 Gypsum and anhydrite, white, friable and massive. Some shale as above.

6620-6630 Missing Sample.

6630-6690 Anhydrite and dolomite, fine to very fine grained, dense, yellowish gray and white dense and granular in part anhydrite.

6690-6720 Limestone, yellowish gray, fine to medium fragmental, good vuggy and tubular porosity.

6720-6750 Limestone, yellowish gray, fine grained to sublithographic, friable. Some white and bluish white, dense, massive anhydrite.

6750-6820 Anhydrite, white, bluish white and light gray, dense, massive, some limestone as above.

6820-6860 Limestone, very fine grained to sublithographic, yellowish gray, dense. Some anhydrite as above.

6860-6920 Anhydrite, white, massive, dense, rubbly appearing. Much shale and some limestone, as above.

6920-6950 Limey anhydrite, white, crystalline anhydrite and yellowish brown limestone.

6950-7000 Limestone, yellowish gray, sublithographic to very fine grained, dense, anhydritic. Some yellowish gray, fine grained, fragmental limestone.

7000-7030 Limey anhydrite, white to yellowish gray, dense, massive, rubbly appearance. Some vuggy porosity. Some yellowish gray, fine grained limestone.

7030-7040 Limestone, yellowish gray, fine grained, granular to dense.

7040-7070 Limestone, yellowish gray, fine to medium, rounded, fragmental. Some limestone as above.

7070-7080 Anhydrite, white, massive, dense. Some limestone as above.

7080-7200 Limestone, light brownish gray, lithographic. Some very fine grained, friable, yellowish gray limestone.

7200-7280 Limestone, yellowish gray, very fine grained to sub-lithographic, dense, slightly fragmental in part.

7280-7290 Limestone, light brownish gray, lithographic.

7290-7320 Limestone, yellowish gray, very fine crystalline and sublithographic. Some fragmental limestone with little porosity.

7320-7360 Limestone, yellowish gray, fine to medium fragmental, oolitic in part, poor to fair porosity. Some limestone as above.

7360-7382 Limestone, very light gray, very fine crystalline to sublithographic, dense, in part lithographic and fragmental.

7382 Circulation 1/4 hr. Limestone as above.

7382-7415 Limestone, very light gray to yellowish gray, very fine grained to sublithographic, dense.

7415-7419 Circulation 1/4 hr. Limestone, yellowish gray, fine grained, granular to sublithographic, dense.

7415-7419 Circulation 1/4 hr. Limestone as above.

7415-7419 Circulation 3/4 hr. Limestone, yellowish gray, medium, well rounded fragmental, and fine grained, dense.

7415-7419 Circulation 1 hr. Limestone as above.

7415-7419 Circulation 1 1/4 hr. Limestone as above.

7415-7419 Circulation 1 1/2 hr. Limestone as above.

7415-7419 Circulation 1 3/4 hr. Limestone as above.

7415-7419 Circulation 2 hrs. Limestone as above.

7420-7500 Limestone, light brownish gray, very fine. Crystalline, dense, and yellowish gray, fine grained, fragmental.

7500-7525 Limestone, light yellowish gray, fine grained fragmental to sublithographic in part. Some yellowish brown, very fine crystalline limestone.

7525-7590 Limestone, very light gray, very fine crystalline, dense. Some limestone as above.

7590-7620 Limestone, light yellowish gray, very fine grained to sublithographic. Some light brownish gray, crystalline fragmental limestone.

7620-7785 Limestone, very light gray to yellowish gray, very fine to fine granular, some yellowish brown, fine crystalline fragmental limestone.

7785-7810 Limestone, light gray, very fine crystalline to sublithographic. Traces of Brachiopod fossils.

7810-7910 Limestone, light yellowish gray to pinkish gray, fine granular to very fine crystalline, and sublithographic, few Brachiopod fossils.

7910-8030 Limestone, light gray, to light brownish gray, very fine crystalline, dense, sublithographic in part.

8030-8165 Limestone, very light gray, sublithographic, in part very fine crystalline.

8165-8190 Limestone, light gray to light brownish gray, very fine crystalline. Some very light gray, sublithographic limestone.

8190-8200 Limestone, white to very light gray, sublithographic.

8200-8380 Limestone, light gray to very light gray, very fine grained to very fine crystalline. Some brownish gray chert.

8380-8425 Shale, dark gray, fissile, compact. Some limestone as above.

8425-8445 Shale, dark gray, fissile. Some medium gray, fine to medium grained limestone and clear, white, angular, fine to medium quartz grains.

8445-8465 Shale, medium dark gray to dark gray, compact.

8465-8500 Limestone, pinkish gray with green bands and mottles, slightly silty. Some green argillaceous limestone with pyrite inclusions.

8500-8540 Limestone, pinkish gray becoming moderate orange pink with depth, fine to medium grained, fairly dense, slightly silty.

8540-8580 Shale and limestone. Shale, dark gray, greenish gray, green, and pale red, fissile to compact, slightly calcareous. Some limestone, pinkish gray, fine grained, silty.

8580-8675 Shale, dark gray, pale red, green and greenish gray, compact. Some fine grained silty pinkish gray limestone. Trace of white gypsum.

6675-8700 Limestone, pinkish gray to light brownish gray, medium, subangular fragmental and fine to medium grained.

8700-8720 Limestone, grayish orange pink to pinkish gray, fine grained, medium fragmental and sublithographic. Traces of anhydrite.

8720-8750 Limestone, pinkish gray, fine to medium grained, granular. Trace of anhydrite.

8750-8790 Limestone, very light gray, very fine grained to sublithographic, dense.

8790-8805 Shale, medium gray, fissile. Some limestone as above.

8805-8940 Limestone, yellowish gray and pinkish gray, very fine grained to sublithographic. Traces of anhydrite inclusions. Streaks of dark gray fissile shale.

8940-8960 Limestone, grayish orange pink to pinkish gray, very fine grained. Interbedded dark gray, fissile shale.

8960-9030 Limestone, yellowish gray to light gray, very fine grained to fine fragmental, slightly fossiliferous (Brachs). Traces of anhydrite.

9030-9060 Limestone, pinkish gray and light brownish gray, very fine crystalline and very fine grained, dense.

9060-9160 Limestone, pinkish gray, fine grained to very fine grained. Light brownish gray to brownish gray, very fine crystalline, dense.

9160-9225 Limestone, very light gray, fine grained to sublithographic. Some brownish gray, very fine crystalline limestone. Some dark gray, fissile shale.

9225-9250 Limestone, brownish gray and light gray, very fine crystalline. Some pinkish gray, very fine grained limestone.

9250-9300 Limestone, pinkish gray, very fine grained to sublithographic. Brownish gray, fine crystalline, dense. Interbedded dark gray shale. Traces of anhydrite inclusions.

9300-9340 Limestone, yellowish gray, very fine grained to sublithographic, dense. Interbedded dark gray shale.

9340-9520 Limestone, brownish gray, very fine crystalline and light gray to pinkish gray, very fine grained, slightly dolomitic. Some anhydrite inclusions. Some fine grained dolomite, yellowish brown.

9520-9540 Dolomite, grayish orange pink, medium to coarse grained. Some pinkish gray to yellowish gray, dolomitic, fine grained limestone.

9540-9605 Dolomite, pale yellowish brown, fine to coarsely grained. Traces of anhydrite. Some pinkish gray, fine grained dolomite. Fair to good pinpoint porosity.

9605-9660 Limestone, brownish gray and pinkish gray, sublithographic to lithographic. Some medium grained dolomite as above.

9660-9675 Limestone, as above. Trace moderate reddish orange to pale reddish brown calcareous claystone. Much dark gray, fissile shale. Trace of fine well rounded quartz grains.

9675-10,160 Salt, samples show cavings. Salt base mud was not used. Microlaterolog indicates salt with some shale streaks. 10,050.

10,160-10,190 Anhydrite, white to very light gray, massive and granular. Some gypsum. Some very fine grained to sublithographic, yellowish gray dolomite.

10,190-10,220 Dolomite, light brownish gray, fine grained, dense. Some brownish gray, sublithographic limestone.

10,220-10,265 Limestone, pinkish gray and brownish gray, sublithographic to lithographic.

10,265-10,360 Limestone, as above. Some green, dark gray and red shale.

10,360-10,440 Limestone, white, very fine crystalline, some pale red fine crystalline limestone.

10,440-10,617 Dolomite, very pale orange to white, fine grained to very fine crystalline, dense.

10,617 Total Depth.