

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 109

Summary of the Wm. Herbert Hunt Company - Ervin Horne #1
Mountrail County, North Dakota
Well No. 592 - Permit No. 606

By Clarence G. Carlson
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The Wm. Herbert Hunt Company - Ervin Horne #1, Mountrail County, North Dakota, C SE NW Section 14, T. 156N., R. 92W. Elevation 2322 K.B., 2311 G.L.

The Wm. Herbert Hunt - Ervin Horne was spudded May 21, 1954 and 10 3/4" casing was set at 600 feet with 150 sacks of cement. 7 inch casing was set at 8400 feet with 800 sacks of cement. The well was completed as a dry hole June 24, 1954 and abandoned. Total depth was 8699 feet.

Tests

DST #1 - 8258-8310 Tool open 15 minutes. Recovered 1320 feet of extremely salty salt water, no shows, FP 380-1075#, HP 4800#, 15 minutes SIP 3575#.

DST #2 - 8460-8573 Tool open 4 hours. Weak blow for 1 hour, then died. Recovered 1000 feet of muddy water cushion and 664 feet of black sulphur water. FP 650-875#, HP 5200-5100# 30 minute SIP 3200#.

DST #3 - 7870-7896 Failed to set tool.

DST #4 - 7854-7900 Tool open 2 hours. Recovered 30 feet of drilling mud. FP 0#, HP 4725-4625 30 minute SIP 0#.

Cement plugs were set at following depths:

surface - 10 sacks
290 - 350 - 30 sacks
4947 - 5000 - 20 sacks
8147 - 8200 - 20 sacks

Formation tops were picked from samples, electric and radioactivity logs, adjusted to electric log tops. Not all tops were called in following list. Colors determined from the rock color chart.

FORMATION TOPS

Cretaceous System	
Pierre Formation	1960
Niobrara Formation	3885
Greenhorn Formation	4340
Dakota	5052
Jurrassic System	
Morrison Formation	5410
Sundance Formation	5605
Piper Formation	6140

Triassic System

Spearfish Formation 6420

Mississippian System

Amsden Formation 6890

Big Snowy Group 7010

Kibbey Lime 7500

Charles Formation 7680

Mission Canyon Formation 8118

Lodgepole Formation 8510

360-440 Shale, yellowish gray, 5Y8/1, silty, calcareous.
 440-500 Shale, yellowish gray, medium gray, silty, calcareous.
 500-550 Shale, light gray, sandstone light gray, fine grained, silty, calcareous.
 550-570 Shale, light gray, yellowish gray, silty, calcareous.
 570-580 Shale, as above, sandstone light gray, fine grained, silty, calcareous.
 580-610 Shale, as above.
 610-630 Shale, light gray, lignite, sandstone light gray, fine grained, silty, calcareous.
 630-710 Shale, light gray, sandstone as above.
 710-740 Shale, light gray, silty, calcareous.
 740-830 Shale, as above, siltstone, light gray, calcareous.
 830-840 Siltstone, pale brown, with medium to coarse, subangular quartz grains.
 840-900 Siltstone, light gray, calcareous, shale, light gray.
 910-930 Siltstone, light gray, calcareous.
 930-940 Siltstone, as above, shale, pale yellowish brown, calcareous.
 940-1070 Siltstone, light gray, calcareous, sandy, shale, light gray.
 1070-1110 Shale, light gray, bentonitic, slightly calcareous, siltstone as above.
 1110-1160 Siltstone, light gray, sandy, calcareous.
 1160-1230 Siltstone, as above, shale, light gray, bentonitic, calcareous.
 1230-1290 Siltstone, as above, lignite, shale, as above.
 1290-1350 Siltstone, light gray, sandy, calcareous, shale light gray, bentonitic, calcareous.
 1350-1410 Siltstone, light gray, sandy, calcareous.
 1410-1470 Siltstone, as above, shale, light gray, bentonitic.
 1470-1490 Shale, light gray, pale brown, bentonitic, lignite.
 1490-1510 Shale, light gray, bentonitic, siltstone, light gray, sandy, calcareous.
 1510-1520 Lignite, shale, siltstone, as above.
 1520-1550 Siltstone, as above, shale, light gray, pale brown, bentonitic.
 1550-1570 Shale, light gray, pale yellowish brown, bentonitic.
 1570-1580 Shale, as above, some siltstone, light gray, calcareous with medium to coarse, subangular quartz grains.
 1580-1700 Shale, as above, siltstone, light gray, sandy, calcareous.
 1700-1720 Shale, light gray, bentonitic, lignite.
 1720-1760 Shale, light gray, bentonitic.
 1760-1780 Siltstone, light gray, sandy, calcareous, shale, light gray.
 1780-1820 Siltstone, as above, some lignite, shale, light gray.
 1820-1920 Siltstone, sandy, calcareous.
 1920-1960 Siltstone, as above, shale, light gray, bentonitic, calcareous.

1960-2020 Shale, light gray, bentonitic, calcareous, siltstone, as above.
 2030-2070 Shale, light gray, bentonitic, calcareous, siltstone, light gray, sandy, calcareous.
 2070-2090 Shale, light gray, bentonitic, some siltstone, as above.
 2090-2110 Shale, medium light gray, bentonitic, yellowish gray, bentonitic, silty.
 2110-2150 Shale, medium light gray, brownish gray, bentonitic, silty resinous, massive compact.
 2150-2160 Shale, shale yellowish brown, earthy, massive, compact.
 2160-2170 Shale, medium light gray, bentonitic, resinous, massive, compact.
 2170-2210 Shale, pale yellowish brown, silty, earthy, massive, compact.
 2210-2220 Shale, medium light gray, bentonitic, earthy, massive, compact.
 2220-2270 Shale, light brown, silty, slightly bentonitic, earthy, massive compact, some medium light gray, as above.
 2270-2380 Shale, medium light gray, bentonitic, earthy, massive, compact slightly silty.
 2380-2530 Shale, medium light gray, earthy, massive, compact.
 2540-2560 Shale, as above, some white bentonite.
 2560-2610 Shale, medium light gray, earthy, massive, compact.
 2610-2640 Shale, as above, some white bentonite.
 2640-2720 Shale, medium light gray, earthy, massive, compact.
 2720-2890 Shale, medium gray, earthy to resinous, massive compact.
 2890-2900 Shale, medium dark gray, earthy, massive, compact.
 2900-3000 Shale, medium gray, earthy to resinous, massive, compact.
 3000-3020 Shale, medium gray, as above, some white bentonite.
 3020-3030 Shale, medium gray, as above, some sandstone light yellowish gray, fine grained friable.
 3030-3060 Shale, medium gray, earthy to resinous, massive, compact, some white bentonite.
 3060-3370 Shale, medium gray, earthy, massive, compact.
 3370-3390 Shale, as above, little sandstone light yellowish gray, fine grained, friable.
 3390-3570 Shale, medium gray, earthy, massive, compact.
 3570-3580 Shale, as above, some white bentonite.
 3580-3610 Shale, medium gray, earthy, massive, compact.
 3610-3620 Shale, medium gray, light brownish gray, earthy, massive, compact.
 3620-3640 Shale, medium gray, earthy to resinous, massive, compact.
 3640-3890 Shale, medium to medium dark gray, earthy to resinous, massive compact.
 3890-3900 Shale, medium dark gray, resinous, massive, compact, some white bentonite.
 3900-3940 Shale, medium to medium dark gray, resinous, massive, compact.
 3940-3960 Shale, medium dark gray, calcareous, white specks, resinous foliated, compact.
 3960-4050 Shale, medium to medium dark gray, resinous, massive, compact calcareous.
 4050-4150 Shale, dark gray, calcareous, resinous, foliated, compact.
 4150-4180 Shale, dark gray to grayish black, slightly calcareous, resinous, to silky foliated, compact.
 4190-4220 Shale, dark gray, as above, medium gray, brownish stained resinous, massive compact.
 4220-4320 Shale, dark gray, calcareous, resinous, foliated, compact.
 4320-4400 Shale, dark gray, as above, medium gray, brownish stained resinous, massive compact.

4400-4420 Shale, medium to dark gray, calcareous, resinous, foliated, compact, some limestone white, fine to medium grained, fragmental.

4420-4450 Shale, dark gray, calcareous, white specks, resinous foliated, compact, some limestone as above.

4450-4500 Shale, as above.

4500-4530 Shale, dark gray, resinous, foliated, compact.

4530-4640 Shale, dark gray, calcareous, white specks.

4650-4700 Shale, dark gray, calcareous, earthy to resinous, foliated compact, some white specks.

4700-4850 Shale, dark gray, resinous, foliated, compact.

4850-4980 Shale, dark gray to grayish black, resinous, foliated, compact.

4980-4990 Shale, as above, sandstone light gray, fine grained, calcareous.

4990-5030 Shale, dark gray, resinous, foliated, compact.

5030-5090 Shale, dark gray, medium light gray, resinous, foliated, compact.

5090-5120 Sandstone, light gray, fine grained, calcareous.

5120-5150 Shale, dark gray, medium light gray, resinous, foliated, compact.

5150-5170 Sandstone, light gray, fine grained, shale, as above.

5170-5190 Shale, light gray, waxy, massive, compact, shale, as above.

5190-5210 Shale, dark gray, medium gray, resinous, massive, compact.

5210-5240 Shale, light gray, medium gray, waxy, massive, compact, sandstone light gray, fine to medium grained.

5240-5290 Shale, as above.

5290-5380 Sandstone, light gray, fine to medium grained.

5380-5420 Shale, light brownish gray, medium gray, waxy, massive, compact, sandstone, as above, with some coarse, subangular quartz grains.

5420-5450 Shale, dark gray, resinous, foliated, compact, medium gray, light brownish gray, waxy, massive, compact.

5450-5500 Shale, light to medium gray, waxy, massive, compact, sandstone light gray, very fine grained, calcareous.

5500-5510 Shale, light to medium gray, light brownish gray, waxy to resinous, compact.

5510-5560 Shale, as above, sandstone light gray, very fine grained, calcareous.

5560-5610 Shale, light gray, dark gray, light brownish gray, greenish gray 56Y6/1 slightly calcareous, waxy to resinous, foliated, compact.

5610-5650 Shale, as above, sandstone light gray, fine grained, calcareous.

5650-5670 Shale, light gray, dark gray, light brownish gray, slightly calcareous resinous, foliated, compact.

5670-5690 Shale, as above, sandstone light gray, fine grained, calcareous.

5690-5710 Shale, light greenish gray, medium to dark gray, resinous, foliated, compact.

5710-5770 Shale, as above, sandstone light gray, fine to medium grained, calcareous.

5780-5850 Shale, light greenish gray, medium gray, resinous, foliated, compact.

5850-5920 Shale, light greenish gray 56Y6/1, olive gray, slightly calcareous resinous, foliated, compact, sandstone light greenish gray, fine grain, slightly calcareous, some glauconitic.

5930-6000 Shale, as above, sandstone light gray to light greenish gray, fine grained, slightly calcareous.

6000-6040 Sandstone, light greenish gray, fine grained, slightly calcareous, shale, light greenish gray, resinous, platy, compact, calcareous.

6040-6080 Shale, greenish gray 5G6/1, slightly calcareous, resinous, platy, compact, some sandstone as above.

6080-6130 Shale, greenish gray, pale brown 5YR5/2, slightly calcareous, resinous, platy, compact, some sandstone as above.

6130-6150 Sandstone, light greenish gray, fine grained, calcareous, some shale, as above.

6150-6170 Limestone, white to very light gray, fine grained and fragmental.

6170-6180 Limestone, white to very light gray, very fine grained, dense.

6180-6190 Limestone, as above, shale, moderate brown, 5YR4/4, greenish gray, 564/1 slightly calcareous, resinous, platy, compact.

6190-6200 Shale, as above.

6200-6210 Shale, as above, some limestone white, very fine grained.

6210-6240 Shale, moderate, brown, pale brown, greenish gray, slightly calcareous, resinous to subwaxy, platy, compact.

6240-6270 Limestone, light gray, fine grained to fragmental, some shale, as above.

6270-6300 Shale, moderate brown, grayish red 10R4/2 greenish gray, calcareous, subwaxy to resinous, platy, compact.

6300-6340 Shale, as above and dark gray shale.

6340-6410 Shale, as above, some white gypsum.

6410-6440 Siltstone, moderate reddish orange, sandy, calcareous, white gypsum.

6440-6490 Siltstone, as above, with some loose, rounded, medium grains white gypsum.

6490-6580 Siltstone, as above, white gypsum, shale, grayish red.

6580-6630 Siltstone, moderate reddish orange, sandy, calcareous, some gypsum.

6630-6670 Shale, grayish red 10R4/2 calcareous, some siltstone, as above.

6670-6740 Sandstone, moderate reddish orange, very fine grained, calcareous, some white gypsum.

6740-6780 Sandstone, moderate reddish orange, very fine to medium grained, calcareous.

6780-6790 Sandstone, as above, white gypsum.

6790-6860 Sandstone, as above, white gypsum, shale, grayish red, resinous to subwaxy foliated, compact.

6860-6890 Sandstone, moderate reddish orange, fine to medium grained, calcareous, some medium to coarse, rounded, frosted quartz grains.

6390-6930 Dolomite, pale red to very light gray, fine grained.

6930-6950 Dolomite, pale red, fine grained, limey, argillaceous.

6950-6970 Limestone, grayish pink to light gray, fine grained, argillaceous.

6970-6980 Limestone as above, sandstone white to light gray, fine to medium grained, calcareous some limestone, dusky yellow, fine grained, argillaceous.

6980-7050 Shale, moderate red, 5R5/4 to moderate reddish brown, very calcareous, resinous, lumpy, spongy.

7050-7070 Shale, moderate red. 5R5/4 pale reddish brown, subwaxy, platy, brittle.

7070-7150 Shale, variegated, moderate red, pale reddish brown, grayish green 5G5/2 dusky yellow, grayish red, purple.

7150-7160 Shale, medium dark gray, subwaxy, platy, brittle.

7170-7190 Shale as above.

7190-7270 Shale, dark gray, pale reddish brown, grayish red 5R4/2 subwaxy, platy, brittle.

7270-7280 Shale, variegated as above, dolomite, light gray, fine grained, limey.

7280-7290 Limestone, light gray, finely crystalline, dense.

7290-7310 Limestone, as above, some variegated shale.
 7310-7330 Dolomite, light gray, fine grained, dense, some variegated shale.
 7330-7350 Shale, pale red, moderate reddish orange, calcareous.
 7350-7370 Shale, moderate reddish orange, calcareous, sandstone pale red
 fine grained, calcareous.
 7370-7380 Sandstone, pale red, fine grained, calcareous.
 7390-7410 Sandstone as above.
 7410-7510 Sandstone, pale red to very light gray, fine to medium grained,
 calcareous.
 7510-7520 Anhydrite, white.
 7520-7540 Limestone, light to medium gray, finely crystalline.
 7550-7580 Sandstone, light gray, very fine grained, very calcareous.
 7590-7610 Sandstone, pale red, fine grained, very calcareous.
 7610-7620 Sandstone, light gray, fine to medium grained, calcareous.
 7620-7690 Sandstone, pale red, light gray, fine to medium grained,
 calcareous.
 7690-7730 Anhydrite, white, dense.
 7730-7750 Limestone, light gray, fine grained, argillaceous, anhydrite.
 7750-7800 Anhydrite, white, some limestone as above.
 7800-7830 Limestone, light gray, fine grained, argillaceous, anhydrite.
 7870-7880 Limestone, light gray to light brownish gray, mostly very finely
 crystalline some oolitic.
 7900-7940 Anhydrite, white, some dense crystalline, some granular with
 yellowish brown, fine grained limestone.
 7940-7960 Limestone, light gray, oolitic, some anhydrite.
 7960-7970 Limestone, light gray to light brownish gray, fine gained and
 oolitic.
 7970-7990 Limestone, brownish gray, very finely crystalline.
 7990-8010 Limestone, light gray, fine grained.
 8010-8040 Anhydrite, white, dense.
 8040-8070 Limestone, light gray, fine grained, some anhydrite.
 8070-8100 Anhydrite, white, dense, some limestone as above.
 8100-8110 Limestone, light gray, fine grained, dolomitic, anhydrite.
 8110-8140 Dolomite, light brownish gray, fine grained, microsucrosic
 limestone as above.
 8150-8190 Anhydrite, bluish gray, dense.
 8190-8200 Limestone, brownish gray, fine grained.
 8200-8210 Limestone, light brownish gray, fine to medium grained.
 8210-8225 Anhydrite, bluish gray and white.
 8225-8245 Limestone, light brownish gray, fine to medium grained.
 8245-8260 Anhydrite, bluish gray.
 8260-8275 Limestone, light brownish gray, fine grained.
 8275-8305 Limestone, light brownish gray, microsucrosic.
 8305-8310 Limestone, light brownish gray, fine to medium grained.
 8310 Circulation limestone, as above.
 8310-8340 Limestone, light brownish gray, fine to medium grained.
 8340-8375 Limestone, yellowish gray, microsucrosic to fine grained.
 8375-8395 Limestone, light brownish gray, fine to medium crystalline, dense.
 8395-8430 Limestone, yellowish gray, fine to medium grained, fragmental.
 8430-8450 Limestone, light gray, fine grained, and limestone, as above.
 8450-8485 Limestone, light yellowish gray, microsucrosic.
 8485-8510 Limestone, light yellowish gray, fine to medium grained,
 fragmental.

8510-8550 Limestone, light yellowish gray to light brownish gray, fine to medium grained, fragmental.

8550-8560 Limestone, light brownish gray, medium grained.

8560-8605 Limestone, light yellowish gray to light brownish gray, fine to medium grained, fragmental.

8609-8670 Limestone, as above, few shell fragments.

8670-8690 Limestone, light gray to light yellowish gray, fine grained.