

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 95

Summary of the Wm. H. Hunt and Zach Brooks Drilling Co. State #1  
Bowman County, North Dakota  
Well #485, Permit #501

By Morton Strassberg  
November 1954

Wm. H. Hunt and Zach Brooks Drilling Co. - State #1, Bowman County,  
North Dakota C NW NW Section 16, T. 129N., R. 104W. (660 feet from N. line and  
660 feet from W line). Elevation G.L. 3200, K.B. 3212.

The Wm. H. Hunt - Zach Brooks - State #1 was spudded December 6, 1953  
and 13 3/8" casing was cemented at 750 feet with 550 sacks of cement. Seven  
inch casing was cemented at 10,000 feet with 1200 sacks of cement. The well  
was completed as a dry hole April 2, 1954 and was abandoned. Total depth  
10,013 feet.

- DST #1 9186-9220 - Packers failed to seat. Miss-Run.
- DST #2 9176-9221 - Tool open 3 hours. Shut in 30 minutes. Air immediately,  
weak blow for 90 minutes increasing to good blow which lasted for  
duration of test. No gas or fluid to surface. Recovered 61 stands of  
gas (5490'), 15 feet dark brown free oil; 175 feet heavily oil and  
gas cut drilling mud; 990 feet oil cut water; 570 feet slightly oil  
cut salt water. FP 470-475#, HP 4995-4870#, BHSIP in 30 minutes  
3315#.
- DST #3 9270-9332 - Tool open 4 hours. Shut in 30 minutes. Air immediately,  
weak blow for 150 minutes and died. Dead for 70 minutes. Weak blow  
for 60 minutes and died. Dead for remainder of test. No gas or fluid  
to surface. Recovered 60 feet slightly oil cut water; 420 feet oil  
and gas cut water; 270 feet muddy water. FP 120-370#, HP 5000-4900#,  
BHSIP in 30 minutes 2860#.
- DST #4 9335-9346 - Tool open 4 hours. Shut in 30 minutes. Air immediately,  
weak blow for 123 minutes and died. Dead for 32 minutes. Very weak  
blow for 1 hour and 26 minutes and died. Dead for remainder of test.  
No gas or fluid to surface. Recovered 184 feet muddy water and 400  
feet of salt water, no shows of oil and gas. FP 130-200#, HP 5025-  
5015#, BHSIP in 30 minutes 2910#.
- DST #5 9350-9402 - Tool open 4 hours. Shut in 30 minutes. Air immediately,  
gas to surface. Recovered 90 feet oil and gas cut mud; 240 feet  
thick, greasy, heavy, black frothy free oil estimated to be 29<sup>o</sup> API  
gravity; 180 feet oil cut water estimated to be 50%, 270 feet water  
with trace of oil; and 630 feet salt water. FP 100-455#, HP 5025-  
4955#, BHSIP in 30 minutes 3055#.
- DST #6 9400-9460 - Tool open 4 hours. Shut in 30 minutes. Air immediately,  
weak blow for 60 minutes increasing to good blow which lasted  
throughout test. No gas or fluid to surface. Recovered 240 feet of  
muddy water and 780 feet of salt water. FP 100-450#, HP 4975-4925#,  
BHSIP in 30 minutes 3150#.

No cores were taken.

Cement plugs were set at the following depths:

Surface with 10 sacks  
749- 809 with 30 sacks  
4670-4720 with 20 sacks  
7530-7580 with 20 sacks  
9105-9155 with 20 sacks

Formation tops were determined from samples and electric, micro and radioactivity logs and were corrected to electric log tops unless otherwise noted. Not all lithologic tops were called in the following list. Colors were determined from the rock color chart.

Formation Tops

Cretaceous System	
Niobrara Formation	3130
Greenhorn Formation	3735
Dakota	4720
Jurassic System	
Morrison Formation	4952 Samples
Sundance Formation	5088
Piper Formation	5690
Triassic System	
Spearfish Formation	5884
Permian System	
Minnekahta Formation	6330
Opeche Formation	6373
Pennsylvanian System	
Minnelusa Formation	6473
Mississippian System	
Amsden Formation	6625
Kibbey Limestone	6990
Charles Formation	7109
Mission Canyon Formation	7574
Lodgepole Formation	7915
Englewood Formation?	8360 Radioactivity
Devonian System - Top	
Ashern Formation	8596
Silurian System	
Interlake Group	8660
Ordovician System	
Upper Stony Mountain	8980
Lower Stony Mountain	9102
Red River Formation	9160
Winnipeg Formation	9709
Winnipeg Limestone	9803
Winnipeg Sandstone	9952

2000-2020 Shale, light to medium gray bentonitic.  
2020-2040 Shale, medium dark and light olive gray silty.  
2040-2060 Shale, medium light gray bentonitic and light olive gray.

2060-2090 Shale, medium light to medium gray, bentonitic.  
 2090-2100 Shale, medium dark to dark gray, white specks.  
 2100-2130 Shale, medium light to medium gray, shell fragments.  
 2130-2150 Shale, medium light to medium gray bentonitic.  
 2150-2160 Shale, medium light and light olive gray.  
 2160-2190 Shale, medium light and light olive gray, shell fragments.  
 2190-2230 Shale, medium light to medium gray and light olive gray.  
 2230-2240 Shale, medium light to medium dark gray, calcareous, and light olive gray shell fragments.  
 2240-2260 Shale, pale brown.  
 2260-2270 Shale, medium light to medium gray bentonitic and pale brown.  
 2270-2290 Shale, medium light to dark gray, pyritic and pale brown.  
 2290-2300 Shale, medium to medium dark gray and pale brown.  
 2300-2360 Shale, medium light to medium gray and pale brown calcareous, shell fragments.  
 2360-2370 Shale, medium gray, calcareous, shell fragments.  
 2370-2420 Shale, medium light to medium gray, calcareous, bentonitic and light olive gray, shell fragments.  
 2420-2450 Shale, medium gray, bentonitic, calcareous and pale brown, shell fragments.  
 2450-2480 Shale, medium light to medium gray, calcareous, bentonite, shell fragments.  
 2480-2500 Shale, medium gray bentonitic and pale brown shell fragments.  
 2500-2520 Shale, medium light to medium gray, bentonitic, calcareous.  
 2520-2540 Shale, medium gray, bentonitic, calcareous and pale brown.  
 2540-2630 Shale, medium gray, bentonitic, calcareous, shell fragments.  
 2630-2670 Shale, medium light to medium gray, calcareous.  
 2670-2700 Shale, medium gray, bentonitic and pale brown.  
 2700-2740 Shale, medium to medium dark gray, calcareous, shell fragments.  
 2740-2760 Shale, medium light to medium gray, calcareous, bentonitic.  
 2760-2820 Shale, medium to medium dark gray, calcareous, shell fragments.  
 2820-2910 Shale, medium light to medium gray, calcareous, shell fragments.  
 2910-2960 Shale, medium gray, calcareous.  
 2960-2970 Shale, medium to medium dark gray, calcareous.  
 2970-3010 Shale, medium light to medium gray, calcareous.  
 3010-3050 Shale, medium light to medium gray, calcareous, silty.  
 3050-3080 Shale, medium and medium dark gray, calcareous.  
 3080-3090 Shale, medium gray, calcareous.  
 3090-3140 Shale, medium and medium dark gray, calcareous.  
 3140-3150 Shale, medium light to medium gray.  
 3150-3160 Shale, medium light and light olive gray.  
 3160-3210 Shale, medium light and medium dark gray, white specks, calcareous.  
 3210-3230 Shale, medium dark to dark gray, white specks, calcareous.  
 3230-3250 Shale, medium to dark gray, white specks, calcareous.  
 3250-3300 Shale, medium light to medium gray, calcareous.  
 3300-3310 Shale, medium light and dark gray, calcareous.  
 3310-3350 Shale, medium light and medium dark gray, white specks, calcareous.  
 3350-3390 Shale, medium dark to dark gray, white specks, calcareous.  
 3390-3400 Shale, medium light to medium gray, calcareous.  
 3400-3520 Shale, medium dark to dark gray, white specks, calcareous and medium light gray.

3520-3530 Shale, medium dark to dark gray, white specks, calcareous.  
 3530-3540 Shale, medium dark to dark gray, white specks, calcareous and light olive gray.  
 3540-3640 Shale, medium dark to dark gray, white specks, calcareous and medium gray.  
 3640-3660 Shale, medium gray and medium dark gray, white specks, calcareous.  
 3660-3670 Shale, medium gray.  
 3670-3680 Shale, dark gray, white specks, calcareous.  
 3680-3700 Shale, medium dark to dark gray, white specks, calcareous and medium gray.  
 3700-3760 Shale, medium gray.  
 3760-3790 Shale, dark gray, white specks, calcareous, light gray siltstone.  
 3790-3810 Shale, medium to medium dark gray, light gray calcareous siltstone.  
 3810-3840 Shale, medium to medium dark gray, white specks, calcareous.  
 3840-3850 Shale, medium to medium dark gray, white specks, calcareous.  
 3850-3860 Shale, dark gray, light gray siltstone.  
 3860-3970 Shale, light to dark gray.  
 3970-4010 Shale, medium light to medium gray, bentonitic.  
 4010-4050 Shale, medium gray bentonitic and dark gray.  
 4050-4100 Missing.  
 4100-4150 Shale, medium light to medium gray, bentonitic.  
 4150-4200 Shale, medium light gray, bentonitic.  
 4200-4390 Shale, medium light gray bentonitic and dark gray.  
 4390-4410 Shale, dark gray.  
 4410-4550 Shale, medium light gray, bentonitic and dark gray.  
 4550-4560 Shale, dark gray, fine grained sandstone.  
 4560-4650 Missing.  
 4650-4680 Shale, dark and olive gray.  
 4680-4730 Shale, dark gray, light gray siltstone.  
 4720-4750 Shale, dark gray, glauconitic siltstone.  
 4750-4790 Siltstone, light gray and glauconitic.  
 4790-4850 Sandstone, fine grained, slightly iron stained.  
 4850-4870 Sandstone, fine grained, silty.  
 4870-4900 Sandstone, fine grained silty and very coarse grained.  
 4900-4920 Sandstone, fine grained, calcareous.  
 4920-4950 Sandstone, fine grained, calcareous and very coarse grained subangular.  
 4950-4960 Sandstone, fine grained, calcareous, light gray siltstone.  
 4960-4980 Shale, medium gray, medium gray siltstone.  
 4980-5010 Missing.  
 5010-5030 Sandstone, white fine grained. Glauconitic siltstone.  
 5030-5100 Shale, medium gray. Light gray siltstone.  
 5100-5160 Shale, medium gray and greenish gray.  
 5160-5170 Shale, medium to medium dark gray. Glauconitic siltstone.  
 5170-5190 Shale, medium to medium dark gray. Light gray, calcareous slightly glauconitic siltstone.  
 5190-5250 Shale, medium to medium dark and greenish gray. Light gray, slightly glauconitic calcareous siltstone.  
 5250-5280 Shale, medium to medium dark gray. Light gray siltstone.  
 5280-5320 Shale, medium to medium dark and dark greenish gray. Glauconitic siltstone.

5320-5350 Siltstone, very light gray, calcareous, glauconitic.  
 5350-5420 Shale, medium and greenish gray. Light gray, glauconitic, calcareous, siltstone.  
 5420-5440 Siltstone, light gray, slightly calcareous. Medium to medium dark gray shale.  
 5440-5470 Shale, medium to medium dark gray. Light gray partially glauconitic and pyritic siltstone.  
 5470-5510 Siltstone, very light gray, slightly calcareous. Medium to medium dark gray shale.  
 5510-5540 Shale, medium to medium dark gray. Very light gray calcareous siltstone.  
 5540-5570 Shale, medium to light olive gray.  
 5570-5590 Shale, medium light and greenish gray.  
 5590-5680 Missing.  
 5680-5700 Shale, medium to medium dark and greenish gray.  
 5700-5720 Limestone, light gray, argillaceous, fine grained.  
 5720-5750 Dolomite, yellowish gray, sublithographic to microsucrosic.  
 5750-5780 Dolomite, pale red, sublithographic to microsucrosic.  
 5780-5820 Shale, medium to medium dark gray.  
 5820-5830 Siltstone, pale red.  
 5830-5850 Siltstone, pale red, white gypsum.  
 5850-5860 Siltstone, pale to gray red, argillaceous.  
 5860-5870 Limestone, pale brown, sublithographic.  
 5870-5880 Poor sample.  
 5880-5900 Siltstone, pale red. White to pale red anhydrite.  
 5900-5920 Siltstone, very light gray to glauconitic. Greenish gray shale.  
 5920-5930 Shale, dark reddish brown, silty. Glauconitic siltstone.  
 5930-5950 Shale, dark reddish brown, silty.  
 5950-5970 Shale, dark reddish brown, silty. Grayish red siltstone and iron stained free quartz.  
 5970-6100 Shale, dark reddish brown, silty.  
 6100-6120 Anhydrite, pale red.  
 6120-6190 Shale, dark reddish brown, silty. White to pale red anhydrite.  
 6190-6210 Anhydrite, white to pale red.  
 6210-6320 Shale, dark reddish brown, silty. White to pale red anhydrite.  
 6320-6340 Siltstone, pale reddish brown, argillaceous. White to pale red anhydrite.  
 6340-6350 Anhydrite, white to pale red. Dark reddish brown argillaceous shale.  
 6350-6370 Limestone, white to pinkish gray, chalky. Pale red anhydrite.  
 6370-6400 Limestone, pale red, argillaceous.  
 6400-6410 Shale, medium dark to dark gray. Dark reddish brown silty shale.  
 6410-6430 Shale, grayish red to dark reddish brown.  
 6430-6470 Anhydrite, white to pale red. Dark reddish brown argillaceous fine to medium grained sandstone.  
 6470-6500 Shale, grayish red. White to pale red anhydrite.  
 6500-6510 Dolomite, very light to pale red, microsucrosic.  
 6510-6520 Shale, greenish gray and grayish red. Greenish gray sucrosic dolomite.  
 6520-6530 Dolomite, pale red, microsucrosic.  
 6530-6540 Siltstone, pale red. Pale red to pale brown, microsucrosic dolomite.  
 6540-6560 Siltstone, white to pale red and fine grained sandstone.

6560-6580 Anhydrite, white.

6580-6590 Shale, gray red and pale reddish brown, silty white and pale red anhydrite.

6590-6600 Dolomite, pale red to pale brown, anhydritic.

6600-6650 Anhydrite, white to pale red. Fine grained sandstone.

6650-6820 Dolomite, pale red, microsucrosic, arenaceous.

6820-6850 Dolomite, pale red to grayish orange, microsucrosic to sucrosic.

6850-6860 Shale, grayish red. Pale red sucrosic dolomite.

6860-6870 Siltstone, pale reddish brown, argillaceous. Pale red arenaceous dolomite.

6870-6890 Shale, moderate red. Very light to pinkish gray sublithographic limestone.

6890-6910 Dolomite, grayish orange pink, microsucrosic, argillaceous.

6910-6930 Dolomite, grayish orange, pink, microsucrosic.

6930-6935 Limestone, pale yellowish brown, fragmental, dolomitic.

6935-6950 Dolomite, grayish orange pink, microsucrosic.

6950-6960 Missing.

6960-6970 Anhydrite, white to pinkish gray, arenaceous.

6970-6990 Siltstone, pale reddish brown, argillaceous and fine grained sandstone.

6990-7000 Sandstone, pale red to pale reddish brown, fine to medium grained.

7000-7915 Missing.

7915-7925 Limestone, light to medium gray, fine grained to sub-lithographic, argillaceous.

7925-7940 Missing.

7940-7945 Limestone, very light gray, chalky and pale yellowish brown fragmental.

7945-7980 Missing.

7980-7985 Dolomite, white to yellowish gray, microsucrosic.

7985-8000 Missing.

8000-8060 Dolomite, grayish orange. Pink, microsucrosic, cherty.

8060-8090 Dolomite, pale yellowish brown to yellowish gray, fine grained, highly cherty.

8090-8100 Limestone, pinkish gray to pale yellowish brown, fragmental, cherty.

8100-8110 Limestone, grayish orange pink, oolitic.

8110-8190 Dolomite, palered to grayish orange pink, sucrosic to fragmental, calcareous.

8190-8200 Limestone, yellowish gray to pale yellowish brown, oolitic.

8200-8260 Limestone, yellowish gray to pale yellowish brown, fine grained to fragmental.

8260-8290 Limestone, pale yellowish brown to pale red, fine grained to sucrosic, dolomitic.

8290-8300 Dolomite, grayish orange pink, sucrosic, calcareous. White chert.

8300-8320 Limestone, yellowish gray to pale yellowish brown, fine grained, dolomitic.

8320-8360 Limestone, yellowish gray, to pale red, fine grained to fragmental, dolomitic.

8360-8370 Dolomite, yellowish gray to pale yellowish brown, microsucrosic.

8370-8380 Siltstone, pale red to pale reddish brown, argillaceous.

8380-8400 Dolomite, pale yellowish brown, microsucrosic to fine grained.

8400-8420 Dolomite, pale red and pale yellowish brown, cherty.

8420-8430 Dolomite, pale yellowish brown, sucrosic, cherty.

8430-8440 Dolomite, pale yellowish brown and pale red, sucrosic.

8440-8450 Shale, medium dark gray. Yellowish gray sucrosic dolomite.

8450-8460 Dolomite, pale yellowish brown, sucrosic.

8460-8470 Dolomite, pale yellowish brown and pale red sucrosic.

8470-8490 Dolomite white and pale yellowish brown sucrosic. White chert.

8490-8585 Dolomite, pale yellowish brown and pale red sucrosic.

8585-8608 Dolomite, pale yellowish to pale brown, sucrosic to sub-lithographic.

8608-8645 Shale, medium to medium dark and silty pale reddish brown.

8645-8670 Shale, pale red, highly calcareous and medium to medium dark gray. Medium grained free quartz.

8670-8700 Dolomite, white to yellowish gray and pale red sucrosic.

8700-8740 Dolomite, yellowish gray and pale yellowish brown.

8740-8770 Dolomite, white to yellowish gray, microsucrosic.

8770-8780 Dolomite, yellowish gray to pale yellowish brown, sucrosic. White chert.

8780-8880 Dolomite, white to pale yellowish brown, microsucrosic to sublithographic.

8880-8890 Dolomite, white to pale yellowish brown and pale red sucrosic.

8890-9005 Dolomite, white to yellowish gray, microsucrosic to sub-lithographic.

9005-9075 Dolomite, yellowish gray and pale red, microsucrosic to sub-lithographic.

9075-9090 Dolomite, light to medium light gray, pale red and yellowish gray, microsucrosic.

9090-9105 Dolomite, light to medium light gray, argillaceous, microsucrosic

9105-9140 Dolomite, light to medium light gray, argillaceous. Medium to medium dark gray shale.

9140-9155 Limestone, light to medium gray, fragmental, argillaceous.

9155-9220 Limestone, light to medium gray, fragmental, fossiliferous.

9220-9230 Lost circulation

9230-9245 Limestone, very light to medium gray, fragmental.

9245-9250 Limestone, yellowish gray to pale yellowish brown, fine grained to chalky.

9250-9265 Limestone, yellowish gray to medium gray and pale brown, fine grained to fragmental and sublithographic. Some carbonaceous residue.

9265-9295 Limestone, yellowish gray to pale brown, fine grained to fragmental.

9295-9305 Dolomite, yellowish gray to pale yellowish brown, fine grained to sublithographic.

9305-9325 Dolomite, pale yellowish brown, sublithographic.

9325-9335 Dolomite, pale brown, sucrosic, oil saturated.

9335-9345 Dolomite, grayish orange pink to pale yellowish brown.

9345-9390 Dolomite, pale yellowish brown, sublithographic.

9390-9465 Dolomite, pale to grayish brown, sucrosic, oil saturated.

9465-9505 Dolomite, pale brown, sucrosic. Pale yellowish brown, fragmental limestone.

9505-9540 Dolomite, pale yellowish brown, sucrosic, calcareous. Pale yellowish brown, fragmental limestone.

9540-9655 Dolomite, pale yellowish brown to pale brown, sucrosic, calcareous, fragmental in part.  
 9655-9670 Limestone, yellowish gray to pale yellowish brown, fine grained to fragmental, dolomitic.  
 9670-9710 Limestone, pale yellowish to pale brown, fragmental to sub-lithographic.  
 9710-9715 Shale, medium dark to dark gray.  
 9715-9725 Missing.  
 9725-9730 Shale, greenish to dark greenish gray, splintery.  
 9730-9765 Shale, dark greenish gray, splintery.  
 9765-9780 Shale, greenish black to black, splintery.  
 9780-9805 Shale, dark greenish gray to greenish black, splintery.  
 9805-9810 Shale, dark greenish gray to greenish black, slightly arenaceous.  
 9810-9815 Missing.  
 9815-9835 Limestone, yellowish gray to pale yellowish brown, fine grained to sublithographic. Free fine to medium grained rounded quartz.  
 9835-9855 Limestone, white to yellowish gray, fine grained to chalky and fragmental, glauconitic specks.  
 9855-9935 Limestone, white to yellowish gray, chalky to fragmental, glauconitic.  
 9935-9940 Limestone, white to yellowish gray, chalky to fragmental, glauconitic, arenaceous.  
 9940-9952 Missing.  
 9952-10010 Sandstone, fine grained, rounded, calcareous, glauconitic.  
 10013 Total Depth