

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 103

Summary of the Gulf Oil Corporation and North Pacific Railroad
Bundy - Federal #1
Golden Valley County, North Dakota
Well No. 586 - Permit No. 600

By Clarence G. Carlson
January, 1955

Gulf Oil Corp. - Bundy Federal #1, Golden Valley County, North Dakota.
150' north and 150' east of the C NW 1/4 NE 1/4 of Section 3, T. 143N., R.
103W. Elevation: 2,363 D.F., 2,353 G.L. Total Depth 9,328.

The Gulf-Bundy well was spudded May 8, 1954 and 10 3/4" casing was set
at 1114 feet, with 750 sacks of cement. The well was plugged and abandoned
June 22, 1954.

Cores:

9095-9328

Tests

- DST #1 9106-96, open 2 hours, recovered 380 feet muddy water, FP 70-215#, 30
minute SIP 3615#, HP 5310#.
- DST #2 9205-9252, open 2 hours, recovered 270 feet mud with oil specks, FP 0-
80#, 30 minutes SIP 3700#, HP 5225#.
- DST #3 9227-9282, open 2 hours, recovered 85 feet of mud, 60 feet of muddy
sulphur water, 270 feet of black, salty sulphur water, F.P. 40-90#, 30
minutes SIP 4210#, HP 5270#.
- DST #4 9276-9317, open 2 hours slight SG, recovered 150 feet water cut mud
with oil specks and some gas, 407 feet, black gas cut sulphur water,
FP 65-395#, 30 minutes SIP 4210#, HP 5315#.
- DST #5 9305-28, open 2 hours, recovered 702 feet black muddy, salty sulphur
water, FP 95-350#, 45 minutes SIP 4140#, HP 5275#.

Formation tops picked from samples, electric and radioactivity logs,
adjusted to electric logs, colors from rock color chart.

FORMATION TOPS

Cretaceous System

Pierre Formation	1560
Niobrara Formation	3825
Greenhorn Formation	4358
"Muddy" Sand	4958
Dakota Silt	5265
Dakota Sand	5312

Jurassic System	
Morrison Formation	5528
Sundance Formation	5600
Piper Formation	6360
Triassic System	
Spearfish Formation	6592
Permian System	
Minnekahta Formation	7188
Opeche Formation	7228
Pennsylvanian System	
Minnelusa Formation	7525
Mississippian System	
Amsden Formation	7570
Big Snowy Group	7730
Kibbey Formation	8310
Charles Formation	8438
Mission Canyon Formation	9066

500-520	Lignite, with some pyrite.
520-550	Lignite, some pyrite, some light brownish gray, shaly siltstone.
550-580	Lignite.
580-600	Lignite, some light brownish gray, sandy siltstone.
600-620	Lignite.
620-660	Siltstone, light brownish gray, some lignite.
670-710	Lignite.
710-740	Siltstone, light brownish gray, sandy.
740-770	Siltstone, as above, some limestone white, fine grained, fragmental, sandy.
770-860	Siltstone, as above, some lignite.
890-910	Siltstone, light brownish gray, sandy, limestone, light gray, fine grain, fragmental shaly, few shell fragments.
910-970	Shaly, brownish gray, siltstone as above, some lignite.
970-1000	Lignite.
1000-1200	Siltstone, light brownish gray, sandy, shale, brownish gray, some lignite.
1220-1250	Siltstone, light gray and light brown, sandy.
1250-1280	Siltstone, as above, limestone, light gray, fragmental.
1280-1340	Siltstone as above.
1340-1400	Siltstone, as above, some bentonite.
1400-1430	Sandstone, light brown, 5YR6/4, fine to medium grained, silty, shaly.
1430-1580	Sandstone, light brown and light gray, fine to medium, grained, silty, shaly.
1580-1640	Shale, medium light gray, bentonitic, sandy.
1670-1700	Shale, light gray, light brownish gray, silty, sandstone as in 1430-1580.
1700 1790	Shale, light gray, light brownish gray, silty, light gray, micaceous bentonite.
1790-1940	Shale, light olive gray; bentonitic, silty.
1940-2000	Shale, medium light gray, bentonitic.
2000-2030	Shale, medium light gray, pale brown, some white, micaceous bentonite.

2030-2060 Shale, medium gray, bentonitic.
 2060-2210 Shale, medium gray, bentonitic, some white bentonite.
 2210-2300 Shale, medium gray, bentonitic.
 2300-2330 Shale, medium gray, and light olive gray, white, micaceous bentonite.
 2330-2360 Shale, medium gray, white micaceous, bentonite.
 2360-2480 Shale, medium gray, slightly bentonitic.
 2480-2750 Shale, medium gray, and pale yellowish brown, bentonitic.
 2750-2810 Shale, pale yellowish brown, 10YR5/6, few shell fragments.
 2810-2900 Shale, medium gray and pale yellowish brown.
 2900-2990 Shale, medium gray, bentonitic, few shell fragments.
 3080-3110 Shale, medium gray, light olive gray, bentonitic.
 3140-3200 Shale, medium to dark gray, light olive gray, bentonitic, white bentonite.
 3200-3260 Shale, medium to dark gray, white, micaceous bentonite.
 3260-3290 Shale, medium light to dark gray, shell fragments, white bentonite.
 3290-3350 Shale, medium light to medium gray, pale yellowish brown, white bentonite.
 3350-3380 Shale, medium light to dark gray, white micaceous bentonite.
 3380-3410 Shale, medium light to dark gray, pale yellowish brown.
 3470-3560 Shale, medium light to dark gray.
 3590-3860 Shale, medium gray, bentonitic shell fragments.
 3860-3950 Shale, medium gray, white bentonite.
 3980-4030 Shale, light to dark gray, shell fragments
 4040-4070 Shale, medium to dark gray, pyrite.
 4070-4100 Shale, medium to dark gray, white specks.
 4110-4130 Shale, medium to dark gray, white specks.
 4140-4150 Shale, medium to dark gray, pale yellowish brown.
 4180-4220 Shale, as above.
 4240-4270 Shale, dark gray, and pale yellowish brown.
 4270-4300 Shale, light to dark gray.
 4300-4350 Shale, dark gray.
 4350-4370 Shale, dark gray, shell fragments, limestone light gray, fragmental.
 4370-4410 Shale, dark gray, white specks, shell fragments, limestone as above.
 4410-4430 Shale, medium to dark gray.
 4440-4460 Shale, dark to medium gray, white bentonite, limestone light gray, fragmental.
 4460-4480 Shale, medium to dark gray, white bentonite.
 4480-4640 Shale, medium to dark gray, shell fragments.
 4640-4670 Shale, medium to dark gray, pale yellowish brown.
 4680-4730 Shale, medium to dark gray, shell fragments.
 4730-4820 Shale, dark gray.
 4840-4910 Shale, dark gray.
 4920-4930 Shale, dark gray.
 4930-4960 Shale, dark gray, white bentonite, sandstone light gray, fine grain.
 4960-5040 Sandstone, pale yellowish brown to light brownish gray, fine grain, shaly partings, shale, as above.
 5040-5070 Sandstone, pale yellowish brown to light brownish gray, fine to medium grained.

5070-5100 Sandstone, as above, and sandstone light gray, medium grained, calcareous.

5100-5120 Shale, medium light to dark gray, light brownish gray, silty.

5120-5200 Shale, light brownish gray, silty, some dark gray.

5200-5260 Shale, medium to dark gray.

5260-5310 Shale, medium light to dark gray, siltstone, light gray, some greenish gray.

5310-5330 Sandstone, light gray, very fine grained to silty.

5330-5370 Sandstone, light gray, medium to fine grain, some sandstone as above.

5370-5540 Sandstone, light gray to light brownish gray, fine to medium grained, iron stained.

5540-5550 Sandstone, light gray, fine grained.

5550-5560 Shale, light olive gray to light brownish gray, sandstone as above.

5560-5590 Sandstone, as above.

5590-5600 Shale, very light gray, brownish gray, some sandstone as above.

5610-5630 Shale, as above, sandstone light gray, fine grained, iron stained.

5630-5640 Shale, very light to medium gray, brownish gray, some sandstone as above.

5640-5680 Sandstone, light gray to light brownish gray, fine grain, shale as above.

5680-5730 Shale, olive gray, light to medium gray, pale reddish brown, some sandstone as above.

5730-5740 Sandstone, grayish orange, fine grain, calcareous, shale, light to medium gray.

5740-5810 Shale, light to medium gray, light olive gray, some brown, silty shale.

5810-5840 Shale, light to medium gray, light brownish gray.

5840-5860 Shale, very light gray to dark gray.

5860-5890 Shale, light gray to medium gray, light brownish gray, silty, calcareous.

5890-5920 Shale, as above, and light greenish gray, some sandstone, light gray fine grain, calcareous.

5920-5940 Shale, light greenish gray 5G8/1, to greenish gray 5GY6/1, calcareous.

5940-5950 Shale, as above, and pale yellowish brown, sandstone light brown, fine grain.

5960-6000 Shale, as above.

6000-6010 Limestone, light gray, fine grained, sandy, shale, light to greenish gray, light olive, gray.

6010-6030 Shale, light greenish gray, greenish gray, light olive gray, calcareous.

6030-6050 Shale, as above, and pale yellowish brown, limestone, white, fine grain.

6050-6110 Shale, light greenish gray, greenish gray, calcareous, some sandstone light greenish gray, fine grain, calcareous.

6110-6130 Shale, light greenish gray, pale yellowish brown, calcareous.

6130-6160 Shale, light greenish gray, calcareous, some sandstone, light greenish gray, fine grain.

6160-6170 Shale, light greenish gray, pale yellowish brown, light olive gray, calcareous.

6180-6320 Shale, greenish gray, light olive gray, calcareous, sandstone, light greenish gray, fine grained, silty, calcareous.

6320-6360 Shale, greenish gray, grayish red, 10R4/2, light olive gray, calcareous.

6360 Circulation 1 hour, shale, as above, sandstone, light greenish gray, fine grained, limestone, very light gray, fine grained, dense.

6360-6380 Limestone as above, much shale, light greenish gray, dark gray.

6380-6390 Shale, light greenish gray, dark gray.

6390-6430 Limestone, light gray, fragmental, dense, much shale as above.

6430-6480 Shale, light greenish gray, light olive gray, dark gray, some limestone as above.

6480-6520 Limestone, light gray, fine grained, earthy.

6520-6530 Shale, light olive gray, dark gray, light greenish gray.

6530-6540 Shale as above, some limestone, light gray, fine grained, earthy.

6540-6550 Shale, limestone as above, little grayish red 10R4/2, silty, calcareous shale.

6550-6580 Shale, grayish red to pale reddish brown, calcareous.

6580-6600 Shale, as above and dark gray.

6600-6630 Shale, as above, some white gypsum.

6630-6640 Shale, grayish red to pale reddish brown, dark gray.

6640-6680 Shale, pale reddish brown, dark gray, little white gypsum.

6680-6720 Siltstone, moderate reddish orange, calcareous, shale as above, little gypsum and free medium grained rounded quartz.

6720-6750 Shale, grayish red, dark gray, pale reddish brown, some siltstone, moderate reddish orange and few free quartz grains.

6750-6760 Siltstone, moderate reddish orange, calcareous, sandstone, moderate reddish orange, fine to medium, rounded quartz grains, calcareous, shale as above.

6770-6820 Siltstone, as above, shale as above.

6820-6830 Shale, moderate reddish brown, some medium grain, subrounded quartz grains.

6840-6880 Shale, as above, some siltstone, moderate reddish orange, gypsum.

6880-6950 Shale, moderate reddish brown, medium gray, white gypsum, some subrounded, medium quartz grains.

6960-7000 Shale, as above, siltstone, moderate reddish orange, free quartz as above, some white gypsum.

7000-7010 Shale, medium gray, grayish red, some siltstone, gypsum as above.

7010-7080 Siltstone, moderate reddish orange, calcareous, some shale as above, gypsum.

7080-7110 Siltstone, moderate reddish orange, calcareous, some gypsum.

7110-7180 Siltstone, gypsum as above, some shale, grayish red, medium to dark gray.

7180-7210 Limestone, white to grayish pink, fine grained, siltstone, gypsum as above.

7210-7230 Limestone, white to grayish pink.

7230-7270 Shale, moderate reddish orange, silty, calcareous.

7270-7300 Shale, medium to dark gray, some moderate reddish orange.

7300-7320 Shale, moderate reddish orange, grayish red, medium gray.

7330-7400 Shale, moderate reddish orange, calcareous, silty.

7400-7470 Shale, as above, white gypsum.

7470-7510 Shale, moderate reddish orange, medium gray.

7510-7530 Sandstone, light gray, light grayish pink, fine grained, much shale as above.

7530-7560 Sandstone, moderate pink, fine grained, slightly calcareous.

7560-7570 Dolomite, very light gray, fine grained, sandstone as above.

7570-7590 Sandstone, very light gray, moderate pink, fine to medium grained.

7590-7600 Dolomite, light gray to pale red, sandstone, light gray, fine grained.

7600-7610 Shale, medium to dark gray (may be cave) little dolomite as above.

7610-7640 Sandstone, grayish pink, fine grained, calcareous, dolomite, light gray, fine grained.

7640-7670 Dolomite, grayish red to light gray, very finely crystalline, shale, moderate reddish orange, calcareous.

7670-7680 Sandstone, white to grayish pink, fine grain, some shale as above.

7680-7690 Sandstone, white, fine grained, much medium to dark shale, probably cave.

7700-7740 Dolomite, pinkish gray to light gray, finely crystalline.

7740-7800 Dolomite, as above, some shale, moderate red 5R5/4.

7800-7810 Dolomite, pinkish gray, little shale, moderate red, some limestone, light gray, dense.

7810-7820 Shale, moderate red, dolomite and limestone as above.

7820-7830 Limestone, light gray to pinkish gray, shale, moderate red.

7830-7840 Shale, moderate red, some limestone as above.

7840-7870 Shale, moderate red, and moderate reddish orange, some limestone as above.

7880-7920 Shale, dark gray, moderate red 5R4/5, light olive gray.

7920-7930 Shale, dark gray, many ostracods.

7930-7970 Shale, light olive gray, moderate red, dark gray.

7970-7980 Limestone, light gray, finely crystalline, some shale as above.

7980-8000 Shale, light olive gray, moderate red, dark gray, dusky yellow.

8005-8025 Shale, pale brown, dusky yellow, grayish green 5G5/2, medium to dark gray.

8025-8040 Limestone, light gray, fine grained, little shale as above.

8040-8065 Shale, varicolored, as above, limestone as above.

8065-8090 Shale, varicolored as above.

8090-8110 Limestone, light gray, fine grained, shale, varicolored, as above.

8110-8150 Shale, varicolored, dark gray, moderate red, light olive gray, moderate brown.

8150-8165 Shale as above and moderate reddish orange, silty, calcareous.

8165-8180 Shale, as above, dolomite, light gray, fine grained.

8180-8185 Shale, as above, white anhydrite, some sandstone, light gray, fine grain.

8185-8215 Sandstone, light gray to white, fine grained, some variegated shale.

8215-8230 Sandstone, white to light brownish gray, fine grained, shale, dark gray, moderate red, light olive gray.

8230-8235 Shale, variegated, some sandstone as above.

8240-8250 Shale, variegated, sandstone, pale red, fine grained, calcareous.

8250-8265 Sandstone, pale red 10R6/2, fine grained, calcareous.
8265-8315 Sandstone, pale red to grayish orange pink, fine to medium grained, calcareous.
8315-8335 Anhydrite, white.
8335-8360 Limestone, light gray to grayish brown, finely crystalline, dense.
8360-8365 Sandstone, grayish orange, fine to very fine grained, calcareous.
8365-8370 Limestone, light gray to grayish brown, finely crystalline, dense.
8370-8380 Sandstone, grayish orange, fine grained, calcareous, some limestone as above.
8380-8405 Siltstone, pale red, sandy, calcareous, some dark gray shale.
8410-8445 Dolomite, pale red, finely crystalline, shale, dark gray.
8445-8450 Dolomite, moderate reddish orange, finely crystalline, argillaceous, shale, dark gray.
8450-8500 Dolomite, moderate reddish orange, finely crystalline, argillaceous, limey, some dark gray shale.
8500-8570 Dolomite, as above, some shale, dark gray, anhydrite.
8570-8605 Dolomite, pale orange to moderate reddish orange, finely crystalline, little white anhydrite.
8605-8610 Dolomite as above, much anhydrite, some shale, medium to dark gray.
8610-8625 Dolomite, pale orange to moderate reddish brown, shale, medium to dark gray, some anhydrite.
8625-8635 Anhydrite, some dolomite as above.
8635-8660 Dolomite, light gray to moderate reddish brown, finely crystalline, anhydrite, some limestone, light gray, fine grained.
8660-8675 Limestone, light gray, finely crystalline.
8675-8685 Anhydrite, white to grayish pink.
8685-8695 Limestone, light to medium gray, finely crystalline dense.
6705-8760 Dolomite, light gray to pale orange, fine grained, shale, medium to dark gray, some anhydrite.
8760-8800 Limestone, light gray to light brownish gray, finely crystalline, dense.
8800-8820 Limestone, as above, some anhydrite.
8820-8840 Anhydrite, white and light pinkish gray, some limestone as above.
8840-8845 Limestone, light gray, fine grained, some anhydrite.
8865-8895 Limestone, light gray to light brownish gray, finely crystalline, dense, some anhydrite
8895-8905 Limestone, light gray, fine grained, dense.
8910-8935 Limestone, light gray, fine grained dense, some anhydrite.
8935-8940 Anhydrite, much limestone as above.
8945-8960 Anhydrite, some limestone light gray to light brownish gray, fine grains.
8960-9005 Limestone, light gray, fine grained, anhydrite, shale, dark gray.
9010-9040 Anhydrite, some limestone and shale as above.
9040-9050 Dolomite, light gray, fine grained, some anhydrite.
9055-9075 Limestone, light gray, fine grained, some anhydrite.
9075-9085 Limestone, light gray to light brownish gray, fine grained, dense, some anhydrite.

9085-9095 Limestone, light gray, fine grained, light brownish gray, fine to medium crystalline, dense.

Core

9095-9100 Limestone, brownish gray, finely crystalline, dense, slight stain.

9100-9103 Limestone, yellowish gray, fine to medium grained, dolomitic.

9103-9106 Limestone, brownish gray, finely crystalline, fragmental, dense, brachiopod fragment.

9106-9112 Limestone, dark brownish gray, finely crystalline, good petroliferous odor on fresh break, oil stain on fractures.

9112-9115 Limestone, light yellowish gray, fine to medium crystalline, dense.

9115-9119 Limestone, dark brownish gray, fine to medium, crystalline, fragmental, good petroliferous odor on fresh break, oil stain on fractures.

9119-9128 Limestone, light yellowish gray, fine to medium crystalline, fragmental, dense.

9128-9130 Dolomite, light brownish gray, fine grained, dense.

9130-9134 Limestone, light brownish gray, fine to medium, crystalline, fragmental, dense.

9137-9139 Limestone, light brownish gray, finely crystalline and fragmental. Brachiopod fragments, dense.

9139-9146 Dolomite, light gray, fine grained, limey, shaly, slight porosity.

9149-9156 Limestone, light brownish gray, fine to medium crystalline, and fragmental, little pyrite crystals, slight fluorescence along fractures.

9156-9159 Limestone, light brownish gray, finely crystalline, and fragmental.

9159-9163 Limestone, light brownish gray to medium gray, fine to medium crystalline and fragmental, crinkly, good petroliferous odor and fair fluorescence.

9163-9168 Limestone, light brownish gray, fine to medium crystalline, dense. Brachiopod fragments.

9168-9178 Limestone, brownish gray, fine to medium crystalline, fair fluorescence, slight odor, with brachiopod fragments, pyrite crystals.

9178-9180 Limestone, light brownish gray, fine to medium crystalline and fragmental.

9180-9188 Limestone, medium gray, fine crystalline, and fossiliferous, dense, pyrite crystals.

9188-9196 Limestone, as in 9178-80.

9196-9199 Limestone, medium gray, finely, crystalline, dense.

9199-9202 Limestone, light brownish gray, finely crystalline and fragmental.

9202-9211 Dolomite, light gray, fine grained.

9211-9213 Anhydrite, white with thin limestone stringers.

9213-9215 Dolomite, light yellowish gray, fine grained.

9215-9218 Limestone, dark brownish gray, finely crystalline, dense, oil stained.

9218-9220 Limestone, light brownish gray, fine to medium, crystalline and fragmental.

9220-9222 Anhydrite, white.

9222-9230 Limestone, dark brownish gray, finely crystalline, good petroliferous odor on fresh break, dense.

9230-9236 Limestone, light brownish gray, fine to medium crystalline and fragmental.

9236-9240 Limestone, brownish gray, finely crystalline, oil stained.

9240-9246 Limestone, light gray, fine grained, slight stain in fractures.

9246-9255 Limestone, brownish gray, finely crystalline, dense, slight to good oil stain.

9255-9258 Limestone, light gray, fine grained.

9258-9261 Limestone, brownish gray, finely crystalline, good oil stain.

9261-9267 Limestone, as in 9255-58.

9267-9270 Limestone, brownish gray, fine to medium crystalline, shell fragments, good oil stain.

9270-9272 Limestone, light brownish gray, finely crystalline.

9272-9280 Limestone, as in 9267-70.

9280-9288 Limestone, light brownish gray, fine to medium crystalline, slight oil stain.

9288-9297 Limestone, brownish gray, fine to medium crystalline, shell fragments slight to good oil stain.

9297-9300 Limestone, light brownish gray, fine to medium crystalline.

9300-9306 Limestone, dark brownish gray, finely crystalline, good oil stain.

9306-9316 Limestone, as in 9297-9300.

9316-9320 Limestone, dark brownish gray, fine to medium crystalline, shell fragments, good oil stain.

9320-9328 Limestone, brownish gray, fine to medium crystalline, shell fragments, slight oil stain.