

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 239

Summary of the Stekoll Petroleum Corporation - John Johnson No. 1
Bottineau County, North Dakota
Well No. 2125 - Permit No. 2137

by Clarence G. Carlson
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The Stekoll Petroleum Corporation - John Johnson No. 1, located in Center SE, SW Section 19, T. 163N., R. 82W., Bottineau County, North Dakota. Elevations: Kelly bushing 1577; Ground level 1567.

The Stekoll Petroleum Corporation - John Johnson No. 1 was spudded December 10, 1958, drilled to a total depth of 4,050 feet and completed as a discovery well for the North Haas field February 11, 1959.

Logs run:

Sonic Log
Induction - Electric Log

Core Record:

3934-3959
3965-4005

Tests:

DST 1; 3914-3923; tool shut in 30 minutes, valve open 90 minutes, shut in 30 minutes. Strong blow. Gas to surface in 35 minutes; 5 foot flare decreasing to intermittent after 60 minutes. Recovery - 30 feet of oily gas cut mud, 300 feet of oil cut mud, 810 feet of oil. Pressures - HP 2256-2205; SIP 1794-1453; FP 114-443.

DST 2; 3953-3982; tool abut 30 minutes, valve open 90 minutes, tool shut in 30 minutes. Intermediate to fair blow throughout test. Recovery - 120 feet of mud, 240 feet of oil and 480 feet of water. Pressures - HP 2178-2153; SIP 1819-1731; FP 114-354.

Casing and Completions:

8 5/8 inch surface casing set at 367 feet with 200 sacks of cement
2 7/8 inch casing set at 4,043 feet with 625 sacks of cement
Perforated at 3918 and 3920 with one jet shot
Initial production pumping 68 barrels of oil per day, no water; 39° API gravity.

Formation tops were determined from samples and mechanical logs; tops were corrected to electric log tops. Colors were determined by use of the Rock Color Chart distributed by the Geological Society of America. Not all formation tops were picked in the following list.

FORMATION TOPS

Cretaceous System		
Niobrara formation		1710
Greenhorn formation		1987
Mowry formation		2263
Fall River formation		2500
Jurassic System		2830
Piper limestone		3308
Triassic System		
Spearfish formation		3594
Mississippian System		
Madison group		3738
Ratcliffe interval		3738
Frobisher-Alida interval		3801

1230-1330	Shale, medium light gray, lumpy.
1330-1370	Shale, medium gray to medium light gray, lumpy.
1370-1500	Shale, medium light gray, lumpy.
1500-1520	Shale, medium light gray, soft, bentonitic; some white, micaceous bentonite.
1520-1550	Shale, medium light gray, soft, bentonitic.
1550-1580	Shale, medium dark gray, fissile.
1580-1690	Shale, medium light gray, bentonitic; some medium dark gray shale, as above.
1690-1710	Shale, medium dark gray, fissile, micaceous.
1710-1760	Shale, medium dark gray, fissile, calcareous, "white specks".
1760-1980	Shale, medium dark gray, fissile, micaceous.
1980-2040	Shale, medium dark gray, lumpy in part, fissile in part, calcareous, "white specks," many Inoceramus fragments.
2040-2060	Shale, as above, some shale contains so many Inoceramus fragments that it grades into an argillaceous, fragmental limestone.
2220-2410	Shale, medium gray to medium dark gray, fissile to platy, micaceous.
2410-2430	Shale, medium light gray to medium gray, soft, bentonitic; shale as above.
2430-2460	Shale, medium dark gray, fissile to platy.
2460-2490	Shale, as above and medium gray, lumpy to fissile, slightly bentonitic.
2490-2520	Shale, as above; a little sandstone, fine to coarse grained, rounded to subangular poorly cemented, quartzose.
2520-2550	Sandstone, composed of fine to coarse, rounded to subangular grains of colorless quartz most of which are free of any cementing material.
2550-2600	Sandstone, light gray, very fine to fine grained, well sorted, slightly friable, slightly argillaceous.
2600-2650	Shale, medium light gray to medium dark gray, fissile to platy and lumpy; a few chips of sandstone, fine to medium grained, rounded to subangular.
2650-2680	Shale, as above; some sandstone, orangish gray, very fine to medium grained, rounded to subangular, firmly cemented.
2680-2690	Shale, medium light gray, soft, lumpy.
2690-2750	Shale, as above and sandstone, colorless to orangish gray, fine to medium grained, firmly cemented.

2800-2830 Sandstone, colorless to light gray, fine to medium grained, sub-angular to rounded, firmly cemented; shale, as above.

2830-2900 Shale, medium light gray and medium dark gray, lumpy in part, fissile in part.

2900-2910 Shale, light greenish gray, fissile to platy, very slightly calcareous, micaceous.

2910-2930 Shale, light greenish gray, fissile, calcareous micaceous; some light greenish gray, calcareous siltstone.

2930-2980 Shale, as above and siltstone, white, very fine to fine grained, calcareous.

2980-3000 Shale, light greenish gray, fissile, calcareous; sandstone, white, very fine to fine grained, calcareous, some limestone, light gray, fragmental, argillaceous.

3000-3030 Sandstone, white to light gray, very fine to fine grained, calcareous; some limestone, as above; some shale, as above.

3030-3050 Shale, light greenish gray to light olive gray, platy to fissile, calcareous.

3050-3130 Shale, as above; some sandstone, light greenish gray to light gray, very fine to fine grained, calcareous, slightly argillaceous.

3130-3150 Shale, pale reddish brown (10R5/4), platy, calcareous, some light greenish gray shale.

3150-3230 Shale, pale reddish brown (10R4/2) and very light gray, platy, calcareous.

3230-3240 Shale, as above; some sandstone, very light gray, very fine grained, calcareous.

3240-3260 Sandstone, very light gray, fine to medium grained, subangular to rounded, calcareous, slightly micaceous; shale, as above.

3260-3300 Sandstone, colorless to white, fine to medium grained, subangular to subrounded, clean, quartzose, calcareous cement; shale, pale reddish brown and light gray to light greenish gray and light olive gray, platy, calcareous.

3300-3310 Limestone, yellowish gray, fine to medium crystalline, fragments; shale, as above.

3310-3340 Limestone, yellowish gray, fine to medium crystalline, fragmental in part, granular; chert, light gray.

3340-3360 Limestone, as above; chert, light gray; much shale, varicolored as above, platy, calcareous.

3360-3390 Shale, light greenish gray to light olive gray, some pale reddish brown, platy, calcareous; some sandstone, light gray, very fine to fine grained, calcareous.

3390-3400 Limestone, very light gray, very finely crystalline in part, fine to medium crystalline, fragmental in part; shale, as above.

3400-3420 Limestone, very light gray, sublithographic.

3420-3470 Limestone, very light gray to light yellowish gray, finely crystalline; some chert, white.

3470-3480 Shale, light olive gray, platy to fissile, very calcareous; some dolomite, yellowish gray, very finely crystalline.

3480-3510 Anhydrite, white interbedded with dolomite, yellowish gray, finely crystalline, granular.

3510-3520 Shale, medium light gray, platy, slightly calcareous; anhydrite, white.

3520-3540 Anhydrite, white.

3540-3560 Anhydrite, white with a little interbedded dolomite, yellowish gray.

3560-3600 Anhydrite and dolomite, as above; much shale, light olive gray to greenish gray and pale reddish brown, platy to fissile, calcareous.

3600-3630 Siltstone, moderate reddish orange and light gray, slightly calcareous.

3630-3650 Siltstone, moderate reddish orange, slightly calcareous; a little anhydrite, white.

3650-3720 Siltstone, as above grading into a very fine grained sandstone with a few rounded, frosted, medium sand grains; the number of medium sand grains increases at 3700-3720.

3740-3750 Siltstone, as above; numerous medium sand grains.

3755-3770 Limestone, very light gray to light yellowish gray, finely crystalline, contains a few ostracodes and a few coarse crystals of colorless and pale brown anhydrite.

3770-3775 Limestone, as above and light brownish gray, pseudo-oolitic, good intergranular porosity, slight staining and cut with Ccl_4 .

3775-3780 Limestone, light brownish gray, oolitic, fair oil stain and cut with Ccl_4 .

3780-3785 Anhydrite, grayish pink, finely crystalline, calcareous.

3785-3800 Anhydrite, grayish pink to pinkish gray, very finely crystalline, very slightly calcareous.

3800-3810 Limestone, light yellowish gray, fine to medium crystalline, fragmental in part, very finely crystalline in part.

3810-3880 Anhydrite, white to pinkish gray, dense.

3880-3895 Anhydrite, white with interbedded dolomite, grayish pink, finely crystalline with some imbedded fine sand grains.

3895-3920 Anhydrite, white.

3921 Circulation - Anhydrite, very light gray to white, dense, a few chips of anhydrite have fine to medium, rounded, frosted quartz grains imbedded in the anhydrite; some sandstone, light brownish gray, fine grained, anhydritic oil stained, good cut with Ccl_4 .

3921-3923 Sandstone, light brownish gray, fine grained, anhydritic oil stained and sandstone, colorless to white, fine grained, rounded, anhydritic.

3923 Circulation 3/4 hour - Sandstone, colorless to white, fine grained, rounded anhydritic.

3920-3930 Anhydrite, white to pinkish gray; some chips contain fine grained sand.

Core 1 3934-3959; samples at 2 foot intervals.

Sample 1-2 Dolomite, very light gray, finely crystalline with some interbedded colorless to white anhydrite.

Sample 3-4 Anhydrite, very light gray to white.

Sample 5 Anhydrite, very light gray to white with thin stringers of light yellowish gray, fine grained dolomitic limestone.

Sample 6-7 Dolomite, very light gray, finely crystalline with interbedded anhydrite, very light gray.

Sample 8-10 Anhydrite, colorless to white.

3965-3968 Dolomite, light brownish gray, fine to medium crystalline, granular, limy, trace of oolitic structure; good oil stain and cut with Ccl_4 .

3968-3969 Dolomite, very light gray, finely crystalline, limy, pseudo-oolitic with colorless anhydrite filling much of the pore space.

3969-3970 Dolomite, light brownish gray, fine to medium crystalline, granular oil stained.

3970-3972 Dolomite, light yellowish gray, mottled, with a relict oolitic structure, fine to medium crystalline with the oolites having a microsucrosic texture; some infilling of pore space with colorless anhydrite and pyrite.

3972-3973 Dolomite, light brownish gray, fine to medium crystalline, limy, remnants of pisolites, vuggy, good oil stain.

3973-3974 Limestone, very light gray, fine to medium crystalline, pseudo-oolitic, good intergranular porosity, spotty, staining in vugs and in medium crystalline stringers.

3974-3977 Limestone, very light gray to light brownish gray, mottled, finely crystalline and fine to medium crystalline, spotty stain.

3977-3978 Limestone, light brownish gray, fine to medium crystalline, granular, vuggy, good oil stain.

3978-3981 Limestone, very light gray and light brownish gray, mottled, finely crystalline and fine to medium crystalline, granular, fair oil stain.

3981-3983 Limestone, very light gray, fine grained, granular, silty, good intergranular porosity; sandy from 3982-3983, fine, rounded, frosted quartz grains.

3983-3987 Limestone, light brownish gray, oolitic to pisolitic, partly recrystallized to a finely crystalline, vuggy limestone; some infilling with colorless anhydrite, spotty oil stain.

3987-3990 Limestone, light yellowish gray, oolitic to pisolitic, partly recrystallized to a finely crystalline, limestone; some vugs and pore space filled with colorless anhydrite.

3990-3992 Limestone, light brownish gray, fine to medium crystalline, granular good intergranular porosity, oil stained 3990-91

3992-3993 Limestone, light brownish gray, finely crystalline, dense.

3994-4005 Limestone, brownish gray, fine to medium crystalline, granular, good intergranular porosity, dolomitic, slightly argillaceous.

Samples

4005-4050 Limestone, as above.