

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 51

Summary of the Herman Hanson Oil Syndicate-Mueller No. 2  
 Stutsman County, North Dakota  
 Well No. 406, Permit No. 422

By Carole Smith  
 April, 1954

The Herman Hanson Oil Syndicate--R. A. Mueller #2, Stutsman County, North Dakota. Located C NE NE Section 20, T. 140 N., R. 65 W. (660' from North line, 660' from East line, section 20). Elevation: 1566 G.L., 1576 K.B.

The Herman Hanson Oil Syndicate--R. A. Mueller #2 was spudded September 21, 1953. 271' of 10 3/4" casing was set with 260 sacks of cement. Plugs of 15 sacks were set at 2950', 2400', 2000', 1650', 271'; a 5 sack plug was set at the surface. The well was abandoned in granite on October 3, 1953 with a total depth of 3316'.

Cored interval: 3277-3316  
 No tests.

Formation Tops

Niobrara	660
Greenhorn	1155
Muddy	1520
Dakota	1690
Morrison	1875?
Piper	1926
Lodgepole	2020
Englewood	2254
Devonian	2280
Interlake	2352
Lower Stony Mountain	2395
Red River	2455
Winnipeg shale	3015
Winnipeg sand	3215
Granite	3305
Total depth	3316

<u>From</u>	<u>To</u>	<u>Formation</u>
300	400	Shale; medium gray, slightly green in part, firm; trace of coarse sand (380-400).
400	560	Shale; medium gray, somewhat less firm, slightly bentonitic, becoming more bentonitic at 540.
560	580	Shale; medium gray, much is lumpy and bentonitic.
580	640	Shale; medium gray to medium light gray, lumpy, bentonitic, somewhat calcareous; traces of Inoceramus prisms.
640	660	Shale; dark gray to gray black, flaky; traces of pyrite.
660	740	Calcareous shale; medium gray, white specked; some dark shale as above.
740	860	Calcareous shale; medium gray, white specked; traces of pyrite.

<u>From</u>	<u>To</u>	<u>Formation</u>
860	880	Shale; medium to dark gray; poor sample.
880	920	Shale; medium gray, firm to lumpy, partly silty, decreasingly calcareous.
920	1090	Shale; medium dark gray, slightly calcareous and lumpy; traces of pyrite.
1090	1180	Shale; medium to medium dark gray, firm becoming flaky and lumpy; some Inoceramus prisms and fragmental Inoceramus limestone beginning at 1150.
1180	1240	Shale; gray, increasingly calcareous; much fragmental Inoceramus limestone and Inoceramus prisms.
1240	1307	Shale; gray, partly calcareous; traces of pyrite and Inoceramus fragments.
1307	1400	Inoceramus fragments, and fragmental Inoceramus limestone; some gray shale, increasing somewhat in quantity; small amounts of pyrite.
1400	1520	Shale; dark gray to gray black, flaky and lumpy; small amounts of Inoceramus prisms and pyrite.
1520	1550	Sandstone; light brown, fine sugary, glauconitic; much gray shale; traces of pyrite.
1550	1620	Silty shale and shaly siltstone; light to dark gray; traces of pyrite.
1620	1650	Shale; dark gray, lumpy.
1650	1710	Shale; medium gray, glauconitic, pyritic, increasingly silty, somewhat calcareous; small amounts of light gray sandstone.
1710	1770	Shale; medium to dark gray, silty; some silty, reddish shale, increasing slightly in quantity; some white sandstone and pyrite; small amounts of light brown, pitted, concretionary quartz and greenish to yellowish shale.
1770	1830	Shale grading to fine sandstone; gray reddish, pink, white, greenish, and yellowish, traces of concretionary quartz; much coarse, subangular quartz sand (1800-1830).
1830	1850	Missing samples.
1850	1890	Silty shale and shaly siltstone; medium light gray to dark gray; some gray sandstone; small amounts of reddish shale; traces of pyrite.
1890	1910	Shale; medium to medium dark gray; firm; some fine to medium grained, gray sandstone; some subangular, coarse, quartz sand; traces of pyrite and red shale.
1910	1960	Sand; subangular, coarse, becoming somewhat more rounded; some gray shale; traces of red and purple, shale, pyrite; some lithographic partly chalky and sandy, white, dolomitic limestone (1940-1960).
1960	1980	Sand; coarse, as above, much medium grained, gray; partly glauconitic sandstone; much medium gray, partly calcareous shale; small amounts of pyrite and reddish shale.
1980	2000	Shale; medium to medium dark gray, partly silty; some sand and reddish shale; small amounts of green shale, pyrite, and sandstone.
2000	2010	Calcareous shale; gray, very lumpy; some reddish shale, sandstone sand, pyrite, greenish shale and shaly limestone.
2010	2020	Limestone; white, lithographic; much gray shale, partly calcareous; some shales and sandstones as above.

<u>From</u>	<u>To</u>	<u>Formation</u>
2020	2040	Limestone; white to very light gray, micro sugary; some gray shale becoming very silty, even siltstone at 2030; small amounts of sand, pyrite, light brown shale and siltstone.
2040	2100	Limestone; almost white, micro sugary and chalky, few included yellowish crystals; small amounts of reddish gray and greenish shales, traces of pyrite, brachiopods and sand (beginning at 2070); more pyrite and coarse sand at 2090.
2100	2130	Limestone; as above; much subangular to subround, coarse quartz; some pyrite; increasing amounts of reddish, greenish, and gray shales.
2130	2230	Sand; quartz, subround coarse; some pyrite; some gray (increasing in quantity), reddish; greenish, and purplish shales; some chalky limestone; traces of fossils and anhydrite.
2230	2240	Limestone and shale as above; a small amount of sand.
2240	2260	Limestone; almost white, becoming more a grayish orange pink, micro sugary to dense; increasing amounts of silty, reddish shale; small amounts of gray and greenish shale; some moderate red, dense dolomite (2250-2260).
2260	2270	Limestone; moderate red, dense, partly micro sugar; much shale as above.
2270	2290	Shale; reddish and pale green, lumpy, partly calcareous; some micro sugary, red and purple limestone (2270-2280); some yellow brown, dense to sugary; vuggy dolomite (2280-2290).
2290	2320	Dolomite; yellow brown, fine sugary to dense; small amount of dense, pinkish dolomite (2290-2310).
2320	2340	Limy dolomite; yellow brown, partly pinkish, fine sugary to micro sugary, partly vuggy.
2340	2350	Dolomitic limestone to limestone; very pale yellow brown to pale red, dense, partly micro sugary small amount of shale.
2350	2360	Limy dolomite; pale shaly sugary to dense; much dark gray shale increasing amounts of silty, reddish shale; traces of greenish shale.
2360	2390	Shale; medium to dark gray; some reddish shale; small amounts of greenish shale; traces of sandstone, fossils, and limestone.
2390	2410	Limestone; pinkish gray, fine sugary, slightly dolomitic; increasing amounts of variegated shale; traces of sandstone, anhydrite, and pyrite.
2410	2420	Shale; variegated as above; much limy dolomite to limestone as above.
2420	2430	Dolomitic limestone; pink to yellow brown, fine sugary to micro sugary; much variegated shale; traces of sand and pyrite.
2430	2450	Dolomitic shale; reddish, soft; some pale, fine sugary to dense, limestone to dolomite; some waxy greenish shale and firm gray shale.
2450	2490	Dolomite, yellow brown to very pale pinkish orange, fine to micro sugary; traces of shale, pyrite, and sand.
2490	2500	Dolomite, very pale yellow brown, partly pinkish, partly limy, micro sugary.

<u>From</u>	<u>To</u>	<u>Formation</u>
2500	2510	Limy dolomite; very pale yellow brown, partly pinkish, sugary, partly vuggy.
2510	2520	Dolomite; very pale yellow brown to moderate red, sugary to dense.
2520	2550	Dolomite; very pale (almost white) sublithographic to lithographic, becoming limy at 2530 and pinkish at 2540.
2550	2570	Dolomitic limestone to limy dolomite; almost white, sublithographic, pinkish; traces of chert and sand.
2570	2620	Dolomite; very pale yellow brown, micro sugary to dense, partly limy traces of shale and chert; missing samples (2600-2610).
2620	2630	Dolomite; light olive gray to yellow brown, slightly pink in part, very dense.
2630	2650	Dolomitic limestone; very pale orange, micro sugary to dense, partly chalky; traces of shale, chert, and pyrite.
2650	2660	Limy dolomite; pinkish, dense.
2660	2670	Dolomite; very pale orange to yellow brown, very dense, partly sugary; traces of shale, pyrite, and chert.
2670	2680	Limestone; very pale orange to yellow brown, dense, vitreous, partly chalky; some dolomite.
2680	2700	Dolomite; very pale yellow brown to orange, slightly pink, dense, vitreous; traces of hematite, shale, pyrite, and chert, small amount chalky limestone (2690-2700).
2700	2740	Limestone; very pale yellow brown to white, increasingly stained with pink and purple, dense to lithographic; traces of anhydrite, shale, pyrite.
2740	2760	Limestone; pink, micro sugary to chalky; some limestone as above; traces of brachiopod impressions and chert.
2760	2790	Limestone; very pale yellow brown to white, micro sugary to dense, partly chalky; traces of chert and brachiopod impressions.
2790	2830	Limestone; very pale yellow brown to white, micro sugary to lithographic, partly pink, becoming splotched and streaked with purple; traces of chert; some dense, very pale yellow brown dolomite (2820-2830).
2830	2900	Limestone; almost white, chalky becoming more micro sugary, traces of rust stain, sand, chert, and shale.
2900	2960	Limestone; very light gray to very pale yellow brown, partly pink, sublithographic to chalky, becoming more micro sugary traces of chert; much fine to micro sugary very pale brownish gray limestone beginning at 2940.
2960	2990	Limestone; very light brown and gray and very pale orange, white, dense to chalky; some dark, granular, shaly limestone (2980-2990); traces of sand pyrite, and fossils.
2990	3010	Limestone; very pale orange to very light brown; shaly micro sugary to chalky, partly rust and purple stained; traces of fossils and sand.
3010	3030	Limestone; shaly, light gray, brown, red, yellow, brown, micro sugary, partly chalky; traces of pyrite and fossils.
3030	3050	Calcareous shale; greenish gray, lumpy, small amounts of pale limestone.
3050	3080	Limestone; as above; some greenish shale; traces of pyrite.

<u>From</u>	<u>To</u>	<u>Formation</u>
3080	3100	Limestone; pale, rather pinkish; micro sugary; to chalky, traces of brachiopod shells; small amounts of shale.
3100	3160	Limestone; white to pink to very pale yellow brown, micro sugary to chalky; fossiliferous; much splintery, waxey green shale; some dark olive gray to black shale (3150-3160).
3160	3230	Some green shale as above; some grayish red purple shale to grayish red; some pale; dense to chalky limestone; shell fragments, traces of waxey olive shale beginning at 3200; traces of sand beginning at 3220.
3230	3250	Shale; and limestone as above; much coarse, subround quartz sand.
3250	3270	Sandstone; light brown to white, fine, glauconitic; some sand as above; much shale and limestone as above; traces of chert and fossils.
3270	3277	Sandstone; moderate red to gray red, coarse grained, partly glauconitic; some limestone and green shale as above.
Cored interval: 3277-3216		
3277	3285	Sandstone; very pale green, shaly, fine to medium grained, glauconitic becoming partly pale red.
3285	3290	Sandstone; moderate red to gray red, fine to medium grained.
3290	3295	Sandstone; very light gray, partly pink stained, slightly glauconitic fine to medium grained.
3295	3305	Sandstone; medium grained; quartzose, friable, becoming more consolidated at 3300.
3305	3310	Weathered granite.
3310	3316	Granite.
3316		Total depth.