

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR #84

Summary of the Calvert Exploration Company Wendell Haley #1
Ramsey County, North Dakota.
Well No. 408 - Permit No. 424

by Carole Smith
June, 1954

Calvert Exploration Company - #1 Wendell Haley, Ramsey County, North Dakota. Located: C S SW Section 1, T. 153 N., R. 63 W. (660' from west line, 660' from south line, Section 1). Elevation: 1478 GL; 1489 KB.

The Calvert Exploration Company - #1 Haley was spudded November 19, 1953 and 69' of 10 3/4" surface casing was set with 90 sacks of cement. A plug of 40 sacks was set at 3137'-3252'; 15 sacks plugs were set at 1457'-1500' and at 1350'-1392'; 0-86', 30 sacks. The well was abandoned September 30, 1953 at a total depth of 3252' (ended in granite).

No tests.

No cores.

FORMATION TOPS

Cretaceous System	
Niobrara	550
Greenhorn	945
Dakota	1244
Lakota	1370
Jurassic System	
Morrison	1410
Sundance	1480
Piper lime	1750
Devonian System	1870
Ashern	2125
Silurian System	
Interlake	2190
Ordovician System	
Upper Stony Mountain	2310
Lower Stony Mountain	2394
Red River	2465
Winnipeg shale	3060
Winnipeg sand	3180 (samples)
Granite	3250
Total depth	3252

Formation tops were determined from samples and electric log; not all lithologic formation tops were picked. Colors were determined from the rock color chart.

10	130	Poorly sorted glacial material--sand, silt, silty shale; some pebbles beginning at 100.
130	160	Shale--medium light grey, slightly brown, firm, slightly limy; much sandy material as above.
160	340	Shale--medium grey, slightly green, very firm, small amounts are bentonitic.
340	430	Shale--medium grey, slightly green and brown, firm to lumpy, slightly bentonitic.
430	490	Shale--medium dark grey, slightly green and brown, lumpy, pyritic, slightly bentonitic.
490	550	Shale--black lumpy.
550	580	Shaly limestone to limy shale--light grey, lumpy.
580	610	Limy shale--dark grey to black, lumpy.
610	670	Limy shale--medium dark grey to black, mostly lumpy.
670	850	Shale--medium dark grey, firm to lumpy, slightly limy.
850	910	Shale--dark grey to grey black, firm to lumpy, very slightly limy.
910	940	Shale--dark grey to black, lumpy to firm, slightly limy.
940	1060	Limy shale--dark grey to grey black, lumpy, becoming flaky with white specks starting at 970; traces of pyrite and small amounts of Inoceramus fragments.
1060	1120	Limy shale--medium dark grey to dark grey with white specks; traces of Inoceramus fragments.
1120	1150	Shale--medium dark grey to dark grey, slightly limy; traces of Inoceramus fragments.
1150	1240	Shale--dark grey to grey black, firm to lumpy; traces of Inoceramus fragments.
1240	1330	Silty, sandy shale--dark grey; much rounded, very coarse sand (1300-1310).
1330	1370	Shale--dark grey, flaky.
1370	1420	Sand--very coarse, mostly subangular; some dark grey, flaky shale increasing somewhat in quantity.
1420	1500	Siltstone--light reddish brown, shaly; much dark grey, flaky shale; much very coarse, subrounded, frosted quartz sand; traces of pale green shale beginning at 1480.
1500	1530	Silty, sandy, limy shale--light greenish grey; some sand and grey shale.
1530	1560	Silty shale--greenish grey, somewhat limy, partly sandy; small amounts of grey shale.
1560	1570	Limy shale--moderate reddish brown, partly silty and sandy, some grey and green shales; small amounts of sand.
1570	1580	Shaly sandstone and siltstone--greenish to yellow brown, limy; some fine sand; some very pale yellow brown, sub-lithographic limestone; much medium green to dark grey shale.
1580	1590	Shale--dark grey, flaky; small amounts of medium to coarse sand; small amounts of pale, micro-sugary limestone.
1590	1620	Silty shale--medium dark grey; traces of yellow, slightly limy, medium sandstone, increasing somewhat in quantity; some coarse sand beginning at 1600.
1620	1640	Limy shale--medium dark grey, silty, lumpy; much grey and white chalky, and oolitic limestone; small amounts of coarse sand increasing in quantity.
1640	1650	Limy sandstone--light grey, shaly, medium grained.

1650	1670	Shale--moderate reddish brown, somewhat silty and limy; some coarse sand and grey shale.
1670	1680	Limy shale--grey, reddish brown, light brown, lumpy, partly sandy.
1680	1690	Limy shale--moderate reddish orange, lumpy, partly sandy; some sand and dark grey shale.
1690	1700	Shale--medium grey to dark grey, flaky to rather firm, small amounts of reddish, limy shale; traces of sand and sandstone.
1700	1720	Shale--grey, reddish brown, light brown, mostly limy, partly sandy; small amounts of sand, sandstone, and chalky limestone.
1720	1730	Limy shale--medium grey, partly reddish, lumpy, partly sandy.
1730	1740	Sandy limestone--white, sublithographic, partly oolitic; some grey shale.
1740	1770	Limestone--pale yellow brown, sublithographic to lithographic; small amounts of dark grey; flaky shale.
1770	1790	Limestone--almost white, sublithographic; small amounts of dark grey shale.
1790	1810	Limestone--white to very pale yellow brown, sublithographic to lithographic; much dark grey, flaky shale; shell fragment.
1810	1835	Shale--dark grey, flaky; some limy, reddish brown shale; some white gypsum; traces of light grey anhydrite.
1835	1840	Shale--moderate reddish brown to moderate red, slightly limy; some white gypsum.
1840	1860	Gypsum--soft, white; much shale as above; some grey shale.
1860	1870	Gypsum--white, soft, some reddish brown shale.
1870	1890	Dolomite--pink to very pale greyish orange pink, dense to micro-sugary.
1890	1905	Limestone--very pale yellow brown to greyish orange pink, micro-sugary; some very pale yellow brown to white, dense limestone beginning at 1900.
1905	1915	Limestone--greyish orange pink (micro-sugary) to very light grey, (lithographic) with purple spots.
1915	1920	Limestone--light olive grey with purple spots, dense.
1920	1930	Limestone--pale yellow brown to greyish orange pink; micro-sugary to dense.
1930	1935	Limestone--very pale yellow brown to pinkish, white with purple spots, sublithographic to lithographic.
1935	1940	Limestone--greyish orange pink, sugary and/or chalky; traces of sand and shale.
1940	1945	Limestone--very pale yellow brown to pale red, fine sugary to dense; traces of sand and shale.
1945	1950	Limestone--white to almost white, slightly pink in part, sublithographic to lithographic.
1950	1955	Limestone--pale yellow brown to greyish orange pink to white, sugary to dense.
1955	1960	Limy dolomite--very light grey with purple spots, micro-sugary.
1960	1965	Dolomitic limestone--very light grey with purple spots, micro-sugary.

1965	1985	Limy dolomite to dolomitic limestone--pale yellow brown with purple spots, micro-sugary; much pink, chalky limestone beginning at 1980.
1985	1990	Limestone--pinkish, micro-sugary.
1990	2000	Limestone--light grey and pinkish grey with purple spots, micro-sugary to sublithographic.
2000	2015	Shaly dolomitic limestone--greyish pink to very light grey, sublithographic.
2015	2030	Dolomitic limestone to limy dolomite--greyish pink, micro-sugary to fine sugary.
2030	2045	Limestone--very light grey to pink with purple spots, sublithographic to micro-sugary.
2045	2050	Dolomitic limestone--very pale yellow brown to pinkish grey micro-sugary; a trace of yellow brown, very coarse, oolitic limestone.
2050	2060	Limestone--very pale yellow brown, sugary and chalky; some grey shale.
2060	2065	Limestone--very light grey to pinkish with purple spots, micro-sugary to sublithographic; small amounts of shale and sand (Cave?)
2065	2070	Dolomitic limestone--very light grey to very pale yellow brown, partly pinkish, micro-sugary to sublithographic; some sand and shale (Cave?)
2070	2075	Limestone--almost white, micro-sugary to sublithographic; some dark grey shale (Cave?)
2075	2090	Limestone--very pale yellow brown, partly pinkish, micro-sugary to sublithographic, traces of dark grey shale, increasing in quantity.
2090	2125	Limestone--very pale yellow brown to white, occasionally pinkish in small amounts, dense to lithographic; small amounts of dark grey shale.
2125	2130	Dolomitic limestone to limy dolomite--very pale yellow brown, fine sugary to dense.
2130	2145	Limy dolomite--very pale yellow brown, mostly dense, increasingly vuggy.
2145	2155	Dolomite--greyish orange pink, micro-sugary to dense, partly vuggy; some dark grey shale beginning at 2150.
2155	2160	Sandy, shaly dolomite--pale red, micro-sugary to sublithographic; some dolomite as above; small amounts of dark grey shale.
2160	2165	Limy, dolomite--moderate orange pink, chalky to sublithographic; some dark grey shale.
2165	2170	Limestone--moderate orange pink to moderate red orange, shaly, soft, chalky.
2170	2180	Shaly limestone--moderate reddish orange to moderate reddish brown, sublithographic to chalky; small amounts of white micro-sugary limestone.
2180	2185	Limestone--white to pink, chalky to micro-sugary; some grey, partly lumpy and limy shale.
2185	2190	Limy dolomite--yellow grey, fine sugary to dense; some limestone as above; small amounts of grey shale.
2190	2205	Dolomite--pink (dense) to white (sublithographic); traces of shale.
2205	2215	Dolomite--white, sublithographic.

2215	2220	Limy dolomite to dolomitic limestone--very pale orange, partly pinkish, dense, partly well-cemented oolitic.
2220	2225	Dolomite--moderate orange pink, dense.
2225	2230	Dolomitic limestone--very light grey with purple spots, partly pinkish; some dolomite as above.
2230	2235	Dolomite--very light grey to white, sublithographic, slightly limy in part.
2235	2245	Limy dolomite--white, sublithographic; small amounts of dark grey and purple red shale.
2245	2250	Dolomitic limestone--very pale yellow grey to very pale yellow brown, very coarse oolitic (well-cemented) to dense.
2250	2255	Limy dolomite--almost white, light oolitic to dense.
2255	2260	Dolomite--almost white, tight oolitic to dense.
2260	2270	Dolomitic limestone to limy dolomite--white, sublithographic.
2270	2275	Dolomite--pale red, sublithographic.
2275	2285	Dolomitic limestone--pale red, sublithographic, shaly.
2285	2295	Dolomitic limestone--white, slightly pink in part, sublithographic; partly limy dolomite beginning at 2290.
2295	2305	Limy dolomite--white, slightly pink, micro-sugary to sublithographic.
2305	2310	Missing samples.
2310	2315	Shaly limestone--moderate reddish orange to pale reddish brown, soft, lumpy; small amounts of dark grey shale.
2315	2320	Dolomite--almost white, dense; small amounts of dark grey shale.
2320	2325	Limy dolomite--almost white, sublithographic; much dark grey shale.
2325	2330	Shaly limestone--moderate reddish orange, lumpy, chalky; small amounts of coarse sand and dark grey shale.
2330	2335	Sandy limestone--light grey, chalky; much very coarse, rounded sand.
2335	2345	Limy dolomite--very light pink to white, micro-sugary, increasingly sandy.
2345	2350	Dolomite--very pale yellow brown to yellow grey, slightly pink, micro-sugary, partly sandy and limy.
2350	2360	Limy dolomite--very pale yellow brown to white, partly pinkish, micro-sugary to dense, partly dolomitic limestone.
2360	2365	Dolomite--very pale yellow brown to white, micro-sugary to dense.
2365	2375	Limy dolomite--pink to white, micro-sugary to dense, partly pale red beginning at 2370.
2375	2380	Limy, shaly dolomite--pale red to moderate reddish orange, micro-sugary.
2380	2405	Dolomitic limestone--pale red, shaly, micro-sugary, partly chalky, becoming partly very light grey with purple spots at 2390; a small amount of grey and white, fragmental limestone beginning at 2400.
2405	2415	Limestone--light grey with purple spots; much dark grey shale; small amounts of sand (Cave?)
2415	2425	Limestone--light grey with purple spots, partly greyish pink, some moderate orange red, chalky, shaly limestone; some dark grey shale, decreasing in quantity; traces of silty green shale at 2420.

2425	2435	Limestone as above; some dark grey shale; small amounts of light grey, fragmental, dense limestone.
2435	2445	Limestone--grey and white, sugary to fragmental, partly chalky, increasing in quantity; some lumpy, reddish brown shaly limestone and limy shale; some dark grey shale, decreasing in quantity.
2445	2455	Shaly limestone to limy shale--reddish brown, lumpy; some grey shale as above, increasing in quantity.
2455	2465	Shaly limestone to limy shale--pale reddish brown, lumpy; small amounts of pale, dense limestone and dark grey shale.
2465	2470	Limestone--light pink, partly dusky yellow micro-sugary to sublithographic.
2470	2475	Limy dolomite--pale red to greyish pink, sublithographic to dense.
2475	2485	Limestone--white, slightly pink in parts, sublithographic to chalky.
2485	2500	Dolomitic limestone--almost white, partly pinkish, micro-sugary to dense.
2500	2520	Limestone--very light olive grey, lithographic to dense.
2520	2530	Limestone--pink, sublithographic.
2530	2540	Dolomitic limestone--moderate orange pink to pale red, micro-sugary to sublithographic.
2540	2570	Very poor samples. Dolomitic limestone as above? Much dark grey to black shale.
2570	2590	Dolomitic limestone--white, sublithographic to lithographic; much dark grey to black shale (Cave?) Poor samples.
2590	2610	Dolomitic limestone--pale yellow brown, fine sugary to dense; small amounts of shale (Cave?)
2610	2650	Limestone--very pale yellow brown, micro-sugary to dense, partly sublithographic, becoming pinkish at 2630.
2650	2660	Limestone--pinkish, fine sugary to sublithographic.
2660	2680	Limestone--almost white partly pinkish micro-sugary to sublithographic.
2680	2700	Limestone--very pale yellow brown, slightly pink mostly fine sugary; a small amount of white chert at 2690; traces of shell fragments (brachiopods) at 2690.
2700	2710	Limestone--pale yellow brown, fine sugary, partly dolomitic; much white, lithographic limestone; traces of chert.
2710	2720	Limestone--greyish orange pink, fine sugary; small amounts of white chert.
2720	2730	Limestone--very pale yellow brown to greyish orange pink, sublithographic to dense; some dark grey shale.
2730	2740	Limestone--very pale yellow brown to white, sugary and/or chalky; some dark grey shale.
2740	2750	Limestone--very pale orange to very light yellow grey, sublithographic to lithographic with included crystals; traces of chert.
2750	2770	Limestone--pink to pale yellow to white, fine sugary to lithographic, becoming paler and fossiliferous; traces of chert.
2770	2790	Limestone--very pale, slightly yellow and pink, sublithographic, partly dense; traces of brachiopods and chert.
2790	2800	Limestone--very pale yellow brown to white, slightly pinkish and yellowish, fine sugary to sublithographic, traces of chert.

2800	2820	Limestone--almost white, sublithographic with included crystals.
2820	2840	Limestone--very pale orange and pink, sublithographic, partly fossiliferous; traces of chert.
2840	2870	Limestone--pale greyish pink, sublithographic; traces of chert.
2870	2900	Limestone--almost white, slightly pink, sublithographic to lithographic, partly fossiliferous.
2900	2960	Limestone--very pale yellow brown, sublithographic to lithographic, partly fossiliferous; missing samples: 2940-2950.
2960	3000	Limestone--very pale, micro-sugary to sublithographic. Poor sample.
3000	3040	Limestone--very pale yellow brown to white, sublithographic, partly fossiliferous; much grey shale and coarse sand (Cave?)
3040	3070	Limy shale to shaly limestone--medium grey, slightly green, lumpy; fossils at 3060.
3070	3080	Shale--medium grey to dark grey, partly greenish and limy; some pale, micro-sugary to sublithographic limestone.
3080	3090	Limy shale--pale green, lumpy, partly sandy; some dark grey, flaky to lumpy, limy shale; traces of limestone, pyrite, and sand.
3090	3110	Shale--pale green to grey green, splintery; some limy shale as above; traces of pyrite.
3110	3150	Shale--pale green, splintery; traces of black shale, coarse sand, purple shale, fossils, and pyrite; much lumpy, limy, green shale beginning at 3140.
3150	3160	Shale--pale green, lumpy, limy; some splintery green shale as above.
3160	3180	Shale--pale green, splintery; some grey shale; traces of fossils, purple limestone and pyrite; a traces of reddish shale at 3180.
3180	3200	Shale--pale green and grey green, splintery; some grey and reddish brown shale; some coarse, rounded sand and dark red hematite (?) pellets.
3200	3250	Shale--pale green and grey green; some dark grey and reddish brown shale; much coarse sand and sandstone beginning at 3210.
3250	3252	Granite (and shale and sand -- cave)
3252		Total depth.