

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 61

Summary of E. Wilson Germany and Cardinal Drilling Company and Leo Faul #1
 Wells County, North Dakota
 Permit #352, Well #336

by LaVerne B. Nelson
 April, 1954

E. Wilson Germany and Cardinal Drilling Company and Leo Faul #1, Wells County, North Dakota. C SE NW Section 13, T. 148N., R. 73W. (1980 feet from north line and 1980 feet from west line). Elevation: 1629 G.L. 1639 K.B.

The E. Wilson Germany and Cardinal Drilling Company-Faul #1 was spudded August 30, 1953. 10 3/4 inch casing was set at 318 feet with 173 sacks of cement. The well was drilled to a depth of 3497 feet, plugged and abandoned.

Fifteen sack plugs were set at top of surface casing, 318 feet, 2174 feet, and 3118 feet.

Formation tops were determined from samples and electric log, not all lithologic formation tops called in following list. Colors were determined from rock color chart.

FORMATION TOPS

Cretaceous System	
Niobrara	1153
Greenhorn	1635
Dakota	2172
Jurassic System	
Morrison	2468
Sundance	2528
Piper	2695
Triassic System	
Spearfish	2844
Charles	2945
Mission Canyon	3105
Lodgepole	3318

<u>From</u>	<u>To</u>	<u>Formation</u>
0	120	Sandstone, poorly sorted fine to very coarse, angular and subangular quartz grains.
120	220	Shale, light gray, massive, silty claystone.
220	260	Siltstone, medium gray, disaggregated, clayey.
280	630	Shale, medium light gray, disaggregated, slightly calcareous.
630	1020	Shale, light gray to greenish gray, platy, brittle.
1020	1110	Shale, greenish gray, lumpy, bentonitic, slightly calcareous.

<u>From</u>	<u>To</u>	<u>Formation</u>
1110	1170	Shale, black, lumpy.
1170	1290	Shale, medium light gray, highly calcareous, first white specks, a little pyrite, a little white sublithographic limestone.
1290	1650	Shale, medium gray, lumpy, a little pyrite and white bentonite.
1650	1860	Shale, medium gray, lumpy, disaggregated, numerous Inoceramus fragments, second white specks, a few ironstone concretions.
1860	2130	Shale, medium gray, lumpy, disaggregated, calcareous, some Inoceramus fragments.
2130	2370	Sandstone, very fine, silica cemented, sand grain concretions, very shaly.
2370	2460	Sandstone, medium to very coarse, angular and subangular, frosted and pitted quartz. Some white gypsum.
2460	2480	Missing samples.
2480	2490	Shale, medium gray, disaggregated, some sandstone as above.
2490	2520	Shale, medium gray to medium gray, platy, micaceous. A little white bentonite.
2520	2530	Limestone, yellowish gray, sucrosic, pinpoint porosity, dolomitic.
2530	2580	Shale, medium dark gray, some dolomitic limestone as above, few medium to coarse, subangular, frosted quartz grains.
2580	2600	Sandstone, poorly sorted medium to very coarse quartz grains, some shale as above, much subcrystalline limestone.
2600	2610	Shale, medium light gray, splintery, calcareous.
2610	2630	Sandstone, fine to some medium, angular and subangular, frosted quartz, very shaly, a little moderate red siltstone.
2630	2720	Shale, moderate red to pale reddish brown some greenish gray and medium gray shale, a few medium quartz grains.
2720	2810	Limestone, yellowish gray, grainy to sublithographic, some shale as above.
2810	2860	Shale, very light gray, calcareous, silty, some is as above.
2860	2900	Shale, moderate to dark reddish brown, some greenish gray shale, little gypsum, limestone, anhydrite.
2900	2930	Shale, dark reddish brown, a little greenish gray and medium gray shale as above, little gypsum and anhydrite.
2930	2940	Shale, moderate reddish brown, some medium gray shale, a little variegated moderate orange pink and very pale orange dolomite.
2940	2950	Shale, as above, some yellowish gray, sucrosic limestone little anhydrite.
2950	2970	Dolomite, grayish orange and orange pink, very fine grained to sublithographic, a little gypsum and anhydrite.
2970	2990	Dolomite, pale red, very fine grained to subcrystalline, dense.
2990	3030	Shale, greenish gray, splintery, some dolomite as above, some moderate reddish brown claystone.
3030	3040	Shale, same as above, much orange, lithographic anhydrite.
3040	3050	Anhydrite, white and orange crystalline.
3050	3070	Anhydrite, bluish white, dense lithographic.
3070	3080	Limestone, white, very fine grained, sucrosic.

<u>From</u>	<u>To</u>	<u>Formation</u>
3080	3090	Anhydrite, bluish white, dense, lithographic, a little limestone as above some moderate reddish brown claystone.
3090	3100	Shale, greenish gray, splintery, some moderate reddish brown claystone, little anhydrite.
3100	3120	Anhydrite, bluish white, dense lithographic, little shale as above.
3120		1/2 hour circulation, anhydrite as above, some sucrosic limestone much microsucrosic limey dolomite.
3120	3130	Limestone, white to yellowish gray, fine grained, silty, a little medium gray shale.
3130		3/4 hour circulation, same as above.
3130	3140	Limestone, yellowish gray, fine grained, dense.
3140	3180	Limestone, grayish orange pink, dense, fine grained, shaly, some anhydrite.
3180	3190	Dolomite, pale red, dense, lithographic.
3190	3200	Dolomite, yellowish gray, very fine grained, some good porosity.
3200	3210	Limestone, white to yellowish gray, fine grained dense.
3210		1/2 hour circulation white to yellowish gray, medium to coarse grained, dense.
3210	3220	Limestone, white to yellowish gray, medium grained.
3220		1/2 hour circulation, limestone, white, oolitic, a little pinpoint porosity.
3220	3250	Limestone, yellowish gray, medium to coarse grained, some good interstitial porosity.
3250	3290	Limestone, very light gray, medium grained, fairly dense, shaly.
3290	3320	Shale, medium gray, platy, some limestone as above.
3320	3340	Limestone, pinkish gray, pseudo-oolitic, medium grained, silty, 3330-40 much shale.
3340	3360	Limestone, as above, some calcareous concretions.
3360	3390	Shale, pinkish gray, medium grained, shaly.
3390	3497	Shale, medium dark gray, laminated. 3400-10 much grayish orange pink, sucrosic limestone. 3430-40 much sucrosic limestone. 3460-70 limestone as above, some moderate reddish brown claystone.
3947		Total depth.