NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 129

Summary of the Shell Oil Co. - Chester Torgerson No. 1
Benson County, North Dakota
Well No. 636 - Permit No. 650

By John L. Hainer

Shell Oil Company - Chester Torgerson No. 1, wildcat, Benson County, North Dakota, Section 17, Township 153N., Range 68W. - 1980' from the north and 660' from the east section lines of section 17 T. 153N. R. 68W. Elevation: GL 1633; K.B. 1644.

The Shell Oil Co. - Chester Torgerson No. 1 was spudded June 28,1954, drilled to a total depth of 2881', found dry and plugged according to regulations July 3, 1954. No drill stem tests or cores were taken. Electric, Gama Ray-Neutron and Microlog mechanical logs were run by Schlumberger Well Surveying Corporation.

CASING: Surface casing, 8 5/8", was set at 284' with 165 sacks of cement.

PLUGGING RECORD: 8 5/8" casing cemented at 284' with 165 sacks of cement. Set cement plugs (10 sacks) at following depths: 2845; 2380; 2280; 2080; 1850; 285 and5 sacks at the surface.

Formation tops were determined from samples and electric log and corrected to the electric log. Not all formation tops were picked. Colors were determined from the rock color chart.

TOPS

Cretaceous System	
Niobrara Formation	914
Greenhorn Formation	1369
Dakota Group	1787
Jurassic System	2064?
Piper lime	2272
Triassic System?	
Spearfish Formation	2390
Mississippian System	
Lodgepole Formation	2398
Devonian System	
“Nisku” Formation	2832
Total Depth	2881

0-220	Glacial drift-predominantly quartzitic.
220-280	Glacial drift as above. Shale, medium gray, lumpy, silty. Some lignite.
280-330	Casing cement and glacial drift caving.
330-460	Shale, medium gray, compact, foliated, slightly calcareous.
460-470	Shale, medium gray to dark gray, compact, foliated.
470-620	Shale, greenish gray 5GY6/1, compact, foliated.
620-690	Shale as above. Few Inoceramus prisms.

690-710	Shale, medium light to medium gray, compact, foliated,
710-790	Shale, as above. Few Inoceramus prisms.
790-880	Shale as above.
880-900	Shale, medium, light gray, spongy, bentonitic.
900-940	Shale, medium light to dark gray, spongy, bentonitic, little pyrite.
940-980	Shale, medium light gray, lumpy, bentonitic.
980-1040	Shale as above. Few Inoceramus prisms. Little shale, medium gray, fissile with "white specks", calcareous.
1040-1190	Shale, medium gray, fissile with "white specks", calcareous.
1190-1220	Shale as above, little limestone, medium dark gray, finely crystalline, dense, argillaceous. Inoceramus prisms.
1220-1250	Shale, medium to medium dark gray, lumpy, bentonitic.
1250-1280	Shale, medium light gray, micaceous, "white specks", calcareous, shale, medium dark gray, compact, lumpy.
1280-1390	Shale, medium light gray, lumpy, bentonitic, shale medium dark gray, foliated.
1390-1400	Shale, medium gray, fissile, "white specks", calcareous.
1400-1420	Shale as above. Inoceramus prisms.
1420-1440	Shale and Inoceramus as above. Shale, black, carbonaceous. Little limestone, medium gray, fragmental, argillaceous.
1440-1450	Shale, medium gray, fissile, "white specks", calcareous. Shale black carbonaceous.
1450-1460	Shale, medium gray, fissile, "white specks", calcareous. Inoceramus prisms.
1460-1500	Shale and Inoceramus as above. Shale, medium light gray, spongy, bentonitic.
1500-1560	Shale, medium light gray, spongy, bentonitic. Shale, medium dark gray, foliated. Inoceramus prisms.
1560-1570	Shale, medium light to medium dark gray, foliated. Bentonite, white.
1570-1600	Shale, medium gray, lumpy, bentonitic. Inoceramus prisms.
1600-1670	Shale, medium gray to black, foliated. Inoceramus prisms.
1670-1760	Shale, medium to medium dark gray, lumpy.
1760-1790	Shale, medium gray, lumpy, slightly bentonitic.
1790-1800	Missing.
1800-1840	Shale, medium to medium dark gray, lumpy.
1840-1910	Sand, unconsolidated quartz sand, clear to iron stained, subrounded, overage diameter 1 mm. Little pyrite.
1910-1920	Missing.
1920-1940	Sand as above.
1940-1960	Sand as above. Shale, medium gray, lumpy.
1960-1970	Missing.
1970-1990	Sand and shale as above.
1990-2060	Sand, unconsolidated, quartz sand, clear to iron stained, subangular to subrounded, fairly well sorted, average diameter 1 mm.
2060-2070	Sand as above. Little sandstone, white, fine grained, calcareous, glauconitic.
2070-2100	Sand as above. Shale, medium gray, lumpy.
2100-2195	Sand as above. Siltstone, medium light gray, highly calcareous. Shale, moderate reddish brown 10R4/6 to pale reddish brown 10R5/4 massive waxy.

2195-2205	Shale and siltstone as above, little limestone, very pale orange 10YR8/2 very finely crystalline.
2205-2255	Shale, grayish red 10R4/2 to moderate reddish brown 10R4/6, massive, waxy. Shale, greenish gray 5GY6/1, splintery, waxy. Gypsum, white.
2255-2260	Shale as above, chert, yellowish gray 5Y7/2.
2260-2265	Missing.
2265-2270	Limestone, very pale orange 10YR8/2, sublithographic, sandstone, white, fine grained, calcareous.
2270-2290	Limestone, very pale orange, microsucrosic to finely crystalline.
2290-2300	Missing.
2300-2320	Limestone as above.
2320-2335	Gypsum, white. Little limestone as above.
2335-2345	Gypsum, white.
2345-2350	Gypsum, limestone, pale yellowish brown 10YR6/2, finely crystalline.
2350-2390	Gypsum, white, shale, medium gray, foliated, pale reddish brown, and greenish gray, waxy, splintery.
2390-2400	Gypsum and shale as above. Silty shale, pale red 10R6/2, calcareous, included quartz sand, rounded, frosted.
2400-2420	Shale as above. Limtestone, pale red and white mottled, earthy to fragmental, gypsiferous.
2420-2515	Limestone as above, shale, medium gray, foliated, pale reddish brown, waxy.
2515-2545	Limestone, mottled yellowish gray 5Y8/1 and pale red 10R6/2, fragmental. Shale, medium gray, foliated, pale reddish brown, waxy.
2545-2645	Limestone as above.
2645-2660	Limestone, yellowish gray, fragmental, pale red, microsucrosic, chert, white.
2660-2690	Chert, white to pale red 10R6/2. Limestone, pale red, microsucrosic.
2690-2712	Depth correction.
2712-2750	Chert and limestone as above. Shale, moderate reddish brown 10R4/6, massive.
2750-2775	Chert, white to grayish pink 5R8/2, calcareous. Little limestone, grayish pink 5R8/2, microsucrosic.
2775-2795	Limestone, very pale orange 10YR8/2 to pale yellowish brown 10YR6/2, fragmental to finely crystalline, dense, chert, white.
2795-2825	Limestone, very pale orange 10YR8/2, microsucrosic, chert, white to grayish pink 5R8/2.
2825-2840	Limestone, very pale orange to pale yellowish brown, fragmental.
2840-2870	Dolomite, pale brown, sucrosic, intergranular porosity.
2870-2880	Limestone, moderate red 5R5/4, dolomitic, sucrosic, intergranular porosity.
2881	Total Depth