

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO.198

Summary of Pollard and Davis - Dwane Guscette No. 1
Barnes County, North Dakota
Well No. 149 - Permit No. 165

by La Verne B. Nelson
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Pollard and Davis - Dwane Guscette No. 1, Barnes County, North Dakota.
NW NW Section 20, T. 142N., R. 61W. (660 feet from north line & 1980 feet from
west line). Elevation D.F. 1520 feet.

The Pollard and Davis - Dwane Guscette No. 1 was spudded September 2,
1952. Cable tool drill was used to 1795 feet and rotary drill from 1795 to
final depth of 2573. The well was plugged and abandoned September 7, 1953.

Casing Record:

To 204' 16"
To 505' 13"
To 950' 10"
To 1323' 8 5/8"
To 1771' 7"

Plugging Record: Cement plug at surface
Cement plug at 1670-1870
Cement plug at 2300- with 15 sacks

No logs were run on this well. Formation tops were determined from
samples with the aid of electric logs of nearby wells. Colors were determined
from the rock color chart distributed by the Geological Society of America.

FORMATION TOPS

Cretaceous System	
Pierre formation	164
Niobrara formation	450
Greenhorn formation	926
Newcastle formation	1272
basal Cretaceous sandstone	1415
Ordovician System	
Stony Mountain formation	1800
Red River formation	1820
Winnipeg formation	2360
Winnipeg sandstone	2530
Cambrian System	
Deadwood formation	2555
Precambrian	2572

60-100 Sandstone poorly sorted, fine to very coarse, subangular to
well rounded. Numerous quartz and feldspar pebbles. Many dark
heavy minerals throughout. Most of the quartz grains are
frosted and pitted. Some are clear and angular.

100-110 Sandstone as above. Becoming grayish colored and shaly coated appearance. Traces of dolomite fragments, microsucrosic to grainy.

110-140 Sandstone as above. Some medium light gray, lumpy, compact shale and some yellowish gray, microsucrosic, limy dolomite fragments.

140-158 Sandstone as 60-100. More dark heavy minerals present. Trace of dolomite fragments.

158-164 Sandstone as above. Increase in number of clear, angular quartz grains.

164-175 Shale medium light gray, lumpy, compact, micromicaceous, bentonitic, calcareous. Little coarse to pebbly quartz, heavy minerals and dolomite. Little lignite.

175-225 Shale as above. No pebbles of quartz, lignite and dolomite. Traces of limestone pebble inclusions.

225-235 Shale medium light gray, lumpy, disaggregated, bentonitic, calcareous. Much poorly sorted fine to very coarse and pebbles, frosted and clear, angular to well rounded sandstone. High heavy mineral content and feldspars. Some fragments of dolomite and limestone.

235-245 Sandstone poorly sorted, fine to very coarse with some pebbles, high heavy mineral content, angular to well rounded, mostly frosted and pitted with some clear grains. Some shale as above and traces of lignite.

245-255 Shale medium gray, disaggregated, micromicaceous, bentonitic, calcareous. Some sandstone as above.

255-295 Samples missing.

295-315 Sandstone fairly well sorted, very fine to medium with a few coarse to very coarse grains, high heavy mineral content, sub-angular to well rounded, frosted and clear. Slightly shaly.

315-375 Shale medium light to light gray, lumpy, soft to firm, very slightly calcareous, bentonitic.

375-405 Shale, light gray, massive, firm, calcareous, bentonitic. Traces of brown, hard, dense dolomitic limestone inclusions. Traces of white bentonite.

405-450 Shale medium gray, disaggregated, soft, calcareous. A little white bentonite. A few large pebbles of quartz inclusions. Some white specks.

450-460 Shale, medium light gray, calcareous, lumpy, firm, first white specks. Trace of crystalline pyrite.

460-470 Shale, dark gray, lumpy, soft and spongy. Very much white soft bentonite.

470-488 Shale, medium dark gray, lumpy and soft, calcareous, bentonitic. Much white bentonite. Traces of yellowish gray, sucrosic limestone. Numerous medium to coarse quartz inclusions.

488-495 Sandstone poorly sorted, very fine to very coarse, angular to well rounded, frosted and pitted, many heavy minerals present. Trace of well rounded, sucrosic, hard limestone.

495-500 Shale, medium dark gray, lumpy and flaky, soft, calcareous, bentonitic. Much white bentonite. Trace of medium grained, sucrosic limestone and medium grained quartz.

500-570 Shale medium gray, calcareous, lumpy, firm, speckled. Trace of quartz grain inclusions.

570-700 Shale medium gray, disaggregated, calcareous, bentonitic. Traces of brown dense, hard limestone inclusions.

700-730 Shale medium dark gray, lumpy, disaggregated, spongy to firm.

730-869 Shale medium gray, lumpy, spongy, slightly calcareous, bentonitic.

869-872 Shale medium gray, lumpy firm, bentonitic.

872-879 Shale medium gray to medium dark gray, platy, soft.

879-887 Shale missing samples.

887-910 Shale, medium dark gray, disaggregated.

910-926 Shale medium dark gray, lumpy soft, silty, calcareous.

926-960 Shale, medium gray, calcareous, second white specks. Some very coarse subangular quartz grains. Traces of Inoceramus fragments.

960-965 Shale, medium dark gray, highly calcareous, speckled, firm, lumpy. Numerous Inoceramus fragments. Traces of angular quartz pebbles.

965-984 Sandstone coarse to very coarse, angular to subangular, high heavy mineral content. Some shale and Inoceramus fragments as above. Some yellowish gray, angular dolomite fragments.

984-992 Shale, medium gray, calcareous, speckled. Numerous Globigerina foraminifera and some Inoceramus fragments. Some medium to very coarse, angular fragments of quartz, feldspar and limestone.

992-996 Shale, medium gray, lumpy, compact, calcareous. Some Globigerina and Inoceramus fragments. Traces of coarse angular sand and limestone.

996-1022 Shale, medium gray, lumpy, compact, calcareous, speckled. Numerous Globigerina and Inoceramus fragments.

1022-1095 Missing samples.

1095-1104 Shale, medium gray, lumpy, soft, calcareous, bentonitic. Traces of Inoceramus fragments.

1104-1114 Shale, medium dark gray, disaggregated, platy, bentonitic, slightly calcareous.

1114-1130 Shale, medium dark gray, earthy luster, platy, disaggregated, calcareous. Traces of Inoceramus fragments.

1130-1136 Shale, dark gray, earthy luster, platy, disaggregated, calcareous. Traces of Inoceramus fragments.

1136-1152 Shale, medium gray, earthy luster, disaggregated to spongy, calcareous. Little white bentonite and fragments or inclusions of limestone.

1152-1163 Shale, medium gray to medium dark gray, earthy luster, fissile and lumpy, spongy, calcareous. Much white bentonite, Inoceramus fragments and limestone inclusions.

1163-1175 Shale, medium gray, earthy, fissile to platy, spongy, calcareous, bentonitic. Traces of feldspar, quartz and limestone inclusions. Traces of crystals of pyrite.

1175-1185 Shale, medium gray, earthy, platy to fissile, spongy, calcareous. Numerous Inoceramus fragments. Medium to very coarse, angular, quartz inclusions and pyrite.

1185-1191 Shale, medium light gray, earthy, platy, disaggregated, calcareous, bentonitic. Few Inoceramus fragments and yellowish brown, sucrosic, angular limestone inclusions and pyrite.

1191-1201 Shale, medium gray, earthy, fissile, calcareous. 90% of sample are Inoceramus fragments.

1201-1209 Shale, medium gray, earthy, platy to lumpy, disaggregated, slightly calcareous. Limestone and pyrite inclusions.

1209-1220 Sandstone, poorly sorted, fine to very coarse, angular to well rounded, coated and pitted. Much shale as above. Some pyrite and Inoceramus fragments.

1220-1243 Shale, medium dark gray, earthy, lumpy, disaggregated, bentonitic. Pyrite and quartz inclusions.

1243-1253 Siltstone, medium gray, slightly calcareous, argillaceous. Some fine to medium, subangular to well rounded sandstone.

1253-1272 Shale, medium dark gray, earthy, lumpy to platy, disaggregated, silty. Traces of reddish brown iron stained siltstone and pyrite, and soft, sucrosic, white to very pale orange limestone.

1272-1277 Siltstone, medium gray, slightly calcareous, highly argillaceous. Some shale as above.

1277-1327 Sandstone well sorted, fine to medium, well rounded to subangular, uncemented, some iron stained coatings, very few heavy minerals present, little pyrite, highly quartzose, frosted and pitted.
1295-1300 - Very shaly.
1319-1326 - Becoming highly iron stained.

1327-1330 Dolomite, light gray, limy, sucrosic, some light gray shale.

1330-1365 Shale, light gray, earthy, lumpy, disaggregated, bentonitic, calcareous, silty. Little yellowish gray, sucrosic, limestone and pale reddish brown silt.

1365-1415 Shale, medium gray, earthy, lumpy, spongy, bentonitic, slightly silty. Traces of microsucrosic, hard, dense dolomitic limestone inclusions. 1390-1395 Numerous fine to medium, rounded, sand grain inclusions.

1415-1427 Siltstone, light gray, argillaceous, calcareous, soft.

1427-1458 Sandstone, white, poorly sorted, fine to very coarse, angular to rounded frosted and pitted, uncemented, little pyrite.

1458-1462 Sandstone, as above. 75% of sample light brown to moderate reddish brown (siderite ?) pellets.

1462-1471 Siltstone, moderate red, soft, numerous pellets as above. A little yellowish gray, dense lithographic dolomite.

1471-1475 Siltstone, yellowish gray and moderate reddish orange. Numerous (50%) pellets and limestone fragments. Marked decrease in amount of iron staining.

1475-1481 Sandstone, poorly sorted, silt to coarse grained, angular to well rounded, iron stain coating in part, many pellets. Some yellowish gray, dense, sublithographic limestone

1481-1500 Sandstone, well sorted, fine grained, angular to well rounded, frosted, some iron stained and well cemented. Some siderite pellets.

1500-1506 Siltstone, light gray, argillaceous, soft and crumbly.

1506 Sandstone, well sorted, fine grained, angular to well rounded, frosted slight iron staining, uncemented. Few siderite pellets. Traces of pyrite. 1566-1574 Sandstone as above. Few frosted and clear, angular, very coarse quartz grains.

1574-1610 Sandstone, poorly sorted, fine to very coarse, angular to rounded, few grains iron stained, frosted and pitted. Many siderite pellets and pyrite masses.

1610-1674 Sandstone, fairly well sorted, fine (90%) to coarse subangular to rounded, frosted and pitted, white with a little iron staining, little pyrite and siderite pellets. Traces of pyrite cemented quartz grains.
1646-1651 - Slight increase in amount of iron staining.
1659-1674 - No pellets.
1671-1674 - Sorting becomes poorer. Increase in coarse to very coarse quartz grains.

1674-1688 Sandstone, fair to poor sorting, fine (60%), to very coarse (10%), subangular to rounded, frosted and pitted, white with some iron staining and rose tinted, uncemented. Traces of pyrite.

1688-1715 Sandstone, very poor sorting, fine to pebble, subangular to well rounded, frosted and pitted, white, some rose tinted, quartzose, trace of heavy minerals.
1703-1715 - Pebbles becoming more angular and more predominate in sample.

1715-1718 Shale, greenish gray, lumpy, spongy, earthy, silty, bentonitic. Some moderate grayish red and moderate reddish brown, argillaceous silt. Some medium, subangular, frosted quartz sand.

1718-1728 Sandstone as 1688. Trace of dolomite fragments.

1728-1746 Sandstone fair sorting, fine 10%, medium 50%, to very coarse, rounded, white with some rose tinted grains, quartzose. Some light brown, dense, grainy dolomite. Trace of pyrite cemented quartz grains.
1744-1746 - Becomes shaly.

1746-1752 Sandstone poor sorting, medium (50%) to very coarse, rounded, frosted and pitted, quartzose. Much greenish gray, lumpy, firm, calcareous, shale, quartz grain inclusions. Some light gray and brown, chalky, soft limestone and brown grainy dolomite.

1752-1756 Sandstone, poorly sorted, fine to very coarse (40%), subangular to rounded, white, frosted, and pitted, quartzose, uncemented. Traces of pyrite and little shale as above.

1756-1770 Sandstone, medium (70%) to very coarse angular to rounded, frosted and pitted, iron stained, quartzose. Traces of pyrite and moderate reddish orange silt.
1753-1763 - Less iron staining.
1763-1766 - Quite shaly.
1766-1770 - Some brown grainy dolomite fragments and slight iron staining.

1770-1790 Dolomite, white to light brown, dense, hard, microsugrosic.
1773-1776 - Some medium, rounded, clear quartz sand.

1790-1800 Dolomite, yellowish gray, dense, microsugrosic to sublithographic, banded.
1793-1795 - Some greenish gray, hard, lumpy, dolomitic shale.

1800-1820 Limestone, white, sugrosic, friable, numerous white crystalline anhydrite inclusions. Much white crystalline anhydrite.

1820-1910 Dolomite, white, sugrosic, dense, calcitic.
1890-1900 - Some grainy dolomite with fair pinpoint porosity.

1910-2020 Dolomite, white to very light brown, subcrystalline, some good to fair pinpoint porosity.

2020-2050 Dolomite, as above. Traces of white chert and white chalky limestone.

2050-2100 Limestone, white, microsugrosic, fragmental fossiliferous. Much dolomite as above. Little white chert.

2100-2120 Dolomite, pale red, subcrystalline, anhydrite inclusions.

2120-2360 Limestone, yellowish gray, microsugrosic to sublithographic, dolomitic, purple mottling, fragmented fossiliferous.

2360-2475 Shale, greenish gray and medium gray, splintery, soapy, luster, calcareous slightly brittle.
2460-2465 - Some moderate brown silt.

2475-2525 Shale, as above, some pale reddish brown, lumpy, calcareous, silty, shale. A little grayish red, compact, slightly calcareous shale.

2525-2530 Shale, moderate reddish brown, lumpy, disaggregated, earthy luster, calcareous. Some shale as above.

2530-2555 Sandstone, fair sorting very fine (90%) to coarse, well rounded, iron stained, uncemented. Some greenish gray shale as above.
2550-2555 - Becoming slightly coarser grained.

2555-2572 Sandstone, pale reddish brown, dolomitic, well cemented, glauconitic, medium grained quartz. Some green shale as above.

2572 Granite.

2572 Total Depth.