Summary of Texota Oil Co. - M. Sorum #1
Burke County, North Dakota
Well No. 1280 - Permit No. 1292

by Robert M. Eisenhard
January, 1958

Texota Oil Company - M. Sorum No. 1 is located in the SE of SE of Sec. 23, T. 163N., R. 91 W. Elevation 1937 G.L., 1947 K.B.

The Texota Oil Company - M. Sorum No. 1 was spudded October 21, 1956; 10 3/4" casing was set at 450 feet with 325 sacks of cement and 5 1/2" production casing was set at 6004 feet with 230 sacks of cement. The M. Sorum No. 1 was drilled to a total depth of 6295 feet and plugged back to 5900 feet and completed as a new oil discovery (Flaxton Field) January 15, 1957.

Logs:
Slumberger: Electric Microlaterolog, Gamma Ray-Neutron, Temperature;
Lane Wells: Radioactivity

Cores: None

Tests:
DST #1 - 5818-40, open 4 hrs. Rec. 100' SGCM, trace oil. Flow. press. 67#, one hr. shut-in press. 210#.

DST #2 - 5841-66, gas to surface in 2 hrs., 25 mins. Rec. 95' oil, 280' OCM. Flow. press. 140#, shut-in press. 2595#.

DST #3 - 5880-5919, open 3 hrs. Rec. 3100' gas, 70' OGCM, 462' SOGC, Sul. W. Flow. press. 264#, one hr. shut-in press. 2459#.

Completion Test Data:

Result of Test:
80.05 bbls. net oil per 24 hrs. Gas-oil ratio - 1400 cu. ft. of gas per bbl. of oil. Percent water produced during test - none. Gravity of oil (corrected to 60° F A.P.I.) 40.3.

Perforated with 4 holes per. ft. Acidized with 8500 gals. from 5846-5856 by Haliburton Oil Well Cementing Co. Top of Pay - 5846 ft.

Transporter:
Westland Oil Refinery Company, Williston, N.D.

Formation tops were picked from samples and electric logs; corrected to electric logs. Not all formation tops are called in the following list. Colors are from the Rock-Color chart.
## FORMATION TOPS

### Cretaceous System
- **Pierre formation** 1095
- **Niobrara formation** 2950
- **Greenhorn formation** 3265
- **Dakota Group** 3600
- **Dakota Group Sands** 3858

### Jurassic System
- **Piper Lime** 4905

### Triassic System
- **Spearfish formation** 5105

### Mississippian System
- **Charles formation** 5427

<table>
<thead>
<tr>
<th>Interval</th>
<th>Description</th>
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<tbody>
<tr>
<td>490-520</td>
<td>Sandstone, yellowish gray (5Y8/1) subangular to subrounded, clear to grayish yellow, fine to medium grained quartz, calcareous; lumpy yellowish gray (5Y7/2) salt; few lignite chips.</td>
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<tr>
<td>520-550</td>
<td>Shale, pale yellowish brown to olive gray (5Y4/1) soft; lignite chips.</td>
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<tr>
<td>550-670</td>
<td>Sandstone, very light olive gray (5Y6/2), subrounded clear to whitish, very fine grained to silty quartz, etc. friable, bentonitic; some lignite chips.</td>
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<tr>
<td>670-700</td>
<td>Siltstone, very light olive gray (5Y6/2) soft, shaly in parts; with subrounded to rounded coarse grained very light olive gray (5Y6/2) friable sandstone; minor lignite.</td>
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<tr>
<td>700-730</td>
<td>Free sand, coarse subangular to rounded white to clear quartz and colored chert grains; with siltstone as above; minor lignite.</td>
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<tr>
<td>730-790</td>
<td>Siltstone, very light olive gray (5Y6/2), soft bentonitic, calcareous, argillaceous; some sand grains as above; minor lignite.</td>
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<tr>
<td>790-820</td>
<td>Siltstone as above with some grading to very fine grained sandstone; some free sand grains as above; minor lignite.</td>
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<tr>
<td>820-850</td>
<td>Siltstone as above, some moderate reddish orange; free sand grains as above.</td>
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<tr>
<td>850-910</td>
<td>Siltstone, very light olive gray (5Y6/2) bentonitic, calcareous, argillaceous; some coarse sand grains and lignite.</td>
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<tr>
<td>910-940</td>
<td>Siltstone as above.</td>
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<tr>
<td>940-970</td>
<td>Siltstone as above grading to very fine sandstone, minor coarse sand grains and lignite.</td>
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<tr>
<td>970-1000</td>
<td>Siltstone, very light olive gray (5Y6/2) bentonitic, calcareous, argillaceous, some coarse sand grains and lignite.</td>
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<tr>
<td>1000-1030</td>
<td>Clay, very light olive gray (5Y6/2) to moderate reddish orange, bentonitic, calcareous, silty; minor coarse sand grains and lignite.</td>
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<tr>
<td>1030-1120</td>
<td>Clay, very light olive gray (5Y6/2) bentonitic, calcareous silty; minor coarse sand grains and lignite.</td>
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<tr>
<td>1120-1150</td>
<td>Clay as above to moderate reddish orange, some coarse sand grains and lignite.</td>
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<tr>
<td>1150-1210</td>
<td>Clay, very light olive gray (5Y6/2) bentonitic calcareous, silty; some coarse sand grains, minor lignite.</td>
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<tr>
<td>1210-1330</td>
<td>Shale, very light olive gray (5Y6/2) silty, some lumpy, bentonitic; some clay as above; minor coarse sand and lignite.</td>
</tr>
</tbody>
</table>
1330-1480  Shale, very light olive gray (5Y6/2) silty, lumpy, bentonitic, slightly calcareous, minor lignite.
1480-1540  Shale, very light olive gray (5Y6/2) some lumpy, bentonitic, silty; light gray compact.
1540-1570  Missing.
1570-1600  Shale, medium light gray, compact, some bentonite.
1600-1630  Shale, medium light gray, compact.
1630-1660  Shale, medium gray, compact, minor bentonite.
1660-1720  Shale, medium light gray, compact, minor bentonite.
1720-1780  Shale, medium light gray, compact.
1780-1870  Shale, medium light gray, compact, silty.
1870-1960  Shale, medium light gray, compact.
1990-2050  Shale, medium light gray to brownish medium light gray, compact to lumpy.
2050-2260  Shale, medium light gray, compact.
2260-2290  Shale as above, with some pyrite.
2290-2350  Shale, medium light gray, compact to lumpy.
2350-2380  Shale, as above, some bentonite.
2380-2410  Shale, medium gray, compact.
2410-2440  Shale, medium light gray, compact to lumpy.
2440-2470  Shale, medium light gray, compact.
2470-2530  Missing.
2530-2590  Shale, medium light gray, compact, some bentonite.
2590-2680  Shale, medium light gray, compact.
2680-2830  Shale, medium gray to brownish medium gray, compact.
2830-2880  Shale, medium light gray, compact, minor bentonite.
2880-2970  Shale, medium light gray to medium gray, compact.
2970-3090  Shale, medium light gray, some calcareous, very few white specks.
3090-3150  Shale, medium light gray slightly micaceous; medium dark gray, calcareous with abundant white specks.
3150-3170  Shale, medium light gray; minor medium dark gray calcareous, white specked shale.
3170-3200  Shale, medium light gray, compact.
3200-3230  Shale, medium light gray, compact, to medium dark gray, some slightly calcareous.
3230-3250  Shale as above, minor very pale blue bentonite.
3250-3280  Shale, medium light gray, compact, minor very pale blue bentonite.
3280-3310  Shale, medium light gray, compact to medium dark gray, calcareous with abundant white specks.
3310-3340  Shale, medium light gray, compact; minor medium dark gray calcareous shale with abundant white specks.
3340-3430  Shale, medium dark gray, calcareous, with abundant white specks; minor medium light gray shale; Inoceramus prisms plentiful.
3430-3470  Missing.
3470-3530  Shale, medium light gray to medium dark gray, some medium dark gray calcareous with abundant white specks; plentiful Inoceramus prisms and pyrite.
3530-3590  Shale, medium dark gray, minor medium light gray and medium dark gray, calcareous with abundant white specks, plentiful Inoceramus prisms and pyrite.
3590-3740  Shale, medium dark gray, plentiful Inoceramus prisms and pyrite.
3740-3800  Shale, medium light gray to medium dark gray; plentiful pyrite; minor very pale blue bentonite.
3800-3850 Shale, medium dark gray, abundant pyrite.
3850-3860 Shale, medium dark gray; minor pale yellowish brown silty shale; abundant pyrite.
3860-3900 Shale as above with minor light olive gray (5Y6/1) shale, abundant pyrite.
3900-3910 Shale, medium dark gray to brownish medium light gray; abundant pyrite.
3910-3940 Shale, as above, with minor clear to white sandstone of clear angular to subangular fine quartz grains, friable; some pyrite.
3940-3970 Shale and sandstone as above, with moderate reddish orange carbonate nodules.
3970-4010 Shale, medium dark gray; minor brownish medium light gray shale and minor sandstone as above, moderate reddish orange carbonate nodules.
4010-4020 Shale, brownish medium light gray, some medium dark gray shale; carbonate nodules as above.
4020-4070 Missing.
4070-4080 Shale, brownish medium light gray, soft, to medium dark gray, compact; moderate reddish orange to dusky red carbonate nodules.
4080-4150 Missing.
4150-4160 Shale, medium dark gray to medium light gray; abundant subangular to rounded, clear to grayish pink, fine to coarse, free quartz grains.
4160-4170 Shale, as above with some free quartz grains as above.
4170-4190 Missing.
4190-4200 Shale, as above with minor free quartz grains as above.
4200-4210 Shale, medium dark gray to brownish medium light gray, compact.
4210-4230 Missing.
4230-4240 Shale, as above.
4240-4250 Shale, medium dark gray, compact to brownish medium light gray soft.
4250-4260 Shale, as above with minor very pale blue bentonite.
4260-4280 Shale, as above.
4280-4290 Shale, as above, with minor very pale blue bentonite.
4290-4300 Missing.
4300-4310 Shale, medium dark gray, compact, to brownish medium light gray, soft.
4310-4320 Missing.
4320-4340 Shale, as above; minor light greenish gray (5GY8/1) siltstone to very fine grained quartz sandstone, slightly calcareous, friable.
4340-4350 Shale, dark gray to brownish medium light gray.
4350-4380 Missing.
4380-4390 Shale, medium dark gray to medium light gray.
4390-4610 Missing.
4610-4620 Shale, dark gray to medium light gray, and light greenish gray (5G8/1) slightly calcareous.
4620-4630 Shale, medium dark gray to medium light gray and light olive gray (5Y6/1).
4630-4650 Shale, medium dark gray to brownish medium light gray.
4650-4660 Shale, dark gray to brownish medium light gray, minor waxy grayish olive shale.
4660-4670 Shale as above; minor white very fine grain calcareous quartz sandstone.
4670-4680 Shale, dark gray to brownish medium light gray, some silty.
4680-4690  Shale, dark gray, brownish medium light gray and greenish gray (5GY6/1).
4690-4710  Shale, medium dark gray to brownish medium light gray, waxy grayish green (10GY5/2), and moderate red (5R4/6); some very light gray very fine to very fine grained calcareous quartz sandstone.
4710-4720  Sandstone, white, fine to very fine grained, subangular to subrounded, calcareous; mixed shale as above.
4720-4730  Shale, mixed and sandstone, as above.
4730-4740  Shale, mixture as above with fine to very fine grained quartz in calcareous matrix. Ratio of quartz to calcareous material varies.
4740-4800  Shale mixture as above, some quartz grain bearing limestone to calcareous quartz sandstone.
4800-4830  Shale, medium light gray to light greenish gray (5G8/1), minor moderate red (5R4/6), and dark gray shale; some calcareous quartz sandstone and quartz bearing limestone as above.
4830-4880  Shale, medium light gray to greenish gray (5GY6/1); some moderate red (5R4/6) and dark gray shale.
4880-4910  Shale, as above with some grayish green (10GY5/2).
4910-4950  Limestone, white sublithographic; medium gray to greenish gray (5GY6/1) shale.
4950-4970  Limestone, white sublithographic; dark gray to medium gray and greenish gray (5GY6/1) shale.
4970-4980  Shale and limestone as above; minor light gray siltstone.
4980-5000  Shale and limestone as above with minor light gray siltstone and white bentonite.
5000-5010  Shale, dark gray to medium gray and greenish gray (5GY6/1); minor siltstone, limestone as above.
5010-5050  Shale, dark gray to light gray, minor fine to very fine white calcareous quartz sandstone and minor white sublithographic to fine crystalline limestone. * 
5050-5070  Shale, greenish gray (5GY6/1), some gray and minor dusky red. Some white anhydrite.
5070-5080  Shale, dark gray, some greenish gray (5GY6/1) and medium light gray, silty. Some white anhydrite and very pale blue bentonite.
5080-5100  Shale, dark gray and greenish gray (5GY6/1), minor medium light gray, silty, and dusky red. Some white anhydrite.
5100-5120  Shale, dark gray to medium light gray, greenish gray (5GY6/1), and dusky red. A few clear to frosted to yellow iron stained, round to subrounded, medium quartz grains. Minor moderate reddish orange siltstone.
5120-5160  Shale, dark gray, greenish gray (5GY6/1) and minor dusky red; moderate reddish orange siltstone. Minor anhydrite. Few free quartz grains as above.
5160-5210  Siltstone, moderate reddish orange; shale, as above.
5210-5240  Siltstone and shale as above with minor dusky yellow green shale.
5240-5270  Siltstone, moderate reddish orange; some dark gray, greenish gray (5GY6/1) and dusky yellow green shale; a few rounded to subrounded, frosted, stained medium quartz grains.
5270-5280  Shale, dark gray to light gray.
5280-5290  Missing.
5290-5300 Shale, dark gray to light gray; moderate reddish orange, very fine grained sandstone.
5300-5310 Shale, dark gray to light gray, dusky yellow-green, and moderate red (5R4/6).
5310-5340 Sandstone, moderate reddish orange, very fine grained, slightly calcareous; minor shale mixture as above.
5340-5400 Missing.
5400-5420 Sandstone, moderate reddish orange, very fine, rounded, grains; minor dark gray to medium light gray shale. Medium to coarse, rounded, frosted quartz grains.
5420-5430 Sandstone, shale and quartz grains as above; pale red (5R6/2) sandstone, very fine to medium rounded to subrounded quartz grains, calcareous.
5430-5440 Sandstone, pale red, as above; shale as above; white sublithographic limestone.
5440-5450 Limestone, grayish pink, fine crystalline, some containing quartz silt; shale and sandstone as above.
5450-5460 Limestone, grayish pink to pale red purple; fine crystalline; some medium dark gray to greenish gray (5GY6/1) shale.
5460-5480 Limestone, pinkish gray to mottled moderate red (5R5/4) and pinkish gray, fine crystalline to oolitic.
5480-5490 Limestone as above to moderate orange pink to moderate red (5R5/4); some shaly.
5490-5500 Limestone, pinkish gray to grayish pink, fine crystalline to sublithographic.
5500-5510 Limestone, yellowish gray (5Y8/1) to grayish orange pink, fine crystalline to sublithographic.
5510-5520 Limestone, yellowish gray (5Y8/1), sublithographic.
5520-5530 Limestone, yellowish gray to grayish orange pink, sublithographic to oolitic.
5530-5550 Limestone, yellowish gray to grayish orange pink, fine crystalline to oolitic, some dolomitic, some white, fine crystalline anhydrite.
5560-5570 Limestone, grayish orange pink to moderate red, fine crystalline, anhydritic, some white anhydrite.
5570-5590 Limestone, grayish orange pink to pale red (5R6/2), some very anhydritic; some white anhydrite.
5590-5600 Anhydrite, fine crystalline, white; minor limestone as above.
5600-5610 Limestone, very pale orange, to moderate red (5R5/4); white to very light gray sublithographic anhydrite.
5610-5620 Limestone, very pale orange to yellowish gray, sublithographic to fine crystalline; minor anhydrite as above.
5620-5630 Limestone as above.
5630-5640 Limestone as above, to medium gray.
5640-5670 Anhydrite, white, sublithographic to fine crystalline.
5670-5680 Limestone, yellowish gray to light brownish gray, sublithographic to fine crystalline.
5680-5700 Limestone as above; white fine crystalline to sublithographic anhydrite.
5700-5720 Anhydrite, white fine crystalline to sublithographic, some soft.
5720-5730 Limestone, dark yellowish brown to very pale orange, fine crystalline; anhydrite as above.
5730-5740 Anhydrite, white to very pale blue, fine crystalline to sublithographic.
5740-5750 Limestone, very pale orange, fine crystalline to fragmental; some anhydrite as above.
5750-5760 Limestone, very pale orange, fragmental to oolitic.
5760-5770 Limestone, as above with white, sublithographic to fine crystalline anhydrite.
5770-5780 Anhydrite, very light gray, sublithographic.
5780-5790 Limestone, very pale orange, fragmental to fine crystalline; anhydrite as above.
5790-5800 Limestone, very pale orange to pale yellowish brown fine crystalline to fragmental; anhydrite as above.
5800-5820 Anhydrite, white to very light gray, sublithographic.
5820-5830 Limestone, yellowish gray to light gray, fine crystalline to fragmental, anhydritic; some anhydrite as above.
5830-5840 Limestone, very pale orange, fragmental to oolitic.
5840-5870 Limestone, very pale orange to pale yellowish brown, fine crystalline to fragmental and oolitic; some white sublithographic anhydrite.
5870-5880 Anhydrite, very pale blue to very light gray, fine crystalline to sublithographic.
5880-5890 Anhydrite as above; some very pale orange anhydritic limestone.
5890-5900 Limestone, very pale orange to yellowish brown, fine crystalline to oolitic, minor anhydrite as above.
5900-5920 Limestone, very pale orange to pale yellowish brown, recrystallized oolitic.
5920-5940 Limestone, as above, with crystalline anhydrite in vugs.
5940-5970 Limestone, yellowish gray (5Y7/2), recrystallized oolitic; with crystalline clear anhydrite in vugs.
5970-6060 Limestone, yellowish gray (5Y7/2) fine crystalline to recrystallized oolitic; some crystalline clear anhydrite in vugs.
6060-6130 Limestone, as above; anhydrite as above; also clear crystallized calcite; some open vugs.
6130-6160 Limestone, yellowish gray to pale yellowish brown, recrystallized fragmental to recrystallized oolitic.
6160-6170 Limestone as above to dense very fine crystalline white, soft, limestone.
6170-6180 Limestone, yellowish gray to pale yellowish brown, including many very fine quartz gains; minor clear quartz sandstone, calcareous cement, fine subangular to subrounded grains.
6180-6190 Sandstone, quartz, as above; some limestone as above and gradations in between.
6190-6220 Sandstone as above; minor very pale orange, fine crystalline to oolitic, limestone.
6220-6230 Limestone, very pale orange, fragmental; some sandstone as above.
6230-6240 Limestone as above, to recrystallized oolitic.
6240-6280 Limestone, yellowish gray (5Y7/2), fine crystalline to recrystallized oolitic.
6280-6295 Limestone, white to yellowish gray (5Y8/1) sublithographic to recrystallized oolitic.
6295 Total Depth.