

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 79

Summary of the Plymouth Oil Company - Frank A. Fischer No. 1
Stark County, North Dakota
Well No. 344, Permit No. 360

By Morton Strassberg
June, 1954

Plymouth Oil Company - Fischer No. 1, Stark County, North Dakota, C SW 1/4 NE 1/4 Section 11, T. 137N., R. 98W., (660 feet from N. line and 662 feet from W. line). Elevation G.L. 2789.7 and K.B. 2798.

The Plymouth Oil Company - Fischer No. 1 was spudded July 6, 1953 and 625.76 feet of 10 3/4 inch casing was set with 440 sacks of cement. The well was completed as a dry hole September 20, 1953 and was abandoned. Total depth 10,480 feet.

TESTS

- DST 1 7884-7930 - Open 1 hour, closed 30 minutes. 1/2" x 1/2" chokes, 1470' W. C., No blow. Recovered W. C. and 30 feet drilling mud and 40 feet gas cut mud. IFP 790#, FFP 790#, SIP 1200#, IHP 4575#, FHP 4420#.
- DST 2 8478-8517 - Open 1 hour, closed 30 minutes 1/2" x 1/2" chokes, 500 feet W. C. Weak blow for 6 minutes, then died. Recovered W. C. and 30 feet drilling mud. IFP 300#, FFP 300#, SIP 400#, IHP 5200#, FHP 4700#.
- DST 3 8975-9110 - Open 3 hours, shut in 30 minutes, 5/8" x 1/2" chokes, 1530 feet W. C. Tool opened with fair blow, had steady blow for 3 hours. Recovered W. C. and 1120 feet gas cut mud. IFP 995#, FFP 1350#, SIP 3650#, FHP 5125#.
- DST 4 9114-9246 - 5/8" x 1/2" chokes, 1500 feet W. C. Packer failed immediately. No test.
- DST 5 9099-9246 - 5/8" x 1/2" chokes, 1400 feet W. C. Packer failed to hold. Tried several times to re-seat packer. Recovered 1400 feet W. C. and 1440 R.H. and M. by-pass mud.
- DST 6 9202-9246 - 1/2" x 1/2" chokes, 1800 feet W. C., tool open 2 1/2 hours. Had strong steady blow for entire length of test, 30 minutes shut-in. Recovered 7740 fluid, 1800 feet W. C., 180 feet slightly G. C. M., 5760 feet fresh water, slightly gas cut. I Hyd. 5510#, IFP 1250#, FFP 3520#, SIP 4175#, FM 5200#.

Cores

#1 7924-7930	#6 9135-9193
#2 8988-9046	#7 9193-9246
#3 9046-9076	#8 9246-9296
#4 9076-9110	#9 9296-9354
#5 9110-9135	#10 9354-9391

Formation tops were determined from samples, cores, electric and micro

logs and were corrected to electric log tops unless otherwise stated. Not all lithologic tops were called in the following list. Colors were determined from the rock color chart.

FORMATION TOPS

Cretaceous System		
Pierre Formation	2064	
Niobrara Formation	4067	
Greenhorn Formation	4680	
"Muddy"	5274	
Dakota	5576	
Jurassic System		
Morrison Formation	5895	
Sundance Formation	5963	
Piper Formation	6530	
Triassic System		
Spearfish Formation	6858	
Permian System		
Minnekahta Formation	7180	
Opeche Formation	7225	
Pennsylvanian System		
Minnelusa	7383	
Mississippian System		
Amsden Formation	7573	
Big Snowy Group	7732	
Kibbey Formation	8166	Samples 8190
Madison Group		
Charles Formation	8443	
Mission Canyon Formation	9000	
Lodgepole Formation	9349	
Englewood Formation	9945	
Devonian System		
Lyleton Formation	10,043	
Nisku Equivalent	10,210	
Duperow Formation	10,295	
Total Depth	10,480	

<u>From</u>	<u>To</u>	<u>Formation</u>
640	700	Lignite, black.
700	720	Shale, light gray, silty, black lignite.
720	730	Shale, light gray, silty.
730	750	Shale, light gray and grayish orange.
750	780	Shale, light gray, black lignite.
780	810	Siltstone, light gray, calcareous, light gray shale.
810	820	Sandstone, light gray, very fine grained.
820	830	Lignite, black.
830	840	Poor sample.
840	860	Siltstone, light gray, calcareous.
860	880	Shale, light to medium gray.
880	890	Lignite, black.
<u>From</u>	<u>To</u>	<u>Formation</u>

890	900	Lignite, black. Light to medium light gray shale.
900	910	Sandstone, light gray, very fine grained, calcareous.
910	920	Shale, light to medium light gray, silty, calcareous.
940	970	Siltstone, light gray, calcareous.
970	1000	Sandstone, medium to coarse grained.
1000	1030	Sandstone, medium to coarse grained, black lignite.
1030	1090	Siltstone, light gray, calcareous, arenaceous.
1090	1130	Shale, medium light gray, calcareous.
1130	1170	Shale, medium light to medium gray, calcareous, silty.
1170	1190	Siltstone, medium light to medium gray, arenaceous.
1190	1240	Sandstone, fine to medium grained, silty.
1240	1250	Lignite, black. Light to medium gray shale.
1250	1270	Siltstone, light to medium light gray, calcareous.
1270	1300	Shale, light to medium light gray.
1300	1310	Black lignite.
1310	1330	Siltstone, light to medium gray, arenaceous, calcareous.
1330	1360	Siltstone, light gray, calcareous, arenaceous.
1360	1370	Black lignite.
1370	1380	Siltstone, light to medium gray, arenaceous.
1380	1410	Sandstone, fine to medium grained, silty, calcareous.
1410	1430	Siltstone, light gray to light brown, calcareous.
1430	1440	Lignite, black, shale, light gray.
1440	1450	Shale, medium light to medium gray, silty.
1450	1460	Black lignite.
1460	1480	Siltstone, medium light to medium gray, calcareous, arenaceous.
1480	1490	Black lignite.
1490	1560	Shale, light to medium gray, silty.
1560	1580	Siltstone, light gray, calcareous.
1580	1610	Shale, medium to medium dark gray, silty, calcareous.
1610	1620	Black lignite.
1620	1630	Shale, medium light gray.
1630	1680	Shale, as above, silty.
1680	1690	Sandstone, light gray, fine grained, calcareous.
1690	1700	Sandstone, fine to medium grained, frosted.
1700	1720	Shale, medium light to medium gray, arenaceous.
1720	1790	Sandstone, fine to medium grained, calcareous.
1790	1870	Sandstone, medium light to medium gray, silty, calcareous.
1870	1910	Shale, medium gray, silty.
1910	1920	Shale, medium light to medium gray, arenaceous.
1920	1960	Sandstone, fine to medium grained, silty, calcareous.
1960	1970	Shale, medium to medium dark gray, silty.
1970	2020	Sandstone, fine to coarse grained.
2020	2060	Sandstone, fine to medium grained.
2060	2090	Sandstone as above, calcareous.
2090	2120	Shale, medium light gray.
2120	2170	Shale, medium gray, silty.
2170	2240	Shale, medium gray.
2240	2300	Shale, medium light to medium gray.
2300	2330	Shale, medium gray.
2330	2700	Shale, medium light to medium gray.
2700	2730	Shale, medium gray.
<u>From</u>	<u>To</u>	<u>Formation</u>

2730	2750	Shale, medium light to medium gray.
2750	2800	Shale, medium light gray.
2800	2850	Shale, medium light to medium gray.
2850	2970	Shale, medium light to medium gray, white bentonite.
2970	3000	Shale, medium light to medium gray.
3000	3020	Shale, medium light gray, white bentonite.
3020	3100	Shale, medium light to medium gray.
3100	3130	Shale, medium light to light olive gray.
3130	3200	Shale, medium light to medium gray.
3200	3240	Shale, medium light to medium gray, white bentonite.
3240	3280	Shale, medium light to medium gray.
3480	3570	Shale, light to medium light gray.
3570	3600	Shale, light to medium gray and medium dark gray with white specks.
3600	3610	Shale, medium light to medium gray, calcite prisms.
3610	3650	Shale, medium light to medium gray, white bentonite.
3650	3730	Shale, medium light to medium gray, bentonitic.
3730	3760	Shale, medium light to light gray, calcite prisms.
3760	3930	Shale, light to medium light gray.
3930	3970	Shale, medium light to medium gray.
3970	4080	Shale, pale yellow brown to medium gray.
4080	4120	Shale, medium light to medium gray, bentonitic.
4120	4180	Shale, medium light and white specked medium dark gray.
4180	4370	Shale, medium light to medium gray.
4370	4400	Shale, light to medium gray.
4400	4530	Shale, light to medium light gray, bentonitic.
4530	4550	Shale, medium light to medium gray.
4550	4570	Shale, medium light gray and medium dark gray with white specks.
4570	4690	Shale, light to medium gray, white bentonite.
4690	4730	Shale, light gray and medium dark gray, white specked, calcareous.
4730	4740	Shale, light to medium light gray, calcareous.
4740	4950	Shale, light to medium dark gray, calcareous, white specks.
4950	4970	Shale, light olive gray to medium dark gray, calcareous.
4970	5000	Shale, medium light to medium dark gray, white bentonite.
5000	5190	Shale, medium light to medium gray and medium dark gray.
5190	5280	Shale, medium light and medium dark gray.
5280	5330	Shale, medium light and medium dark gray, few free medium quartz grains.
5330	5380	Shale, medium light to light olive gray and medium dark gray.
5380	5460	Shale, medium light and medium dark gray, very fine grained sandstone.
5460	5590	Shale, medium light gray and medium dark gray.
5590	5620	Shale, medium light and medium dark gray, fine grained sandstone.
5620	5640	Shale, medium light and medium dark gray.
5640	5760	Shale, medium light and medium dark gray, very fine grain sandstone.
5760	5780	Shale, medium light and medium dark gray, fine to coarse free quartz.
<u>From</u>	<u>To</u>	<u>Formation</u>

5780	5850	Sandstone, medium to coarse grained, subrounded, frosted. Medium light to medium dark gray shale.
5850	5960	Shale, medium light and medium dark gray; fine to coarse grain quartz.
5960	6010	Shale, medium light and medium dark gray; fine grained, iron stained, sandstone.
6010	6080	Shale, medium light and medium dark gray. Medium grained quartz and very fine grained glauconitic sandstone.
6080	6200	Shale, medium light and medium dark gray; very fine grained sandstone.
6200	6300	Shale, medium light and medium dark gray; fine to medium grained free quartz and very fine grained sandstone. Little white fine grain limestone.
6300	6430	Sandstone, very fine grained, calcareous. Medium light to medium dark gray shale.
6430	6470	Shale, medium light to medium dark gray, very fine grained calcareous sandstone.
6470	6510	Sandstone, very fine grained; medium light to medium dark gray shale.
6510	6530	Sandstone, very fine grained, calcareous. Light to medium gray, fine grained limestone.
6530	6600	Sandstone, very fine grained, calcareous. Dark reddish brown calcareous and medium gray shale.
6600	6610	Dolomite, yellowish gray, fine grained; white to pale brown chert.
6610	6640	Limestone, moderate red, fine grained to sublithographic, very light to yellowish gray, fine grained dolomite; white to grayish orange pink chert.
6640	6670	Limestone, moderate red to grayish pink, fine grained to sublithographic. Very light to yellowish gray, fine grained, dolomite.
6670	6680	Shale, pale reddish brown, calcareous; moderate red to pinkish gray fine grained to sublithographic limestone.
6680	6690	Shale, medium gray.
6690	6700	Shale, medium gray, pale reddish brown, fine grained sandstone.
6700	6720	Shale, medium to medium dark gray. Pale reddish brown, very fine grained sandstone.
6720	6780	Shale, pale reddish brown, silty. Pale reddish brown, fine grained sandstone.
6780	6800	Shale, pale reddish brown, silty.
6800	6820	Sandstone, pale red, very fine grained. Pale reddish brown, silty shale.
6820	6850	Shale, medium gray.
6850	6900	Shale, medium to medium dark gray; pale reddish brown silty shale and siltstone.
6900	6930	Siltstone, pale reddish brown, pale reddish brown silty shale, white anhydrite.
6930	6990	Shale, pale reddish brown, silty, white anhydrite.
6990	7070	Shale, pale reddish brown, silty, white gypsum.
7070	7120	Shale, pale reddish brown, silty and medium gray, white gypsum.
<u>From</u>	<u>To</u>	<u>Formation</u>

7120	7210	Siltstone, pale reddish brown, argillaceous; pale reddish brown silty shale.
7210	7220	Anhydrite, white to pinkish gray. Pale reddish brown argillaceous siltstone.
7220	7240	Dolomite, moderate pink, sucrosic. White anhydrite. White to pinkish gray limestone.
7240	7250	Dolomite, pale red to pale reddish brown, sucrosic. Pale reddish brown dolomitic shale.
7250	7280	Shale, pale reddish brown, dolomitic.
7280	7300	Shale, medium to medium dark gray and pale reddish brown.
7300	7340	Siltstone, pale reddish brown, argillaceous, calcareous.
7340	7370	Sandstone, moderate reddish orange, fine to medium grained.
7370	7390	Dolomite, pale red to grayish pink, sucrosic, fine to medium grained sandstone.
7390	7430	Sandstone, pale reddish brown, fine to medium grained, medium to medium dark gray shale - cave?
7430	7460	Dolomite, pale red, fine grained. Fine to medium grained sandstone. Medium gray shale.
7460	7500	Sandstone, pale red to pale reddish brown, fine to medium grained. Medium gray shale, pale red, fine grained, dolomite.
7500	7520	Shale, medium to medium dark gray, calcareous, fine to medium grained sandstone.
7520	7560	Sandstone, pale red, fine to medium grained, subrounded.
7560	7590	Shale, medium gray. Fine to medium grained sandstone, pale red, fine grained dolomite.
7590	7600	Dolomite, pale red, fine grained. Pale red fine grained sandstone.
7600	7630	Dolomite, pale red to grayish pink, fine grained to sub-lithographic.
7630	7670	Dolomite, pale red to grayish pink, fine grained, medium to medium dark gray shale.
7670	7700	Dolomite, pale red, fine grained; pale red, fine grained sandstone.
7700	7720	Dolomite, pale red, fine grained.
7720	7730	Anhydrite, white to pinkish gray; pale red, fine grained dolomite.
7730	7740	Shale, medium to medium dark gray; pale red, fine grained dolomite.
7740	7800	Dolomite, pale red, fine grained; medium dark gray shale.
7800	7820	Dolomite, pale red to grayish pink, sublithographic to fine grained.
7820	7840	Dolomite, pale red to grayish pink, fine grained to sub-lithographic, medium gray shale.
7840	7850	Dolomite, grayish pink, microsucrosic.
7850	7900	Limestone, grayish brown and pinkish gray, fine grained to sublithographic.
7900	7920	Limestone, medium gray, dolomitic, fine grained to sub-lithographic.
7924		1/4 hr. circ. Limestone, medium to medium dark gray, sub-lithographic.
7924	7926	Core. Limestone, medium to medium dark gray, fine grained, ostracods, slight fluorescence.
<u>From</u>	<u>To</u>	<u>Formation</u>

7926	7929	Shale, dark greenish to medium dark gray, waxy.
7929	7930	Limestone, medium dark gray, fine grained ostracods.
7930	7940	Limestone, medium dark gray, fine grained.
7940	7970	Shale, medium dark to dark gray, ostracods, calcareous.
7970	8000	Missing samples.
8000	8020	Shale, dark greenish gray and medium dark, calcareous, ostracods.
8020	8030	Shale, pale yellowish brown to brownish gray.
8030	8040	Shale, grayish red.
8040	8050	Shale, grayish red; pale red, fine grained limestone.
8050	8070	Limestone, pale red, fine grained, grayish red shale.
8070	8080	Shale, grayish red, pale red to grayish pink, fine grained limestone. Medium grained sandstone.
8080	8090	Shale, greenish to dark greenish and medium dark gray.
8090	8100	Dolomite, light to medium light gray, fine grained; greenish gray and gray red shale.
8100	8120	Limestone, light to medium light gray, fine grained; greenish gray and gray red shale.
8120	8140	Shale, greenish to medium gray and gray red.
8140	8150	Dolomite, light gray, fine grained; medium to greenish gray shale.
8150	8170	Limestone, medium light to medium gray, fine grained; medium to medium dark gray shale.
8170	8180	Shale, medium to medium dark gray; light gray, fine grained dolomite.
8180	8190	Dolomite, light to medium light gray, medium gray shale.
8190	8220	Sandstone, pale yellowish brown, fine grained, silty, slightly calcareous.
8220	8240	Sandstone, white to grayish orange pink, very fine grained, medium gray shale.
8240	8260	Sandstone, pale red, very fine grained, calcareous, pale red, argillaceous, calcareous siltstone.
8260	8300	Sandstone, pale red, fine to medium grained, calcareous.
8300	8320	Limestone, very light to yellowish gray, fine grained and brownish gray, sublithographic.
8320	8340	Limestone, pale yellowish brown, oolitic, white anhydrite.
8340	8350	Dolomite, pale yellowish brown, fine grained.
8350	8360	Limestone, pale yellowish brown, fine grained to oolitic.
8360	8370	Shale, medium to medium dark gray.
8370	8400	Siltstone, pale red, calcareous.
8400	8430	Dolomite, pale red argillaceous.
8430	8440	Shale, gray red to pale red calcareous.
8440	8450	Dolomite, pale red, fine grained, white anhydrite.
8450	8470	Anhydrite, white.
8470	8490	Anhydrite, white, grayish brown, oolitic to sublithographic limestone.
8490	8510	Limestone, brownish gray sublithographic.
8510	8517	Shale, medium gray and gray red, brownish gray sublithographic limestone.
8517		1/4 hr. circ. Limestone, brownish gray, sublithographic.
8517	8540	Limestone, same as above.
8540	8560	Anhydrite, white and white gypsum.
<u>From</u>	<u>To</u>	<u>Formation</u>

8560	8610	Dolomite, medium light gray, sublithographic, white anhydrite.
8610	8620	Limestone, brownish gray, oolitic with intergranular porosity and sublithographic.
8620	8630	Shale, grayish red.
8630	8670	Anhydrite, white.
8670	8690	Anhydrite, white, very light gray arenaceous limestone.
8690	8740	Dolomite, medium light gray, sublithographic, white anhydrite.
8740	8750	Dolomite, white to brownish gray, sublithographic to chalky.
8750	8767	Limestone, dusky brown, sublithographic.
8767		1/4 hr. circ. Limestone, dusky brown, sublithographic to fragmental with intergranular porosity, slight fluorescence and oil cut.
8770	8800	Dolomite, pale brown fine grained to sublithographic, very light gray to pale brown anhydrite.
8800	8820	Limestone, pale brown to brownish gray, fine grained to sublithographic.
8820	8840	Limestone, very light gray to pale yellowish brown, fine grained to fragmental.
8840	8850	Limestone, brownish gray, fragmental.
8850	8880	Limestone, brownish gray to dusky brown, fine grained to fragmental.
8880	8900	Limestone, pale yellowish brown to brownish gray, fragmental to oolitic.
8900	8920	Anhydrite, pale yellowish brown to brownish gray.
8920	8930	Dolomite, light gray fine grained, pale yellowish brown to pale brown fine grained to sublithographic limestone.
8930	8950	Anhydrite, white to pale brown, pale brown fine grained limestone.
8950	8988	Dolomite, medium gray, sublithographic, white anhydrite.
8988	8990	Core. Limestone, grayish brown, fine grained, ostracods, white to grayish brown anhydrite.
8990	8995	Anhydrite, brownish gray.
8995	8997	Dolomite, brownish gray, fine grained, anhydrite.
8997	9098	Anhydrite, medium gray.
9098	9000	Limestone, pale yellowish brown, fine grained to fragmental, good fluorescence and oil cut.
9000	9003	Sandstone, light gray, very fine grained, calcareous.
9003	9008	Limestone, medium dark gray, fine grained, dense.
9008	9010	Limestone, pale yellowish brown, fine grained to slightly oolitic.
9010	9012	Limestone, light brownish gray, oolitic to fragmental spotty fluorescence.
9012	9017	Limestone, brownish gray, fine grained to fragmental.
9017	9020	Dolomitic, pale yellowish brown, sucrosic, anhydrite.
9020	9023	Limestone, pale, yellowish brown, fragmental.
9023	9026	Dolomite, pale yellowish brown, sucrosic, calcareous.
9026	9029	Limestone, pale yellowish brown, fine grained to fragmental.
9029	9038 1/2	Limestone, pale yellowish brown, fine grained and fragmental.
9038 1/2	9044	Limestone, brownish gray, fine grained to fragmental, dense.
<u>From</u>	<u>To</u>	<u>Formation</u>

9044	9048	Limestone, pale yellowish brown, fine grained to fragmental.
9048	9053	Limestone, pale yellowish brown, fragmental.
9053	9058	Limestone, light brownish gray, fragmental, crinoidal.
9058	9066	Limestone, light brownish gray, fragmental, stylolitic.
9066	9076	Limestone, pale yellowish brown, fine grained to fragmental.
9076	9085	Limestone, brownish gray, fragmental.
9085	9090	Limestone, grayish brown, light to grayish brown, fossiliferous chert.
9090	9102	Limestone, medium dark gray, fragmental.
9102	9110	Limestone, pale yellowish brown, fine grained to fragmental.
9110	9125	Limestone, brownish gray, fragmental.
9125	9134	Limestone, pale yellowish brown, fine grained to fragmental.
9134	9135	Limestone, brownish gray, fragmental.
9135	9139	Limestone, pale yellowish brown, fine grained to fragmental.
9139	9150	Limestone, medium gray, fragmental.
9150	9155	Limestone, light brownish gray, fragmental.
9155	9167	Lime Limestone, pale yellowish brown, fine grained to fragmental.
9167	9180	Limestone, medium gray, fragmental, dense.
9180	9185	Limestone, brownish gray, fragmental, dense.
9185	9190	Limestone, light brownish gray, fine grained to fragmental.
9190	9193	Limestone, pale yellowish brown, fine grained to fragmental.
9193	9193 1/2	Shale, medium light gray.
9193 1/2	9196	Limestone, light brownish gray, fine grained to fragmental.
9196	9199	Dolomite, light gray, fine grained, anhydrite.
9199	9206	Limestone, brownish gray, fragmental to sublithographic.
9206	9211	Limestone, brownish gray, fine grained.
9211	9216	Limestone, brownish gray, fine grained.
9216	9221	Limestone, pale yellowish brown, fragmental to sucrosic.
9221	9226	Limestone, pale yellowish brown, fine grained to fragmental, dolomitic, anhydritic.
9226	9241	Dolomite, pale yellowish brown, microsucrosic.
9241	9246	Dolomite, pale yellowish brown, microsucrosic, pinpoint porosity, white anhydrite.
9246	9250	Limestone, light brown to brownish gray, fine grained to fragmental.
9250	9555	Dolomite, pale yellowish brown, fine grained, anhydritic.
9255	9270	Limestone, light brownish gray, oolitic, some intergranular porosity.
9270	9276	Limestone, pale yellowish brown, fragmental to oolitic; pinpoint porosity.
9276	9281	Limestone, medium light gray, oolitic to fragmental, some pinpoint porosity.
9281	9295	Limestone, brownish gray, oolitic, fine intergranular porosity, pale yellowish brown, oolitic; very good intergranular porosity.
9295	9299	Dolomite, brownish gray, sucrosic.
9299	9304	Limestone; light brownish gray, oolitic to fragmental, some intergranular porosity.
9304	9309	Dolomite, light to brown gray, sucrosic, interstitial porosity.
9309	9314	Limestone, pale yellowish brown, oolitic, some intergranular porosity.
<u>From</u>	<u>To</u>	<u>Formation</u>

9314	9319	Limestone, light brownish gray, fine grained white anhydrite inclusions.
9319	9327	Dolomite, pale yellowish brown, sucrosic.
9327	9331	Limestone, medium dark gray, fragmental.
9331	9339	Limestone, medium dark gray, fine grained, dense.
9339	9349	Limestone, medium dark gray, oolitic to fragmental, dense.
9349	9359	Dolomite, medium dark gray, fine grained, dense.
9359	9364	Limestone, medium dark gray, oolitic to fragmental, tight.
9364	9369	Limestone, medium dark gray, fine grained, dense.
9369	9376	Limestone, medium dark gray, oolitic to fragmental, tight.
9376	9381	Limestone, medium dark gray, fine grained to fragmental, tight.
9381	9391	End Core. Limestone, medium dark gray, oolitic to fragmental, tight.
9391	9400	Limestone, medium dark gray, oolitic to fragmental. Medium gray, fine grained dolomite.
9400	9440	Limestone, medium to medium dark gray, oolitic to fragmental.
9440	9560	Limestone, light to medium dark gray, oolitic to fragmental.
9560	9600	Limestone, light to medium dark gray, fine grained to oolitic, dense.
9600	9760	Limestone, light to medium dark gray, fine grained to fragmental.
9760	9830	Limestone, light to medium dark gray, fine grained to fragmental, dense, brachiopods.
9830	9850	Limestone, light to medium dark gray, fine grained to fragmental, grayish red shale.
9850	9970	Limestone, light to medium dark gray, fine grained to fragmental, dense.
9970	10030	Limestone, medium dark gray, fine grained to fragmental, dense. Medium dark gray shale.
10030	10050	Limestone, very light to medium dark gray, fine grained.
10050	10060	Limestone, white, fine grained to chalky and medium dark gray, fine grained.
10060	10080	Dolomite, very light gray, fine grained. Medium dark gray, fine grained limestone.
10080	10090	Dolomite, greenish to light gray, fine grained.
10090	10100	Dolomite, grayish orange pink and greenish gray, fine grained. Grayish red, slightly calcareous shale.
10100	10140	Shale, grayish red, slightly calcareous; grayish orange pink to greenish gray, fine grained dolomite.
10140	10150	Shale, pale reddish brown, calcareous.
10150	10180	Shale, grayish red, calcareous and medium dark gray.
10180	10190	Shale, grayish red, calcareous with white anhydrite inclusions.
10190	10220	Dolomite, greenish gray, fine grained; gray red shale; white anhydrite.
10220	10240	Shale, grayish red and pale reddish brown, calcareous, white anhydrite.
10240	10250	Dolomite, yellowish gray and greenish gray, fine grained.
10250	10260	Limestone, light to very light gray, fine grained to fragmental.
10260	10270	Limestone, very light to brownish gray, fine grained to

		fragmental.
10270	10290	Limestone, brownish gray, sublithographic.
10290	10300	Limestone, pale yellowish brown, fine grained.
10300	10320	Limestone, brownish gray, fine grained. Pale reddish brown calcareous shale.
10320	10330	Limestone, pale brown, sublithographic to fine grained; white anhydrite.
10330	10360	Limestone, pale yellowish brown, fine grained to fragmental.
10360	10380	Limestone, yellowish gray, fine grained and brownish gray, sublithographic.
10380	10400	Limestone, yellowish gray, fine grained and pale brown, fragmental.
10400	10420	Limestone, light brownish to brownish gray, fine grained to fragmental.
10420	10430	Limestone, grayish brown, sublithographic.
10430	10480	Limestone, grayish brown, sublithographic and pale brown to pale yellowish brown, fine grained.
Total Depth		

