

Operator: Virginia Lee Oil Co. & Calaper  
 Manufacturing Co.  
 Farm: E. M. Brooks  
 Well No: One  
 Location: Rose Hill, Lee County, Virginia  
 10,150' North of 36°35' approximately  
 5,600' West of 83°25' approximately  
 Elevation: 1452'  
 Total Depth: 4079'  
 Commenced:  
 Completed: 1943 to 3255' Drilled deeper to 4079' in 1945  
 Result: Gas well (shut in)  
 The well was drilled with Cable Tools.

Samples examined by  
 Warren J. Souder  
 Virginia Division of  
 Mineral Resources  
 August 1965

Geologic Rock Cuttings Log

Samples are available from 139' to 4079'

<u>Depth in Feet</u>	<u>Thickness in Feet</u>	<u>Lithology</u>
139-260	121	<p><u>Shale</u>, gray green and traces of dark red, silty to sandy, glauconitic, fair sized mica flakes, with thin bedded, light gray brown, whitish mottled, greenish tinted, fine to coarse crystalline, slightly glauconitic, limestone.</p> <p>151-161 - with interbedded dark gray, clay shale.</p> <p>161-183 - no samples</p> <p>183-260 - with this interval carrying less silts and sands in the shale but has an increase in the amount of limestone.</p>
260-820	560	<p><u>Shale</u>, dark gray, clay, fine micaceous, thin bedded, with gray, brown, whitish matrix mottled, medium coarse crystalline, fragmental (possibly some fossil fragments) limestone and white to pink calcite crystals.</p> <p>283-310 - with interbedded gray, gray green, medium crystalline, argillaceous limestone.</p> <p>310-340 - with mostly gray colors in the limestone.</p>

340-348 - with some slickensidedness on the shale particles.

348-380 - with silts and slickensided gray, clay shale and gray and white mottled interbedded limestone.

380-405 - with light gray brown, whitish mottled, medium to coarse crystalline, with loose rose to white calcite crystals slightly glauconitic, fragmental limestone, and interbedded dark gray, clay, silty, shale.

405-485 - with dark gray, gray green, clay, silt, fine mica, slightly glauconitic often calcareous, shale with interbedded limestone as in the 380-405' interval.

425-432 - with interbedded, fairly glauconitic, gray, whitish, brown, mottled, medium coarse crystalline, fragmental limestone.

485-516 - with predominantly shales.

495-499 - no sample.

516-535 - with light gray green, white mottled; medium coarse crystalline, fragmental, glauconitic limestone with a few veins of calcite crystals.

575-582 - with a trace of rose to pink, glauconitic, calcareous, silt.

610-695 - with dark brown, gray and white, rose to green tints, medium crystalline, fragmental, variable amounts of glauconite, limestone and interbedded dark shales.

685-695 - with very small white spots on the shale fragments. This is possibly some sort of salt (unidentified)

711-733 - with light gray white with brown tints, medium crystalline, very small glauconite grains, bronze mica flakes, fragmental, argillaceous limestone and interbedded shales.

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755-820 - with the interbedded limestone being gray white, brownish, medium crystalline, fragmental, occasionally glauconitic, and the shale is dark gray, dark rose, clay, calcareous, with some calcite veins and pyrite inclusions.

820-1093 273

Shale, dark gray green, rose to dark brown tints, thin bedded, clay, very fine mica flakes, slickensided, soft and flaky, with interbedded gray to white, brownish tinted, mottled, medium crystalline, fragmental, limestone containing a few small calcite veins.

860-870 - with small glauconitic inclusions in the limestone.

880-947 - with interbedded, green, micaceous, glauconitic, argillaceous, medium to coarse crystalline limestone, slightly siliceous to silty.

904-1000 - with considerable dark brown, reddish tinted shale, with an occasional thin limestone.

1000-1025 - with considerable dark green shale.

1025-1093 - with considerable dark brown reddish and dark green glauconitic, slightly siliceous shale with an occasional, thin limestone.

1093-1225 132

Shale, dark gray, dark gray green, fine mica flakes, and with gray green, glauconitic silts to very fine grained sands.

1093-1100 - with a few clusters of white, glauconitic sand grains.

1152-1159 - with a thin interbedded, reddish brown, coarse to fine crystalline, limestone and the glauconitic greens silts are calcareous.

1172-1200 - with a few boulder size sand grains, some are sub-rounded and frosted, and glauconitic.

1220-1225 - with white, medium fine, quartzitic, vitreous sand.

1225-1327	102	<u>Sandstone</u> , green, coarse to very fine grained to silt, having a few boulder sized grains, glauconitic and interbedded dark gray green, shale. There is an occasional thin white sandstone.
1327-1352	25	<u>Shale</u> , dark gray, gray, green, clay, and with interbedded, medium fine grained to silt, glauconitic, micaceous sandstone.  1340-1352 - with some interbedded dark reddish brown, micaceous, glauconitic, silty shale.
1352-1401	49	<u>Sandstone</u> , white, boulder to fine grained, quartzitic, with interbedded dark gray, gray green, and reddish brown, clay, micaceous, silty shale.  1374-1382 - with green gray sandstone and silt.
1401-1414	13	<u>Shale</u> , dark gray, clay, platy and interbedded gray and gray green silts.
1414-1434	20	<u>Sandstone</u> , white to dark green, pebble to fine grained to silt, quartzitic and with interbedded gray green and reddish brown, silty shale.
1434-1474	40	<u>Shale</u> , gray to gray green, clay, silty and interbedded green silts.  1456-1468 - with interbedded white to green, boulder to silt sized, quartzitic, glauconitic sandstone.
1474-1579	105	<u>Shale</u> , dark reddish brown, gray green, micaceous, glauconitic.  1510-1517 - with interbedded, reddish, gray green, coarse to silt grained, glauconitic, micaceous sandstone.  1537-1547 - with the interval being fairly sandy.  1554-1561 - with reddish brown, green, calcareous, glauconitic silt.

1579-1620	41	<p><u>Sandstone</u>, green, very fine grained to silt, micaceous, slightly calcareous, glauconitic with green, dark gray, reddish brown, clay, shale.</p> <p>1611-1620 - with a few boulder grains of sand.</p>
1620-1637	17	<p><u>Shale</u>, dark gray, green, reddish brown with interbedded green, glauconitic silts.</p>
1637-1690	53	<p><u>Siltstone</u>, dark gray green, with dark gray, greenish tinted shales.</p> <p>1637-1651 - with fine crystalline, siliceous, reddish brown dolomite.</p> <p>1651-1658 - with thin bedded, fine grained, reddish brown calcarenites.</p>
1690-1755	65	<p><u>Dolomite</u>, brown to reddish brown, coarse crystalline with some loose calcite crystals.</p> <p>1716-1721 - with some reddish brown, fine grained calcarenitic dolomite.</p> <p>1744-1750 - with the dolomite mottled by very small, white dolomite crystals.</p>
1755-1768	13	<p><u>Shale</u>, dark gray, gray green, and reddish brown, thin bedded, micaceous, slightly glauconitic, slightly calcareous.</p>
1768-1806	38	<p><u>Siltstone</u>, green, gray, some white with interbedded gray, gray green and reddish brown shale.</p>
1806-1851	45	<p><u>Shale</u>, dark gray, clay, slightly micaceous with light gray, green, white calcareous silts.</p>
1851-1898	47	<p><u>Shale</u>, dark gray, black, clay, slightly micaceous, with some interbedded dark reddish brown to gray dolomite.</p> <p>1869-1898 - with reddish fine crystalline dolomite and some light gray, calcarenitic dolomite with some dark green, clay, smooth shale.</p>

1898-1918	20	<u>Sandstone</u> , light gray green, very fine grained, silt with dark gray, and some reddish brown tints, siliceous shale.
1918-1981	63	<u>Shale</u> , dark red to chocolate, clay, slightly micaceous.  1933-1964 - with thin interbedded dark green, clay shale.  1964-1968 - with light gray, fine crystalline dolomite.
1981-2020	39	<u>Shale</u> , gray, clay with thin interbedded light gray fine crystalline, dolomite.
2020-2030	10	<u>Sandstone</u> , light gray, fine grained to silty, recemented, silicified, quartzitic.  2029-2030 - with the sandstone being white, vitreous, recemented, quartzitic.

(Note: Samples only examined to 2030'.  
Samples are available in the VDMR  
cuttings repository to 4079', TD).