

827500

Phillips Petroleum Co.,
Rush County, Kansas.

Sec. 10; T. 16S; R. 18W.
Logleiter #1.

ANALYSES BY VIRGIL B. COLE. 1929.

<u>DEPTHS</u>	<u>FORMATION</u>
2825 to 3010.....	Shale, gray, non-calcareous, Traces of shale, gray, micaceous, shale, dark, red, and limestone gray, white.
3010 to 3090.....	Limestone, light, gray, crystalline, trace chert fossiliferous, Trace shale gray; fossils fusulina, Bryozoans, ostracods etc.,
3090 to 3125.....	Limestone white dense and white coarsely crystalline, trace chert.
3125 to 3165.....	Shale, gray, granular, non-calcareous, Limestone gray-white.
3165 to 3232.....	Limestone, gray-white, finely crystalline;
3232 to 3263.....	Shale, greenish-gray, fine slightly calcareous.
3263 to 3280.....	Dodge lime, white finely crystalline.
3280 to 3289.....	Shale gray granular slc.
3289 to 3297.....	Shale, dark, red and greenish-gray.
3297 to 3320.....	Oswald lime, gray white, medium and coarsely crystalline, trace oolitic chert.
3320 to 3327.....	Shale, gray.
3327 to 3355.....	Limestone, gray-white coarsely crystalline.
3355 to 3366.....	Shale, dark red and greenish-gray.
3366 to 3420.....	Limestone gray-white finely crystalline; cherty, 1 BW. PH. 3395-3400'.
3420 to 3432.....	Shale, gray, granular, slightly calcareous.
3432 to 3442.....	Limestone, white, finely crystalline.
3442 to 3450.....	Shale gray.
3450 to 3456.....	Shale, purple and greenish-gray.
3456 to 3465.....	Limestone, white finely crystalline; trace shale gray.
3465 to 3480.....	Shale, dark, purple and greenish gray.
3480 to 3535.....	Limestone, light brownish-white finely crystalline; oolitic in lower part, trace glauconite.
3535 to 3580.....	Conglomerate (basal Pennsylvanian), dark red, shale dark red and green, sand coarse rounded and frosted; Chert, trace limestone; 3573 to 3577' is 70% sand coarse rounded and frosted.

Reagan

Topda 3000

Lous 3297

P.D.C 3535

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December, 1935.

Phillips #1 Legleiter, PC
Sec. 10-16S-18W, 87'
Elevation 2006'
2005 DF (Printed)

Pennsylvanian conglomerate 3560-3635'

3560-3635 Sand, sandy clay shale, and chert. The greater part of the chert is of Cotter type. The lower ten feet may be residual Arbuckle sand in place as it contains considerable white to pale green clay and silica fillings.

Ordovician Top 3635'

Sub-sea, minus 1630'

Arbuckle " " Penetration 87' " " " "

3635-3722 Sand, medium to coarse, quartzose. Basal Sand.

Pre-Cambrian Top 3722'

Sub-sea, minus 1717'

3722-3743 Arkosic quartzite.

Tb 3760

K14 Basal Pennsylvanian 3615-22'

Zircon, clear, ang. to rounded.
 Tourmaline, rounded.
 Phosphate, dk. br. frag.
 Unknown (hex. lo bi, etched)

K15 Basal Penn. 3630-35'

Pyrite
 Zircon, rare.
 Tour., rare
 Phosphate, rare.
 Unknown, as above.

Part K16 Quartzose sand 3635-44'

Pyrite
 Zircon, worn to ang.
 Phosphate, rare.
 Tour. rare.
 Unknown, as above.

K17 Quartzose sand 3650-55'

Pyrite, abundant.
 Zircon, small, angular, clear,
 rare zoned.
 Phosphate, blue white cloudy,
 also brown round pellets.
 Tourmaline, small worn euhedral.
 Globular yellow material.

K18 Quartzose sand 3665-70'

Zircon, large, worn, clear.
 Xenotime, large, irregular
 Tourmaline, large, rounded.
 Globular yellow material.

K19 Quartzose sand 3680-85'

As above except for rare apatite.

K20 Quartzose sand 3700-05'

Barite, large, clear.
 Zircon, large, zoned.
 Phosphate, blue-white, cloudy.
 Tourmaline, rare, rounded.
 Xenotime, large, irregular.
 Apatite, rounded.
 Anatase, smoky yellow tabs.
 Globular yellow.

K21 Quartzose sand 3710-15'

Barite
 Phosphate, blue-white cloudy. *Re 3722*
 Golden yellow large rounded.
 Zircon, zoned.

K22 Arkosic sand 3738-40'

Zircon, large, x, zoned.
 Xenotime, large irregular.
 Barite, large clear.
 Phosphate, blue-white cloudy
 Apatite, worn euhedral.
 Feldspar, abundant.

K35 Arkosic sand 3731-32'

Zircon, large, zoned
 Barite, clear, worn.
 Magnetite, x
 Pyrite
 Apatite, rare.

K36 Arkosic sand. 3752-55'

Zircon, zoned.
 Xenotime, large
 Very rare clear z and Tour.
 Apatite, worn.
 Fluorite
 Pyrite
 Magnetite.

M2
f
aub

Points on arkosic sand.

High percentage of fresh feldspars
 Absence of leucoxene and chlorite
 Absence of biotite.
 Presence of fluorite.
 Presence of magnetite.

Points on quartzose sand

Presence of phosphate
 More clear zircon and tour.

More relation to content of arkosic sand than is usual.

Points on basal Penn.

Presence of phosphate
 Lack of zoned zircon
 Presence of unknown mineral.

Wichita, Kansas,
June 1, 1929.

Mr. Max Littlefield,
Box 2044,
Tulsa, Oklahoma.

10-16-18W

Dear Mr. Littlefield:

I believe Mr. Cole has shipped samples from the Phillips Petroleum Company, Legleiter #1, Sec.10; T.16S; R.18W, from depths ranging from 2825 to 3760'. This set of samples are very interesting and for this reason I am writing you.

Apparently this well had Pennsylvanian basal conglomerate from 3535 to 3635'. At the latter depth, it entered a sandstone which showed a trace of dolomite and green shale. This sand was drilled from 3635 to 3715'. At the latter depth there appeared to be some change in the character of the sand. Considerable white and pink orthoclase feldspar was found in the samples. The quantity of the feldspar seemed to increase from 3715 to 3745'. At 3745 the samples appeared to indicate that the well was in granite and was abandoned in this formation at 3760.

You have already run several heavy mineral analyses on samples from wells in the Gorham pool, Twps. 13 and 14S; R.15W. I would appreciate greatly if you are able to run an analyses of the samples from the Legleiter well for purposes of comparison with the results obtained from examination of the samples from the Gorham pool.

Recently another very interesting test in Rush County, known as Wilcox Oil & Gas Co., Schwartzkopf #1, Sec.27; T.17S; R.17W, drilled Pennsylvanian basal conglomerate from about 3555 to 3597'. Granite wash or arkose was apparently drilled from 3597 to 3604'. At the latter depth some green shale was drilled, possibly 2 feet. The cuttings then indicated that the well was drilling in sand from 3606 to 3617'. The presence of granite underlying a sand in the Phillips Petroleum Legleiter well, located approximately eight miles to the north, and the presence of granite wash in the Schwartzkopf test appears to indicate that somewhere in Central Rush County, a granite knob was exposed at the time of invasion of the Pennsylvanian Seas. Mr. Cole informs me that he intends to ship the samples from the Schwartzkopf well to Dr. Ryniker. Will you be good enough to examine the samples when they arrive and give me a copy of your results?

A third well of considerable interest is the Watsonian Oil Co., Merklein #1, Sec.21; T.3S; R.19W. Samples from this well have been shipped to Dr. Ryniker from a depth of 2315 to 3865'. However, the most interesting part of this suite is from 3865 to 4071, the bottom of the hole. Apparently this well had a sandstone from 3907 to 3925, directly underlying Pennsylvanian basal conglomerate. From 3925 to 4071 the samples appeared to indicate that fresh granite was drilled. The above information has been given to us by Mr. L. C. Morgan and it is possible that we may be

able to obtain a set of samples from 3865 to the bottom of the hole from him. As soon as possible I will ship them to you for your examination.

In each of the three wells named a sandstone has been drilled directly underlying Pennsylvanian basal conglomerate. It is suggested that these sandstones are of Cambrian age. It is entirely possible that they are merely basal Ordovician sands. This is one of the questions which I wish you would attempt to answer. I will appreciate greatly if you can examine these samples in the near future.

Yours very truly,

Roy H. Hall
Roy H. Hall

RH:MB

cc W. B. Wilson

ATLAS
BOND