county DeKalb

sec 30 twp 58 rge 31

owner American Oil & Gas Corp.

elev 1047 MGS# 6572 drillers ~~rge~~ log

farm Thompson, J.J. No. 1 TD 2261 fm @TD Ordovician? shows none

status date completed ~~[illegible]~~ DEC. 1940

remarks:

00018

00002

RECENT DRILLING
in
NORTHWESTERN MISSOURI

By
FRANK C. GREENE

REPORT OF INVESTIGATIONS NO. 1

1945

EDWARD L. CLARK, *Director and State Geologist*
MISSOURI GEOLOGICAL SURVEY AND
WATER RESOURCES
ROLLA, MISSOURI

Log of American Oil and Gas Corporation No. 1 J. J. Thompson. Location: 440 feet north and 470 feet east of southwest corner of sec. 30, T. 58 N., R. 31 W., DeKalb County, Missouri. Elevation (of derrick floor), 1051 feet (P.T.). Commenced, 5-30-1940, and lost bailer and abandoned hole, 11-22-1940. Total depth, 2261 feet. Dry and abandoned. Drilled with cable tools. Casing record: 12 1/2 inch set at 188 feet; 10 inch at about 1206 feet; 8 inch at 1577 feet; and 10 inch pulled and 8 inch under-reamed to 1781 feet. Contractor: F. C. (Bob) Miller, St. Joseph, Missouri.

FORMATIONAL SUMMARY

	Thickness, feet	*Debt, feet*
Pleistocene and Recent Series:		
Surface soil and glacial drift	190 ?	190 ?
Pennsylvanian system:		
Lansing group	66 ?	256
Kansas City group	177	433
Pleasanton group	114	547
Henrietta group	93	640
Cherokee group	589	1229
Mississippian system:		
St. Louis formation	18	1247
Spergen-Upper Warsaw formations	42	1289
Warsaw formation	57	1346
Keokuk-Burlington formations	116	1462
Chouteau formation	63	1525
Kinderhook shale	57	1582
Devonian system	333	1915
Ordovician system:		
Fernvale (?) formation	40	1955
Kimmswick formation	163	2118
Decorah formation	25	2143
St. Peter sandstone	72	2215
Ordovician or Canadian system:		
Jefferson City formation	46	2261, T.D.

WATER ANALYSES

Horizon	Parts per million			
	T.D.S.	*Cl.*	*SO_4*	*Na-K as Na*
Basal Kansas City at 375 ft.	1262.0	303.6	235.8	439.0
Henrietta, 590-597 ft.	4266.0	2017.7	158.6	1562.6
Cherokee, 912 ft.	4690.0	2004.3	560.5	1713.7
Cherokee, 960 ft.	5410.0	1910.6	1166.8	1771.9
Lower Cherokee, 1100 ft.	2408.0	1897.2	1126.9	1767.2
Lower Cherokee, 1184-1190 ft.	4980.0	1709.7	1128.1	1657.8
Mississippian, 1313 ft.	5720.0	2018.9	1267.6	1764.0
Mississippian, 1378 ft.	5659.0	1972.4	1273.6	1904.1
Devonian, 1645-1655 ft.	6339.0	1752.2	1968.6	1650.7
Devonian, 1770 ft.	6691.0	1871.5	2058.7	1612.2
Devonian, 1870 ft.	6837.0	1926.5	2024.6	1720.7
Kimmswick, 1947 ft.	6982.0	1963.2	1992.9	1726.2
Kimmswick, 1985 ft.	7099.0	2055.0	2010.0	1827.7
Kimmswick, 2015 ft.	7389.0	2155.9	2028.5	1781.3
Kimmswick, 2050 ft.	11039.0	4229.2	2128.1	2865.5
Jefferson City ("Arbuckle"), 2230 ft.	9094.0	3425.2	1913.5	2459.5
Jefferson City ("Arbuckle"), 2252 ft.	11848.0	4875.8	1810.2	3070.9

SAMPLE LOG

	Thickness, feet	Depth, feet
No samples	60	60
Pleistocene Series:		
Glacial drift:		
Boulder clay, tan with arkosic sand, some calcareous material and pebbles of igneous and metamorphic rocks	15	75
Boulder clay, gray with sand and pebbles of limestone, igneous and metamorphic rocks	60	135
Sand and gravel, cemented by gray boulder clay with pebbles of limestone, and igneous and metamorphic rock	20	155
Clay, gray, calcareous with pebbles of limestone	15	170
Sand, coarse, angular, arkosic, polished	5	175
Sand and gravel with pebbles of limestone, igneous and metamorphic rock	15	190
Pennsylvanian system:		
NOTE: The glacial drift-Pennsylvanian contact is open to question. A limestone bed (?) or a large limestone boulder (?) occurs from 189-195 feet. The samples from 195 to 212 feet are drift. They may have been caved, and the top of the Pennsylvanian would presumably be at 190 feet, as noted. If the limestone is a boulder in the drift, then the true top of the Pennsylvanian occurs at 212 feet.		
Lansing (?) group:		
Limestone, light brown and gray, argillaceous, fossiliferous. The residue is obscured by glacial debris	5	195
NOTE: Samples from 195-212 feet consist of glacial sand, gravel and gray clay, which may be caved from above 189 feet	17	212
Lansing group:		
Shale and limestone: shale, gray with thin beds of light brown, earthy, fossiliferous limestone. The residue contains some silicified crinoid and fossil fragments	28	240
Limestone and shale: limestone, gray, argillaceous, fossiliferous with gray shale and pyrite. Residue, 40 percent, of pyrite and gray shale	5	245
Shale, gray, sandy with some limestone fragments	5	250
Shale, gray, sandy with plant remains, mica and some calcareous cement	6	256
Kansas City group:		
Limestone, white, dense. Residue, 20 percent, of gray, sandy shale. The residue is not distinctive because of caved material	14	270
No samples	5	275
Limestone, shaly, fossiliferous. Residue, 10 percent, of silicified spines, pyrite and fossil fragments with some glauconite	5	280
Shale, black, carbonaceous with limestone fragments and some pyrite	7	287
Shale, gray with some fragments of light colored limestone	15	302
Limestone, light tan, fossiliferous. Residue, 10 percent, of gray shale, silicified spines and fossil fragments	9	311
Shale and limestone: shale, gray with limestone fragments	6	317
Limestone and shale: limestone, dark gray, fossiliferous. Residue, 10 percent, of silicified fossil fragments, fusulinids and spines	8	325

	Thickness, feet	Depth, feet
Limestone, dark, argillaceous with black, carbonaceous shale. The shale contains calcareous fossil fragments. Residue, 35 percent, of black shale with fossil prints and small aggregates of pyrite crystals	5	330
Shale, gray with fossiliferous limestone fragments. The residue contains some silicified tubes	10	340
Limestone, dark gray, argillaceous, fossiliferous with small ostracods. Residue, 10 percent, of gray shale and silicified tubes	10	350
Shale, gray with calcareous fossils and nodular limestone	10	360
Limestone (Winterset), white, fossiliferous. Residue, 10 to 25 percent, of porous to dense gray chert, silicified spines and tubes, kaolin balls and fusulinid fragments	25	385
No samples	5	390
Shale, black, platy, carbonaceous with some limestone fragments	5	395
Limestone (Bethany Falls), dense to sub-lithographic, sparingly fossiliferous. Occurring near the top are some green shale partings, at 400-405 feet some green shale, and below 410 feet silicified tubes and spines. Residue, less than 10 percent, of kaolin balls, pyrite and fossils replaced by kaolin	20	415
Shale, black, carbonaceous with some limestone fragments	5	420
Limestone (Hertha), light gray, dense, fossiliferous. Residue, 10 percent, of silicified and kaolinized fossil fragments and some crinoid stem fragments	13	433
Pleasanton group:		
Shale, green with nodular gray limestone. The residue contains some fossil fragments replaced by kaolin and silica	4	437
Shale, gray, sandy with mica and fragments of gray, earthy, nodular limestone	43	480
Sand, medium-grained, angular with gray shale, mica and plant remains	10	490
Shale, gray with some nodular limestone, plant remains and calcareous fossil fragments	20	510
Shale, gray to green with nodules of gray, argillaceous limestone	7	517
Shale, red	6	523
Sand, medium fine-grained, angular with calcareous cement	14	537
Shale, gray and red	10	547
Henrietta group:		
Limestone, tan, earthy, fossiliferous. Residue, 10 percent, of gray shale and silicified spines and tubes	10	557
Shale, gray, sandy with tan nodular limestone. This interval is less sandy below 565 feet with some plant remains	15	572
Shale, black with impure coal and calcareous fossils. Some fusulinids occur in the sample	8	580
Limestone, tan, earthy, fossiliferous. Residue, 10 percent, of spines, kaolin replaced fossil fragments, and pyrite	5	585
Sand, shaly with gray, argillaceous limestone fragments containing many fossil brachiopod fragments	6	591
Sand, angular grains, arkosic with mica. Calcareous material occurs below 595 feet	9	600
Shale, black, carbonaceous with some gray, argillaceous limestone. The residue contains some silicified tubes and pyrite	5	605

	Thickness, feet	Depth, feet
Dolomitic limestone, brown, fine-grained crystalline. (May be nearer the equivalent of an impure, earthy, aukerite)	1	606
Shale, coal and impure limestone: shale, black, carbonaceous with bituminous coal and dark, earthy, fossiliferous limestone. The residue contains shell fragments replaced by pyrite	6	612
Sand, medium-grained, angular with calcareous material. Gray shale occurs with the sand above 617 feet	9	621
Limestone, light tan, argillaceous, fossiliferous with interbedded gray shale. Residue, 20 percent, of gray shale and porous, fossiliferous chert containing spines and brachiopod fragments	14	635
Limestone, light tan, dense to sub-lithographic. Residue, 25 percent, of gray shale, kaolin, pyrite and some sand grains	5	640
Cherokee group:		
Shale, gray, sandy above 650 feet and with siderite concretions and spherulites from 640-655 feet	25	665
Shale, red and gray	4	669
Sand and shale: sand, medium-grained; and shale, gray. Sample contains concretions of siderite	6	675
Shale, gray, sandy, micaceous with plant remains and concretions of siderite	40	715
Shale, gray with thin beds of bituminous coal between 715-720 feet and 735-740 feet. Some concretions of siderite occur from 735-745 feet	30	745
Limestone (Ardmore), tan, highly argillaceous, fossiliferous with some crinoid stem fragments. Contains some black shale and much gray shale in lower 5 feet. Residue, 15 percent, of gray shale, kaolin replaced fossil fragments and some silicified fragments of crinoids and foraminifera	10	755
Shale, gray with concretions and spherulites of siderite	15	770
Shale, red	4	774
Shale, gray with plant remains and many siderite spherulites	33	807
No samples	5	812
Shale, black with coal and many siderite spherulites	8	820
Shale, gray, sandy in part below 840 feet and containing both siderite spherulites and concretions	70	890
Shale, black, carbonaceous with some siderite spherulites	10	900
Shale, gray, sandy with siderite spherulites	10	910
Sand, medium coarse, sub-angular grains, becoming more coarse-grained below 940 feet and containing some concretionary siderite between 960-965 feet	60	970
Sand, as described above, with siderite concretions, green and red shales. Some arkosic wash occurs from 990-1010 feet and limestone and crinoid fragments at 1025 feet	55	1025
Sand, white, coarse, sub-angular with some black shale at 1065 feet. Siderite concretions occur at 1050 feet, and 1070-1085 feet. Some calcareous fossils occur from 1070-1075 feet	75	1100
Shale, black and gray, sandy with siderite concretions. Some coal occurs at 1110 feet	29	1129
Shale, black, platy, carbonaceous	3	1132
Shale, gray, soft, similar to fire clay	7	1139
Shale, black, carbonaceous with some siderite concretions	11	1150
Shale, dark gray to black, sandy with siderite concretions. Some coal occurs from 1160-1165 feet	15	1165

	Thickness, feet	Depth, feet
Shale, black, carbonaceous with spherulites and concretions of siderite. Some white crinoidal chert occurs from 1175-1184 feet	19	1184
Sand and black shale interbedded: sand, angular regenerated grains, with pyrite and siderite; and shale, black occurs in the samples from 1190-1204 feet and 1215-1223 feet	39	1223
Chert, black shale, and sand: chert, pink and tan, leached, quartzose; and black shale and sand, as described above	6	1229
Mississippian system:		
St. Louis formation:		
Limestone, light tan, lithographic. Residue, 10 to 15 percent, of quartzose chert, quartz rosettes, pink chert and some sand grains	18	1247
Spergen-Upper Warsaw formations:		
Limestone and shale: limestone, tan, fossiliferous; and shale, green with chert. Residue, 40 percent, of silvery gray and green shale, red, fossiliferous, chalcedonic chert, and with crinoids, small brachiopods and *Endothyra*	18	1265
Dolomitic limestone, tan, very fine-grained, somewhat porous, argillaceous. Residue, 40 percent, of red, chalcedonic chert and green, silvery shale	10	1275
Dolomitic limestone, as described above. Residue, 40 percent, of porous, gray and blue chert, highly fossiliferous and some silicified spine aggregates	14	1289
Warsaw formation:		
Limestone, tan and light gray to white, crystalline, crinoidal, cherty. Residue, 40 to 50 percent, of tan and white, dense, fossiliferous chert	11	1300
Limestone, as described above. Residue, 10 to 25 percent, of dense, flaky, fossiliferous, speckled chert which is highly fossiliferous at 1356 feet	46	1346
Keokuk-Burlington formations:		
Limestone, white, crystalline, fossiliferous. Residue, 30 to 40 percent, of gray, brown, and dense white crinoidal chert which is entirely white below 1358 feet	31	1377
Limestone, white, crystalline, crinoidal. A trace of glauconite occurs from 1400-1405 feet. Residue, 10 to 20 percent, of white, dense, crinoidal chert and some rough chert	28	1405
Limestone and chert: limestone, as above, with a trace of white, crystalline dolomite occurring at 1415 and 1430 feet. Residue, 50 to 60 percent, of white and light gray, smooth chert and some sub-translucent chert	25	1430
Limestone, white, crystalline, crinoidal, with some white, dolomitic limestone below 1445 feet. Residue, 30 to 40 percent, of white and tan, crinoidal chert	32	1462
Chouteau formation:		
Limestone and dolomite, dark gray, earthy. Residue, 20 percent, of gray, dense, flaky chert	15	1477
Dolomite, dark gray, fine-grained crystalline, earthy, cherty. Residue, 40 percent, of gray, dense chert	5	1482
Limestone, gray, dense, earthy, fossiliferous. Residue, about 10 percent or less, of gray chert, silicified fossil fragments and brown, porous shale. Silicified tubes occur in the residue below 1505 feet and pyrite from 1520-1525 feet	43	1525

	Thickness, feet	Depth, feet
Kinderhook shale (undifferentiated):		
Shale, gray, somewhat calcareous with some very fine-grained sand or silt aggregates, and at the top, some phosphatic fragments	22	1547
Limestone, brown, crinoidal with flat, discoidal oolites of hematite	4	1551
Hematite, flat, discoidal oolites	6	1557
Shale, red and gray	6	1563
Shale, gray with black spore-like bodies. Some limestone fragments occur from 1570-1582 feet	19	1582
Devonian system:		
NOTE: A correction is indicated at 1790 feet.		
Limestone, brown-gray, dense. Residue, 10 percent, of gray shale	3	1585
Limestone, white, finely crystalline with black specks. Residue, as above	5	1590
Limestone, white-tan, finely crystalline with some pink stone at 1605 feet. Residue, less than 10 percent, of pyrite, fine sand and gray shale	20	1610
Limestone, white and pink, crystalline, fossiliferous. Residue, 40 percent, of red, oolitic hematite and some green shale	10	1620
Shale, green, dolomitic. Residue, 40 percent, of green shale and a little sand, pyrite and glauconite	10	1630
Shale, gray with about 10 percent angular sand	7	1637
Limestone, white, crystalline. Residue, about 40 percent, of angular sand	5	1642
Quartzite of angular sand and a little dark gray, crystalline dolomite	5	1647
Dolomite, white, crystalline. Residue, less than 10 percent, of angular sand and pyrite	13	1660
Dolomite, white, crystalline. Residue, 25 percent, of translucent chert, siltstone and some sand	7	1667
Dolomitic limestone, dark, dense. Residue, 30 percent, of silt, sand, pyrite and gray shale	18	1685
Shale, gray-green. Contains about 10 percent, of dark gray to black, dense limestone	70	1755
Shale, as above. Contains about 40 percent limestone	20	1775
Dolomite, brown, very finely crystalline, and some, gray and dense. Residue, 40 percent, of brown, quartzose chert	15	1790
NOTE: Steel line measure at depth of 1790 feet showed depth to be actually 1770 feet. Samples above this should be corrected. The samples below are correct.		
Dolomite, as above. Residue, as above	15	1785
Limestone, gray-tan, lithographic. Residue, less than 10 percent, of dark shale, pyrite and quartzose chert	25	1810
Limestone, as above, with some dolomite. Residue, as above	10	1820
Dolomite, tan, dense. Residue, 10 percent, of white, smooth and quartzose chert	10	1830
Dolomite, white and brown, coarsely crystalline. Residue, as above	15	1845
Dolomite, tan, dense to almost lithographic. Residue, as above, with some quartz and sand	10	1855
Dolomite tan, very finely crystalline. Residue, 10 percent, of white, quartzose chert	5	1860
Dolomite, light gray, dense to lithographic. Residue, 10 percent, of fine sand and quartzose chert	30	1890
Dolomite, tan, crystalline. Residue, 15 percent, of tan, smooth and quartzose chert and fine sand	10	1900
[illegible]	15	1915

	Thickness, feet	Depth, feet
Ordovician system:		
Fernvale (?) formation:		
Dolomite, gray-white, crystalline. Residue, 10 to 25 percent, of angular sand and pyrite	20	1935
Dolomite, as above. Residue, 10 to 25 percent, of gray-white, quartzose chert	20	1955
Kimmswick formation:		
Dolomite, gray-tan, crystalline. Residue, averages 90 percent, of smooth, white and gray chert with black specks	35	1990
Dolomite, as above. Residue, 40 percent, of white-gray, smooth and rough chert	15	2005
Dolomite, as above. Residue, 75 percent, of chert, as above	45	2050
Dolomite, cream-tan, crystalline. Residue, 15 to 25 percent, of smooth, gray-white chert	13	2081
No samples	37	2118
Decorah formation:		
Dolomite, brown, crystalline. Residue, 10 to 40 percent, of sand, white chert and gray shale	25	2143
St. Peter formation:		
Sand, white, rounded, frosted	72	2215
Ordovician or Canadian system:		
Jefferson City formation:		
Upper Jefferson City:		
Dolomite, brown, crystalline. Residue, 5 percent, of smooth chert	10	2225
Lower Jefferson City:		
Dolomite, brown, crystalline. Residue, 5 to 15 percent, of brown, oolitic chert with large free brown oolites occurring at 2228-2230 feet	32	2257
No samples	4	2261, T.D.

December 16, 1940

Mr. James Jones
Junction Shoe Repair Co.
119 S. Sixth Street
St. Joseph, Missouri

Dear Mr. Jones:

We have completed a partial analysis of the water sample from the American Oil and Gas Company, No. 1 Thompson well in Sec. 30, T. 58 N., R. 31 W., DeKalb County, Missouri. The sample was collected by means of the bailer from a depth of about 2230 feet. I understand the well had been drilled to a depth of 2261 feet but the bailer was lost on bottom, hence the depth of collection of the present sample.

Enclosed herewith is a tabulation showing the results of this analysis together with the results of partial analyses of samples taken at shallower depths. There has been a noticeable change in the composition of the water in the sample just analyzed.

I am sending to you under separate cover a copy of our graphic sample log of this well. You will note that there is a sample gap from 2081 to 2118 feet. Mr. Miller has informed me of the possible whereabouts of some of these samples, but in the event you have information pertaining to them I wish you would have them submitted to us so that the log of this well will be complete.

Very truly yours,

McQ/mh
encl.
cc: F. C. Miller
F. C. Greene

Partial Chemical Analyses
American Oil and Gas Co., No. 1 Thompson
Sec. 30, T. 58 N., R. 31 W., DeKalb Co. Mo.

Results in Parts Per Million

No.	Depth in feet	Total Dissolved Solid (TDS)	Chloride Radicle (Cl)	Sulphate Radicle (SO_4)
1	2050	11039.0	4229.2	2128.1
2	2064	12267.0	5036.5	1891.7
3	2256	11587.0	4926.4	1870.3
4	2230	9094.0	3425.2	1913.5

Remarks:

1. Kimmswick
2. Kimmswick
3. Arbuckle
4. Arubckle formation. Sample from 2230. Total depth of hole was 2261 with 30-foot bailor lost on bottom.

December 14, 1940

Mr. James Jones
Junction Shoe Repair Co.
119 South Sixth Street
St. Joseph, Missouri

Dear Mr. Jones:

The determination of the chloride content of the water sample taken from the American Oil and Gas Company No. 1 Thompson well after it had been drilled to a total depth of 2261 feet shows 3425.2 parts per million chloride radicle. This is considerably lower than the chloride content of other samples from 2050 feet and below.

There seems to have been a change in the character of the water, but the final results will not be available until Monday, at which time they will be sent to you.

Very truly yours,

H. O. McQueen

McQ/mh
cc: F. C. Miller
F. C. Greene

Tuesday from noon.

November 28, 1940

Mr. F. C. (Bob) Miller
Jerome Hotel
St. Joseph, Missouri

Dear Bob:

I received from you this morning by special delivery a one-pint sample of water marked American Oil and Gas, Thompson, but no depth was designated for it. The results of a partial chemical analysis made on this sample are given on the attached sheet. This sheet also contains the results of partial analyses of samples collected from 2050 and 2064 feet.

The well was in the lower part of the Kimmswick or Viola when the last two mentioned samples were collected. I have checked our laboratory and fail to find any samples below 2064 feet. The sample which was received this morning shows some difference from the other two samples but whether it represents new water or not would be hard to say due to the fact that I have no information on the character of the St. Peter water or any other water that might have come above the point at which your last sample was taken.

We have never received the samples for the interval 2081 to 2118 feet and 2176 to 2221 feet. I think Greene will be at the well this week and hope he can obtain these so that our log will be complete.

Cordially yours,

McQ/mh
encl.
cc: F. C. Greene 2

St Peter 2146
Antrim 2215
T.D. 2261

Partial Chemical Analyses - American Oil and Gas Co.,
No. 1 Thompson, Sec. 30, T. 58 N., R. 31 W., DeKalb Co.

Results in Parts Per Million

Depth in feet	Total Dissolved Solids	Chloride Radicle (Cl)	Sulphate Radicle (SO_4)
2050	11039.0	4229.2	2128.1
2064	12267.0	5036.5	1891.7
*	11587.0	4926.4	1870.3

* Sample submitted by F. C. Miller and received Nov. 28, 1940. Depth and formation unknown.

GEOLOGY
MINERAL DEPOSITS
WATER RESOURCES
TOPOGRAPHIC MAPPING
MINING

STATE OF MISSOURI
GEOLOGICAL SURVEY
AND
WATER RESOURCES
ROLLA, MISSOURI

H. A. BUEHLER
STATE GEOLOGIST
H. S. McQUEEN
ASST. STATE GEOLOGIST

November 4, 1940

Mr. Frank C. Greene -

Dear Frank:

After I had left you I contacted the A. & W. No. 1 Pickett and found that they were drilling at a depth of 40 feet, although it had been spudded on Wednesday. The glacial clay apparently is making small amounts of water, the net result being the hole is caving very badly. They drill 5 feet and it fills up 12 feet. The driller's name is S. A. Scott and I told him that you would probably visit him from time to time. They are running tower. An 8-inch hole has been started.

I just checked some of the Willman-Gottschall samples and as a result Bob Miller might get the St. Peter slightly below 2125 feet. There may be some sandstone in the Decorah which may be followed by dolomite and then the true St. Peter. I don't know how you can tell them apart, except the intervening dolomite will tell you that the St. Peter is yet to come.

Sincerely yours,

Mac

McQ/mh

27-F-30

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES - ROLLA, MO.

COUNTY _____ LOG NUMBER _____

COMPANY OR OWNER American O&G

FARM Thompson WELL NO. _____

LOCATION _____ SEC. _____ T. _____ R. _____

CONTRACTOR _____

DRILLER _____ TOOL DR. _____

COMMENCED _____ COMPLETED _____

PRODUCTION _____ PLOTTED _____

CASING RECORD _____

WATER RECORD _____

SOURCE OF LOG _____

REMARKS

Macis determination

ELEV. _____

TOTAL DEPTH _____

CHEM. ANAL. NO. _____

FORMATION	THICK	DEPTH	FORMATION	THICK	DEPTH
Base Mississippian		1509			
Kind. Shale	1509	1560	corrected		
Top Hunton	1560		corrected		
Basal (white water) sand	1899	1915			
Upper Kinnismuck	1915	1955	= 2130 in Gottschall		18-59-32
Mid Kinnismuck (Big chert)	1955		dry 1995 1 1/2		
St Peter ss	2150 2175		later 2128		

(OM)

Oil Weekly

Missl[illegible]	1110	1533
Kind Shale	1533	1560
Hunton	1560	1899
Dev. Sand	1899	1915
Viola	1915	2126
Simpson Sand	2126	2215
Arbuckle	2215	

July 11, 1940

Mr. F. C. Miller
Jerome Hotel
St. Joseph, Missouri

Dear Bob:

Enclosed herewith is a copy of our graphic sample log of the American Thompson well, Sec. 30, T. 58, R. 31, covering the interval from 523 to 1141 feet, at which point we have now received samples.

I note in these samples the presence of a body of comparatively coarse sand from a depth of 910 to 1105 feet. Associated with the sand, as shown on the record, is a considerable amount of siderite or carbonate of iron which appears as hard dark colored particles in the samples which contain it. Below 1108 feet the samples show gray to black sandy shale with some iron carbonate to 1129 feet. Black platy and gray clay shale appears in the samples from 1129 to 1141 feet.

The well is drilling in the Cherokee formation and is near the base of the Pennsylvania and not far above the top of the "Mississippi lime". I would expect the lime to be reached without much additional drilling.

I understand that this well is a "tight" hole and we will be glad to respect your wish in that respect.

Cordially yours,

McQ/mh
encl.

The lime @ 1120 must have been siderite — I look for top of lime 1165 - 1170

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil & Gas Corporation - Thompson Farm
Location: Sec. 30, T. 58, R. 31
Source: Drilling well, 375 feet.
Analysis No.: 3308 Total Depth _____ and No. _____
Date Analyzed: 7-16-40
Analyst: R. T. Rolufs
Collector: F. C. Greene, 6-15-40

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - bailer sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	1262.0	RV
Loss on Ignition	216.0	
Chloride Radicle (Cl)	303.6	8.56
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	235.8	4.90
Bi-Carbonate Radicle (HCO_3)	559.6	9.18
Carbonate Radicle (CO_3)	2.8	.09
Sodium (Na) Potassium (K) as Na	439.0	19.10
Magnesium (Mg)	12.1	.99
Iron (Fe)	ND	
Manganese (Mn)	-------	
Silica (SiO_2)	14.0	
Calcium (Ca)	22.5	1.12
Total Hardness	105.9	
Carbonate Hardness	105.9	
Alkalinity	461.2	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 . . ~~Fe_2O_3~~	2.40	

Remarks: This sample bailed when well was 375 ft. Surface water supposed to be shut off and only water found below casing was 2 bailers per hour. After short shut down hole was full and coming in rapidly.

Copies to: F. C. Miller
F. C. Greene

27-F-29

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil & Gas Co. - J. J. Thompson #1
Location: Sec. 30, T. # 58, R. 31
Source: Drilling well, 590-597
Analysis No.: 3315 Total Depth_____ and No._____
Date Analyzed: 7-16-40
Analyst: R. T. Rolufs
Collector:

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	4266.0	RV
Loss on Ignition	136.0	
Chloride Radicle (Cl)	2017.7	56.90
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	158.6	3.30
Bi-Carbonate Radicle (HCO_3)	530.1	8.69
Carbonate Radicle (CO_3)	12.4	.41
Sodium (Na) Potassium (K) as Na	1562.6	67.97
Magnesium (Mg)	15.8	1.30
Iron (Fe)	ND	
Manganese (Mn)	------	
Silica (SiO_2)	6.0	
Calcium (Ca)	28.3	1.41
Total Hardness	135.5	
Carbonate Hardness	135.5	
Alkalinity	446.0	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	1.60	

Remarks: This sample from 590-597 ft.

Copies to: F. C. Miller
F. C. Greene

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil & Gas Co. - J. J. Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling well, 912 ft.
Analysis No.: 3316 Total Depth_____ and No._____
Date Analyzed: 7-16-40
Analyst: R. T. Rolufs
Collector:

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	4690.0	RV
Loss on Ignition	115.0	
Chloride Radicle (Cl)	2004.3	56.52
Nitrate Radicle ( )	ND	
Sulphate (SO_4)	560.5	11.66
Bi-Carbonate Radicle (HCO_3)	496.3	8.14
Carbonate Radicle (CO_3)	1.4	.05
Sodium (Na) Potassium (K) as Na	1713.7	74.55
Magnesium (Mg)	23.0	1.89
Iron (Fe)	ND	
Manganese (Mn)	------	
Silica (SiO_2)	6.8	
Calcium (Ca)	53.8	2.68
Total Hardness	228.8	
Carbonate Hardness	228.8	
Alkalinity	406.2	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	2.00	

Remarks: This sample from 912 ft. Sand at 912

Copies to: F. C. Miller
F. C. Greene

July 19, 1940

Mr. F. C. Miller
Jerome Hotel
St. Joseph, Missouri

Dear Bob:

Analyses have been made of water samples from the Thompson well, collected at 375, 597, and 912 feet. The results are enclosed herewith. I thought you would like to have this information.

Sincerely yours,

McQ/mh
encl.
cc: F. C. Greene

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil & Gas Corporation - Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Well 960 ft. - Cherokee
Analysis No.: 3524 Total Depth_____ and No._____
Date Analyzed: 7-29-40
Analyst: R. T. Rolufs
Collector: F. C. Greene 7-8-40

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	5410.0	RV
Loss on Ignition	185.0	
Chloride Radicle (Cl)	1910.6	53.88
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1166.8	24.27
Bi-Carbonate Radicle (HCO_3)	461.2	7.56
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1771.9	77.08
Magnesium (Mg)	32.4	2.66
Iron (Fe)	ND	
Manganese (Mn)	-------	
Silica (SiO_2)	4.0	
Calcium (Ca)	87.2	4.35
Total Hardness	350.8	
Carbonate Hardness	350.8	
Alkalinity	378.3	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	1.20	

Remarks: This sample from 960 feet.

Copies to: F. C. Miller
F. C. Greene

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil & Gas Corporation - Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling well - 1100 ft. - near base of Cherokee
Analysis No.: 3325 Total Depth_____ and No._____
Date Analyzed: 7-29-40
Analyst: R. T. Rolufs
Collector: F. C. Greene 7-8-40

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	2408.0	RV
Loss on Ignition	170.0	
Chloride Radicle (Cl)	1897.2	53.50
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1126.9	234.4
Bi-Carbonate Radicle (HCO_3)	395.1	6.48
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1767.2	76.87
Magnesium (Mg)	30.2	2.48
Iron (Fe)	ND	
Manganese (Mn)	------	
Silica (SiO_2)	4.0	
Calcium (Ca)	65.4	3.26
Total Hardness	287.3	
Carbonate Hardness	287.3	
Alkalinity	324.0	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 & Fe_2O_3	1.20	

Remarks: This sample from 1100 feet.

Copies to: F. C. Miller
F. C. Greene

MISS[illegible] SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil & Gas Corporation - Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling Well, 1184-1190 ft.
Analysis No.: 8332 Total Depth_____ and No._____
Date Analyzed: 7-29-40
Analyst: R. T. Rolufs
Collector: F. C. Greene 7-15-40

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	4980.0	RV
Loss on Ignition	164.0	
Chloride Radicle (Cl)	1709.7	48.21
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1128.1	23.46
Bi-Carbonate Radicle (HCO_3)	473.8	7.77
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1657.8	72.11
Magnesium (Mg)	30.9	2.54
Iron (Fe)	ND	
Manganese (Mn)	------	
Silica (SiO_2)	14.0	
Calcium (Ca)	104.6	5.22
Total Hardness	388.2	
Carbonate Hardness	388.2	
Alkalinity	388.5	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	1.20	

Remarks: This sample from 1184-1190 ft.

Copies to: F. C. Miller
F. C. Greene

August 5, 1940

Mr. F. C. Miller
Jerome Hotel
St. Joseph, Missouri

Dear Mr. Miller:

I am enclosing herewith copy of our graphic log of the American-Thompson well covering the interval from 1261 to 1352 feet.

As additional samples are received I will send you that portion of the log.

It is estimated that the base of the Mississippi lime may be expected somewhere between 1525 and 1550 feet. It will be underlain by about 25 or 30 feet of Kinderhook shale which in turn will be underlain by the Devonian limestone.

Very truly yours,

John Grohskopf
Geologist

JG/mh
encl.
cc: F. C. Greene

P.S. Dear Frank: I cannot tell from the correspondence just what portion of this log that you have received. Will you advise me as to what depth you have copies of our sample log and I will send you that portion which you do not have.

Cordially yours,

John

John Grohskopf

August 6, 1940

Mr. F. C. (Bob) Miller
Jerome Hotel
St. Joseph, Missouri

Dear Mr. Miller:

In Mr. McQueen's absence I am sending to you herewith a copy of our chemical analysis of a sample of water taken from the Thompson No. 1 well at a depth of 1234 feet.

Very truly yours,

Mary Hanston
Secretary

H.
encl.
cc: F. C. Greene

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil & Gas Corporation - Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling well, 1234 ft. - Base of Cherokee or top of Mississippi lime.
Analysis No.: 3342 Total Depth_____ and No._____
Date Analyzed: 8-6-40
Analyst: R. T. Rolufs
Collector: F. C. Greene 7-19-40

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	4563.0	RV
Loss on Ignition	92.0	
Chloride Radicle (Cl)	1709.7	48.21
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1056.1	21.97
Bi-Carbonate Radicle	438.7	7.19
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1608.2	69.96
Magnesium (Mg)	28.5	2.34
Iron (Fe)	ND	
Manganese (Mn)	------	
Silica (SiO_2)	7.2	
Calcium (Ca)	77.8	3.88
Total Hardness	311.4	
Carbonate Hardness	311.4	
Alkalinity	359.7	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3	1.20	

Remarks: This sample bailed from 1234 ft. Probably broke in under casing.

Copies to: F. C. Miller
F. C. Greene

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb

Owner: American Oil and Gas Corp. Thompson #1

Location: Sec. 30, T. 58, R. 31

Source: Drilling well 1313 ft.

Analysis No.: 3355 Total Depth _____ and NO. _____

Date Analyzed: 8-15-40

Analyst: R. T. Rolufs

Collector: F. C. Greene, 7-31-40

CONSTITUENTS:	IN PARTS PER MILLION.	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	5720.0	RV
Loss on Ignition	97.0	
Chloride Radicle (Cl)	2018.9	56.93
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1267.6	26.36
Bi-Carbonate Radicle (HCO_3)	455.5	7.47
Carbonate Radicle (	00	
Sodium (Na) Potassium (K) as Na	1764.0	76.73
Magnesium (Mg)	32.8	2.70
Iron (Fe)	ND	
Manganese (Mn)	---	
Silica (SiO_2)	8.4	
Calcium (Ca)	104.6	5.22
Total Hardness	396.0	
Carbonate Hardness	373.5	
Alkalinity	373.5	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 , ~~x~~ Fe_2O_3	2.40	

Remarks: This sample from 1313 ft.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb

Owner: American Oil & Gas Co., Thompson #1

Location: Sec. 30, T. 58, R. 31

Source: Drilling well, 1378 ft. (Mississippi lime)

Analysis No.: 3402 Total Depth _____ and No. _____

Date Analyzed: 10-15-40

Analyst: R. T. Rolufs

Collector: F. C. Greene, 10-2-40

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid, Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	5659.0	RV
Loss on Ignition	70.0	
Chloride Radicle (Cl)	1972.4	55.62
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1273.6	26.49
Bi-Carbonate Radicle (HCO_3)	424.6	6.96
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1904.1	82.83
Magnesium (Mg)	35.6	2.93
Iron (Fe)	ND	
Manganese (Mn)	½	
Silica (SiO_2)	13.6	
Calcium (Ca)	103.2	5.15
Total Hardness	404.0	
Carbonate Hardness	348.2	
Alkalinity	348.2	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	1.60	

Remarks: This sample from 1378 ft.

Copies to: F. C. Greene
F. C. Miller
H. S. McQueen

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb

Owner: American Oil and Gas Co., - Thompson #1

Location: SW SW Sec. 30, T. 58, R. 31

Source: Drilling well, 1645-1655 ft.

Analysis No.: 3415 Total Depth _____ and No. _____

Date Analyzed: 11-18-40

Analyst: R. T. Rolufs

Collector: H. S. McQueen

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	6339.0	RV
Loss on Ignition	197.0	
Chloride Radicle (Cl)	1752.2	49.41
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1968.6	40.95
Bi-Carbonate Radicle (HCO_3)	365.8	6.00
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1650.7	71.81
Magnesium (Mg)	114.7	9.43
Iron (Fe)	ND	
Manganese (Mn)	---	
Silica (SiO_2)	11.2	
Calcium (Ca)	292.9	14.62
Total Hardness	1202.5	
Carbonate Hardness	300.0	
Alkalinity	300.0	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	.80	

Remarks: This sample from 1645-1655 ft. Pipe set at 1584 ft. Hole dry to 1645 ft.

Copies to: Chem. Lab.
F. C. Greene

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil and Gas Co., Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling Well, 1770 ft.
Analysis No.: 3416 Total Depth_____ and No._____
Date Analyzed: 11-18-40
Analyst: R. T. Rolufs
Collector: F. C. Greene, 10-18-40

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	6691.0	RV
Loss on Ignition	230.0	
Chloride Radicle (Cl)	1871.5	52.78
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	2058.7	42.82
Bi-Carbonate Radicle (HCO_3)	341.5	5.60
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1612.2	70.13
Magnesium (Mg)	129.7	10.66
Iron (Fe)	ND	
Manganese (Mn)	-----	
Silica (SiO_2)	7.6	
Calcium (Ca)	356.8	17.80
Total Hardness	1423.8	
Carbonate Hardness	280.0	
Alkalinity	280.0	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	1.60	

Remarks: This sample from 1770 ft.

Copies to: F. C. Greene
Chem. Lab.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil and Gas Co., Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling well, 1870 ft.
Analysis No.: 3417 Total Depth _____ and No. _____
Date Analyzed: 11-18-40
Analyst: R. T. Rolufs
Collector:

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	6837.0	RV
Loss on Ignition	350.0	
Chloride Radicle (Cl)	1926.5	42.11
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	2024.6	6.33
Bi-Carbonate Radicle (HCO_3)	385.8	.23
Carbonate Radicle (CO_3)	7.0	
Sodium (Na) Potassium (K) as Na	1720.7	74.85
Magnesium (Mg)	244.9	20.13
Iron (Fe)	ND	
Manganese (Mn)	ND	
Silica (SiO_2)	9.6	
Calcium (Ca)	177.3	8.85
Total Hardness	1447.3	
Carbonate Hardness	322.2	
Alkalinity	322.2	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	.80	

Remarks: This sample from 1870 ft.

Copies to: F. C. Greene
Chem. Lab.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil and Gas Co., Thompson No. 1
Location: Sec. 30, T. 58, R. 31
Source: Drilling well, 1947
Analysis No.: 3418 Total Depth _____ and No. _____
Date Analyzed: 11-18-40
Analyst: R. T. Rolufs
Collector: H. S. McQueen

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	6982.0	RV
Loss on Ignition	372.0	
Chloride Radicle (Cl)	1963.2	55.36
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1992.9	41.45
Bi-Carbonate Radicle (HCO_3)	397.3	6.52
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1726.2	75.09
Magnesium (Mg)	174.9	14.38
Iron (Fe)	ND	
Manganese (Mn)	----	
Silica (SiO_2)	8.8	
Calcium (Ca)	307.4	15.34
Total Hardness	1485.6	
Carbonate Hardness	325.8	
Alkalinity	325.8	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	2.00	

Remarks: This water from 1947 ft. Between 1915 and 1947 SWL had risen from 350-330 ft.

Copies to: F. C. Greene
Chem. Lab.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil and Gas Co. - Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling well, 1985 ft.
Analysis No.: 3419 Total Depth _____ and No. _____
Date Analyzed: 11-18-40
Analyst: R. T. Rolufs
Collector: H. S. McQueen

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	7099.0	RV
Loss on Ignition	400.0	
Chloride Radicle (Cl)	2055.0	57.95
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	2010.0	41.81
Bi-Carbonate Radicle (HCO_3)	390.1	6.40
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1827.7	79.50
Magnesium (Mg)	237.3	19.51
Iron (Fe)	ND	
Manganese (Mn)	----	
Silica (SiO_2)	10.4	
Calcium (Ca)	198.4	9.90
Total Hardness	1468.9	
Carbonate Hardness	319.9	
Alkalinity	319.9	
Precipitated Iron (Ppt. Fe)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	2.00	

Remarks: This sample from 1985 ft.

Copies to: F. C. Greene
Chem. Lab.

27-5-29

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb
Owner: American Oil and Gas Co., Thompson #1
Location: Sec. 30, T. 58, R. 31
Source: Drilling Well, 2015 ft.
Analysis No.: 3420 Total Depth_____ and No._____
Date Analyzed: 11-18-40
Analyst: R. T. Rolufs
Collector: H. S. McQueen

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid - Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	7389.0	RV
Loss on Ignition	379.0	
Chloride Radicle (Cl)	2155.9	60.80
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	2028.5	42.19
Bi-Carbonate Radicle (HCO_3)	408.7	6.70
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	1781.3	77.49
Magnesium (Mg)	186.4	15.32
Iron (Fe)	ND	
Manganese (Mn)	---	
Silica (SiO_2)	17.2	
Calcium (Ca)	305.2	15.23
Total Hardness	1527.2	
Carbonate Hardness	335.1	
Alkalinity	335.1	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	3.20	

Remarks: This sample from 2015 ft. odor of H_2S when taken.

Copies to: F. C. Greene
Chem. Lab.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: De Kalb
Owner: American Oil & Gas Co.--Thompson #1
Location: Sec. 30 Twp 58 R31
Source: Drilling well 2050 ft.
Analysis No.: 3436 Total Depth_____ and No._____
Date Analyzed: 11-30-40
Analyst: R. T. Rolufs
Collector: F. C. Greene

CONSTITUENTS:	IN PARTS PER MILLION	
Turbidity	Turbid--Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	11039.0	RV
Loss on Ignition	473.0	
Chloride Radicle (Cl)	4229.2	119.26
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	2128.1	44.26
Bi-Carbonate Radicle (HCO_3)	364.4	5.98
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	2865.5	124.65
Magnesium (Mg)	240.6	19.78
Iron (Fe)	ND	
Manganese (Mn)	--	
Silica (SiO_2)	22.8	
Calcium (Ca)	438.2	21.87
Total Hardness	2082.0	
Carbonate Hardness	298.8	
Alkalinity	298.8	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	2.80	

Remarks: This sample from 2050 ft.

Copies to: F. C. Greene ✓
Chem. Lab.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: De Kalb
Owner: American Oil & Gas Co.--Thompson #1
Location: Sec. 30 Twp58 R 31
Source: Drilling well 2064 ft.
Analysis No.: 3437 Total Depth_____ and No._____
Date Analyzed: 11-30-40
Analyst: R. T. Rolufs
Collector: I. C. Greene

CONSTITUENTS.	IN PARTS PER MILLION	
Turbidity	Turbid--Bailer Sample	
Color	None	
Odor	ND	
Total Suspended Solids	ND	
Total Dissolved Solids	12267.0	RV
Loss on Ignition	592.0	
Chloride Radicle (Cl)	5036.5	142.05
Nitrate Radicle (NO_3)	ND	
Sulphate (SO_4)	1891.7	39.35
Bi-Carbonate Radicle (HCO_3)	355.8	5.84
Carbonate Radicle (CO_3)	00	
Sodium (Na) Potassium (K) as Na	3369.1	146.56
Magnesium (Mg)	249.4	20.50
Iron (Fe)	NL	
Manganese (Mn)	--	
Silica (SiO_2)	14.8	
Calcium (Ca)	528.3	26.36
Total Hardness	2343.3	
Carbonate Hardness	291.8	
Alkalinity	291.8	
Precipitated Iron (Pp't. Fe.)	ND	
Temporary Hardness	ND	
Al_2O_3 + Fe_2O_3	6.40	

Remarks: This sample from 2064 ft.

Copies to: F. C. Greene
Chem. Lab.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb

Owner: American Oil & Gas Corporation - Thompson #1

Location: Sec. 30, T. 58, R. 31

Source: Drilling well, 2230 ft.

Analysis No.: 3449 Total Depth_____ and NO._____

Date Analyzed: 12-27-40

Analyst: R. T. Rolufs

Collector: F. C. Greene, 12-11-40

CONSTITUENTS:	IN PARTS PER MILLION.
Turbidity	Turbid - Bailer sample
Color	None
Odor	ND
Total Suspended Solids	ND
Total Dissolved Solids	9094.0
Loss on Ignition	402.0
Chloride Radicle (Cl)	3425.2
Nitrate Radicle (NO_3)	ND
Sulphate (SO_4)	1913.5
Bi-Carbonate Radicle (HCO_3)	155.8
Carbonate Radicle (CO_3)	00
Sodium (Na) Potassium (K) as Na	2459.5
Magnesium (Mg)	182.1
Iron (Fe)	ND
Manganese (Mn)	----
Silica (SiO_2)	1.6
Calcium (Ca)	379.3
Total Hardness	1694.9
Carbonate Hardness	127.8
Alkalinity	127.8
Precipitated Iron (Pp't. Fe.)	ND
Temporary Hardness	ND
Al_2O_3 , + Fe_2O_3	.80

Remarks: This sample from 2230 ft. 80' bailer in bottom of hole.

MISSOURI GEOLOGICAL SURVEY AND WATER RESOURCES

County: DeKalb

Owner: American Oil and Gas Corporation - Thompson #1

Location: Sec. 30, T. 58, R. 31

Source: Drilling well, 2252 ft., Arbuckle

Analysis No.: 3439 Total Depth_____ and NO._____

Date Analyzed: 12-27-40

Analyst: R. T. Rolufs

Collector: F. C. Greene, 11-28-40

CONSTITUENTS:	IN PARTS PER MILLION.
Turbidity	Turbid - Bailer Sample
Color	None
Odor	ND
Total Suspended Solids	ND
Total Dissolved Solids	11848.0
Loss on Ignition	1110.0
Chloride Radicle (Cl)	4875.8
Nitrate Radicle (NO_3)	ND
Sulphate (SO_4)	1810.2
Bi-Carbonate Radicle (HCO_3)	267.2
Carbonate Radicle (CO_3)	6.6
Sodium (Na) Potassium (K) as Na	3070.9
Magnesium (Mg)	337.2
Iron (Fe)	ND
Manganese (Mn)	-------
Silica (SiO_2)	4.4
Calcium (Ca)	337.9
Total Hardness	2227.3
Carbonate Hardness	223.8
Alkalinity	223.8
Precipitated Iron (Ppt. Fe.)	ND
Temporary Hardness	ND
Al_2O_3 + Fe_2O_3	2.00

Remarks: This sample from 2252 feet.