

Computer inventoried

JOHNS AND MAGATHAN
CONSULTING GEOLOGISTS

WENDELL S. JOHNS
WILLIS JACK MAGATHAN

501 BITTING BUILDING

WICHITA 2, KANSAS

October 18, 1956.

FOREST 3-1540

WENDELL S. JOHNS

10-210-10-4
Osage #1, Cochran Est.
Tatlock Oil Company,
P.O. Box 2077,
Wichita, Kansas.

Report on Sample Examination: Osage #1 Cochran Est.
NE NE SW; 10-27S-15W
Pratt County, Kansas
Elevation: 2042 Kelly Bushing
2039 Derrick Floor

Gentlemen:

The following is a condensed sample description taken from my sample log on the #1 Cochran Estate. All measurements are electric log measurements and I have used the electric log in conjunction with portions of the time log to correct for sample lag.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3772 - 3779	Shale, brown-black, carbonaceous, fissile	Heebner Shale
3855 - 76	Sand, gray, medium to submedium, fairly well sorted, subangular to subrounded, micaceous	No show
3934 - 39	Limestone, tan to dark brown, dense	Top Brown Lime 3934
3954 - 61	Limestone, cream to tan, finely sucrose, oolitic; good oolitic porosity 3959-61	Top Lansing 3961; possible trace light stain
3982 - 85	Limestone, light tan to white, chalky; trace vugular porosity	No show
4000 - 11	Limestone, gray to tan, finely crystalline; chert, gray and white opaque, fossiliferous; fair vugular porosity 4000-02, 4005-07 and 4010-11	No show
4037 - 43	Dolomite, buff, sucrose, grading into dolomitic limestone; some vugular porosity; much chert, blue-gray, opaque, non-vitreous	No show

-2- Tatlock Oil Co.: Sample Examination
Osage #1 Cochran Est.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4061 - 4063	Limestone, white to light tan, sucrose to chalky, dolomitic; very little porosity; much chert as above	No show
4069 - 73	Limestone, as above, more dolomitic; poor vugular porosity, very cherty	Possible trace stain
4100 - 03	Limestone, gray, very oolitic	Possible very slight trace stain
4121 - 24	Limestone, tan, finely crystalline, fossiliferous; possible slight porosity	No show
4137 - 42	Limestone, gray, subcrystalline to sucrose, finely oolitic; fair oolitic porosity	Trace spotted stain
4152 - 57	Limestone, light tan, finely sucrose to dense; scattered oolitic; fair oolitic porosity	No show
4170 - 71	Limestone, tan, oolitic	No show
4179 - 87	Limestone, tan, oolitic and oolitic; fair oolitic porosity	No show
4274 - 80	Limestone, gray, dense	Base Kansas City 4280
4280 - 4380	Typical Marmaton limestone and shale	
4380 - 91	Shale, dark brown to dark gray; plates brown subcrystalline limestone	Top Cherokee 4380
4391 - 4401	Sand, pink, white and dark brown, fine, well sorted to submedium and coarse, poorly sorted; streak dark brown sandy shale 4396-98	Fair spotted stain
4401 - 07	Shale, tan to red, sandy; many large quartz pebbles; some lavender to tan, semi-translucent chert	Top Conglomerate 4401
4407 - 16	Shale, red, brown, tan and pale green, some brick-red shale	
4416 - 23	Chert, cream to white, vitreous to devitrified; some vugs with slight trace stain; some fine to coarse poorly sorted sand with spotted stain	Spotted stain
4423 - 35	Varicolored shale, nodules of limestone and coarse sand inclusions	

-3- Tatlock Oil Co.: Sample Examination
Osage #1 Cochran Est.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4435 - 4447	Chert, cream to white to tan, vitreous to subvitreous, some waxy; some silicified dolomite and limestone	Top Mississippi 4435; trace stain
4447 - 53	Shale, gray-green to dark gray	Top Kinderhook 4447
4453 - 60	Sand, tan to brown, sub-medium, well sorted	Some staining
4460 - 64	Shale, gray-green to dark gray to brown, sandy	
4464 - 74	Sand, as above, finer; some white subvitreous chert with attached sand grains	Spotted stain
4474 - 79	Shale, as above	
4479 - 88	Sand, as above; much cream to tan, vitreous to subvitreous, chert, some slightly sandy	Spotted stain
4488 - 91	Shale, as above	
4491 - 4500	Mostly chert, as above, shaly; possible trace sand, as above	
4500 - 10	Shale, as above; some chert, as above	
4510 - 29	Limestone, pink to white, coarsely crystalline; some white to light gray vitreous chert; some tan limestone with included dolomite rhombs	Top Viola 4510
4529 - 51	Limestone, tan to brown, finely crystalline to dense, some silicified, dolomitic; chert, cream to gray to brown, vitreous to semi-devitrified, opaque to semi-translucent; much blue-brown, subvitreous chert	No show
4551 - 83	Limestone, cream to tan, sub-crystalline; chert, blue-brown, gray, cream and white, vitreous to subvitreous; much white subcrystalline limestone toward bottom	

-4- Tatlock Oil Co.: Sample Examination
Osage #1 Cochran Est.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4583 - 4603	Dolomite, gray to tan, medium to coarsely crystalline, slightly sandy to very sandy; good to very good vugular porosity	Spotted light brown stain
4603 - 07	Shale, bright green to dark green, slightly sandy	Top Simpson 4603
4607 - 23	Sand, gray to white, medium to coarse, angular to subrounded, dolomitic; grades into very sandy dolomite	No show
4623 - 25	Shale, green, sandy	No show
4625 - 28	Sand, gray, rounded to sub-angular, coarse to fine, very poorly sorted, shaly, phosphatic	
4628 - 40	Shale, red-brown to green, sandy	No show
4640 - 51	Sand, gray, medium, subrounded to subangular, fairly well sorted, shaly	
4651 - 84	Mostly shale, dark green to gray-black; thin interfingered streaks sand, as above	Top Arbuckle 4684; No show
4684 - 95	Dolomite, cream to tan, sucrose to finely sucrose, some with large, rounded included sand grains; spotted vugular porosity	
4695 - 99	Shale, dark gray to dark green, waxy	No show
4699 - 4708	Dolomite, tan to buff, subcrystalline to finely sucrose, trace vugular porosity; chart, milky, vitreous	
4708 - 09	Shale, as above	No show
4709 - 26	Dolomite, cream to tan, sub-crystalline to medium crystalline, rhombohedral; spotted vugular porosity; some chart, as above	
4726	Total Depth	

Formation Tops:

The following is a list of formation tops and their respective datums on the #1 Cochran Estate. These tops are based on sample work used in conjunction with the electric log.

-5- Tatlock Oil Co.: Sample Examination
Osage #1 Cochran Est.

Formation Tops Contd.:

Heebner	3772	(-1730)
Brown Lime	3934	(-1892)
Lansing	3954	(-1912)
Base Kansas City	4280	(-2238)
Cherokee	4380	(-2338)
Conglomerate	4401	(-2359)
Mississippi	4435	(-2393)
Kinderhook	4447	(-2405)
Viola	4510	(-2468)
Simpson	4603	(-2561)
Arbuckle	4684	(-2642)

Conclusions:

After checking these samples and the electric log on this well, we feel that the oil on drill stem test #4 (4391-4419) almost certainly came from the Cherokee Sand section which is developed in the well from 4391-4401. The small amount of gas which was recovered on drill stem test #6 (4433-53) undoubtedly came from the Mississippi Chert which is developed in the well from 4435-47.

I have called the top of the Mississippi at 4435 rather than at 4416 because the section from 4416-35, although containing material of probable Mississippi origin, also contains typical Conglomerate sandy shale and poorly sorted sand.

The sandy dolomite from 4583-4603 is quite interesting and in our experience is unique to this well in the area. We have called this zone "Viola" for several reasons, realizing of course that it might possibly be Simpson. The lower, sandy limestone member of the Viola, along with approximately 10 - 15' of the member immediately above, is absent in this well and we believe has been replaced or is represented by this sandy dolomite. In character this dolomite looks somewhat like some dolomite developments in the Viola and very little like Simpson. Below this zone the Simpson formation appears to be normal for the area, both as to content and thickness.

In our opinion, the sand section which produced the prospective drill stem test is the same Cherokee Sand that is represented in wells all over the area and we feel that it is the only zone that is prospective in this well.

Very truly yours,

JOHNS and MAGATHAN

By _____
Willis Jack Magathan

WJM:mh

Osage Oil and Gas Company
Cochran Estate #1
NE-NE-SW 10-27-15W
Pratt County, Kansas.

WENDELL C. MOORE

DRILLING TIME LOG

DEPTH	MINUTES	REMARKS
3500-3520	5-6-5-3-4-5-6-6-5-6-6-4-4-4-4-6-5-5-6-4	
3520-3540	3-2-2-3-3-4-4-5-5-5-4-4-7-7-4-5-9-12-4-6	
3540-3560	6-6-5-6-7-9-8-11-15-14-13-12-7-6-7-6-6-7-6-5	
3560-3580	4-6-7-9-7-5-6-6-4-5-5-5-4-5-5-5-6-7-11-10	
3580-3600	6-5-7-6-6-8-8-8-7-7-5-9-8-6-6-6-6-7-8	Trip at 3600.
3600-3620	8-7-7-5-5-8-8-4-4-4-4-4-4-4-7-7-8-8-7-7	
3620-3640	7-7-5-5-5-5-5-5-3-5-4-4-4-3-3-2-4-3-3-4	
3640-3660	2-2-2-2-2-2-3-2-2-2-3-2-2-3-3-3-3-4-4-3	
3660-3680	3-4-4-3-3-4-4-4-4-4-4-3-2-3-3-4-2-3-2-3-2	
3680-3700	2-2-2-2-2-2-3-2-2-2-3-3-3-3-2-2-3-2-2	
3700-3720	2-1-2-1-1-2-1-8-5-2-4-4-4-4-5-5-5-5-5	
3720-3740	5-6-5-5-4-3-4-3-5-4-5-4-4-5-4-4-5-2-3-4	
3740-3760	5-3-5-5-3-3-3-3-4-5-4-5-5-5-4-5-3-2-3-4	
3760-3780	8-7-6-7-5-8-7-11-11-6-5-4-4-4-3-7-11-8-13-10	
3780-3800	5-5-6-4-4-6-4-6-6-7-6-7-5-4-7-6-6-6-10-10	
3800-3820	6-6-7-8-6-12-11-9-6-9-12-6-7-7-12-9-7-6-6-3	
3820-3840	3-3-3-2-2-4-2-2-2-2-3-3-2-3-4-2-3-3-3-3	
3840-3860	2-3-2-3-2-3-4-3-4-4-3-3-3-2-2-1-2-2-2-2	
3860-3880	1-2-1-2-1-2-2-1-2-2-2-2-3-3-3-6-6-5-5-5	
3880-3900	4-5-6-6-6-8-8-9-10-3-6-6-6-6-6-6-6-5-5-5	
3900-3920	5-5-4-5-5-5-5-5-7-6-6-5-5-5-4-5-5-5-5-5	
3920-3940	6-6-6-5-5-6-6-4-5-5-5-6-13-10-10-8-7-6-6-6	
3940-3960	7-7-7-7-6-7-7-6-7-7-5-5-8-10-10-8-2-1-2-9	
3960-3980	10-11-13-10-9-14-7-8-6-5-4-7-8-5-5-5-6-7-7-6	Cir. & D.S.T. #1 3966.
3980-4000	6-6-6-7-7-7-9-9-8-7-10-15-19-14-11-5-3-3-4-3	Cir. at 3995.
4000-4020	6-6-5-4-6-8-8-10-10-13-12-12-16-15-12-13-13-8-11-10	Cir. & D.S.T. #2 4007.
4020-4040	8-11-13-8-10-7-9-7-9-10-10-7-13-14-7-9-9-10-7-7	
4040-4060	8-6-5-7-3-6-8-14-15-x-15-14-13-8-11-8-12-12-11-9	
4060-4080	3-6-6-7-7-12-7-5-4-4-37-10-12-14-14-14-12-12-13	Cir. at 4074.
4080-4100	11-14-12-12-17-18-23-20-18-16-24-6-6-4-4-8-7-5-1-1	Trip at 4091.
4100-4120	1-1-2-8-7-9-4-2-12-10-6-11-12-8-7-6-8-7-6-5	Cir. & D.S.T. #3 4106.
4120-4140	6-7-9-12-12-9-8-10-10-10-9-11-9-10-11-3-2-2-3-4	
4140-4160	7-7-10-9-10-8-8-4-2-2-2-2-3-3-1-3-4-7-8-9	Cir. at 4143 & 4160.
4160-4180	9-10-11-11-12-11-11-6-6-9-11-10-11-10-9-5-3-4-5-5	
4180-4200	4-4-4-7-5-10-15-12-11-14-19-17-15-16-11-12-13-15-13-12	Cir. at 4189.
4200-4220	13-13-15-14-12-11-11-11-11-11-14-12-9-8-14-7-17-14-9-16	
4220-4240	14-15-12-13-13-12-15-11-7-8-8-8-8-6-6-6-6-8-7-10	Trip at 4227.
4240-4260	9-10-7-7-5-5-9-12-10-7-7-11-13-12-12-10-9-7-7-7	
4260-4280	9-9-7-9-7-6-6-5-5-5-5-7-10-11-10-9-10-8-7-7	
4280-4300	9-10-7-7-6-5-5-5-5-5-6-5-5-5-9-7-10-11-10-8	
4300-4320	7-9-9-10-9-9-10-10-9-7-5-5-8-5-4-6-7-5-7-8	
4320-4340	11-8-5-11-15-15-11-11-10-10-10-15-9-10-10-12-15-12-13-12	
4340-4360	14-13-11-10-10-12-10-12-12-13-21-10-10-13-12-13-10-15-12-8	
4360-4380	7-13-12-14-12-12-11-11-13-12-11-15-17-16-17-9-10-9-10-8	Trip at 4375.
4380-4400	8-9-8-11-10-10-13-11-8-7-7-7-6-7-10-9-15-11-10-10	

Osage Oil and Gas Company
 Cochran Estate #1
 NE1/4-SW 10-27-15W
 Pratt County, Kansas

DRILLING TIME LOG

DEPTH	MINUTES	REMARKS
4400-4420	10-7-10-13-9-7-9-7-5-6-6-6-6-5-7-7-10-9-7-7	D.S.T. #4 4415.
4420-4440	6-7-6-7-7-7-7-11-13-10-6-5-5-4-4-5-4-4-3	D.S.T. #5 4425. D.S.T. #6 4439.
4440-4460	6-6-5-7-11-17-18-7-7-4-4-4-4-4-3-4-3-5-7-12	D.S.T. #7 4447. D.S.T. #8 4459.
4460-4480	8-5-5-6-6-6-7-5-5-5-8-9-9-9-9-5-6-6-5-6	Cir. & D.S.T. #9 4469.
4480-4500	6-6-6-8-7-12-12-13-14-15-13-8-10-13-10-11-8-13-14-14	D.S.T. #10 4483. Cir. 4491.
4500-4520	13-15-14-14-11-13-15-16-19-12-23-11-16-10-12-11-11-11-12-10	Trip at 4513.
4520-4540	15-11-12-11-13-13-10-10-9-9-11-10-11-11-9-12-11-13-10-12	
4540-4560	11-11-11-11-11-17-11-10-10-14-10-11-14-15-18-20-18-22-8-12	Trip at 4558.
4560-4580	10-13-12-11-10-10-10-9-10-10-11-11-11-10-10-10-10-10-11-11	
4580-4600	11-6-5-4-4-2-2-2-2-2-2-2-3-4-4-4-3-4-4-3	D.S.T. #11 4586. D.S.T. #12 4591.
4600-4620	3-8-9-8-9-6-5-6-6-7-3-3-10-15-16-16-19-19-18-8	Cir. at 4610.
4620-4640	8-8-8-8-9-10-8-14-13-12-12-10-8-10-10-10-10-9-7-8	Cir. at 4623.
4640-4660	7-8-11-11-19-20-13-23-9-10-7-7-7-7-8-8-7-7-7	Trip at 4648. Cir. at 4656.
4660-4680	7-8-9-8-16-8-8-10-9-9-8-9-10-10-12-10-10-8-9-9	
4680-4700	9-10-11-12-11-9-8-8-10-11-11-11-13-11-11-8-12-16-10-8	Cir. at 4690 & 4695.
4700-4720	9-9-10-11-20-12-13-13-8-11-13-10-10-15-12-10-13-10-9-10	
4720-4723	15-12-10	Cir. at 4723.

R.T.D. 4723.