SAMPLE ANALYSIS REPORT

SHAWVER ARMOUR, INC.

WATKINS # 1
C S/2 NE NW SEC. 5-31S-1E

SUMNER COUNTY, KANSAS

BY

DON D. SHAWVER

January 15, 1960

Shawver-Armour, Inc.
817 Central Building
Wichita, Kansas

RE: Shawver-Armour, Inc.
Watkins # 1 C S/2 NE NW Sec. 5-31S-1E
Sumner County, Kansas

Gentlemen:

The following is a sample analysis report on the above captioned test.

The well was under geological supervision from 2500' to 2560', 2760' to 3040', 3400' to 3540', and 3760' to 3882' Rotary Total Depth. Samples were examined from 2500' to 3882' Rotary Total Depth.

All tops and zones of porosity are based on kelly bushing measurements.

ELEVATION: 1228 K.B.

SAMPLE TOPS

Stalnaker Sand	2522	(-1294)
Base Stalnaker Sand	2593	(-1365)
Kansas City Lime	2825	(-1597)
Base Kansas City	3069	(-1847)
Mississipian	3457	(-2229)
Kinderhook Shale	3821	(-2593)
Simpson Sand	3877	(-2649)
Rotary Total Depth	3882	(-2654)

STRUCTURAL COMPARISON:

Shawver-Armour, Inc. *Watkins # 1		Shawver-Armour, Inc. Kelley # 1	C.R. Colpitt # 1 Fisher
		(Approx. 3 mile E)	(Approx 1 1/4 mile W)
Simpson Sand	(-2649)	(-2525)	(-2688)

ZONES OF POROSITY AND/OR STAINING

STALNAKER SAND SECTION

2522' - 2593'	Light gray, fine - medium grain, angular, friable sandstone. Fair porosity. No shows.

KANSAS CITY LIME SECTION:

2848' - 2870'	Cream, mealy and chalky, fossiliferous limestone cream vitreous chert. Same pin point porosity. No shows.
2884' - 2905'	Tan fossiliferous crystalline limestone with tan fresh chert. Trace of pin point porosity. No show.
2927' - 2933'	Tan sub-oolitic limestone. Poor porosity. No show.
2965' - 2972'	Tan fine crystalline limestone with poor oocastic porosity. Very slight show of free oil noted in two cuttings. No odor. Judged non-commercial.

MISSISSIPPIAN SECTION

3457' - 3459'	White-gray, fresh vitreous chert. No show.
3459' - 3491'	Cream to tan very fine granular and slightly silty dolomite. Some gray fresh translucent chert. No apparent porosity. No show.

SIMPSON SAND SECTION

3877' - 3882'	Clear to slightly frosted, medium grain, sub rounded porous friable sandstone. Some secondary enlargement of sand grains. Very slight odor. No florescence or taste. A few very small pin point globules of light brown oil were noted in one or two clusters of sand. Tested by D.S.T. #1.

DRILL STEM TEST # 1 (3874' - 3882')

Open 60 minutes. Good blow. Recovered 1140' of salt water I.B.H.P. 1465#/20" F.B.H.P. 1462#/20". I.F.P. 82#. F.F.P. 510#.

REMARKS:

Due to the lack of any commercial shows of oil and because of the salt water recovery in the Simpson Sand section, it was recommended that the Watkins # 1 be plugged as a dry hole.

Yours truly,

Don Shawver

DON D. SHAWVER, PETROLEUM GEOLOGIST

DDS/mm

Shawver-Armour, Inc.

January 15, 1960
Watkins # 1

DEPTH	MINUTES	REMARKS
2500	2-2-2-2-2/1-2-2-2-2	2508 Conn
10	1-2-2-2-2/2-2-5-6-6	
20	3-3-1-½-½/½-½-2-1-½	
30	1-1-2-1-1/1-1-1-1-1	2539 Conn
40	1-1-1-1-1/1-1-1-1-1	
50	1-1-1-1-1/1-½-½-½-½	
60	½-½-1-1-1/1-1-1-1-1	
70	1-1-1-1-1/½-½-½-½-½	2571 Conn
80	½-1-1-1-1/1-2-2-2-2	
90	2-2-2-3-2/4-3-3-3-2	
2600	2-2-2-2-2/3-3-3-3-3	2602 Conn
10	3-2-3-2-3/3-3-3-2-2	
20	3-3-3-3-4/3-2-3-3-3	
30	2-2-3-2-3/3-3-3-2-3	2634 Conn
40	3-3-3-3-3/3-3-3-3-4	
50	3-3-3-3-3/3-3-3-3-3	
60	4-3-3-4-4/3-3-3-3-3	2665 Conn
70	3-3-3-3-3/3-3-3-4-4	
80	3-3-3-2-2/3-2-3-4-3	
90	3-3-3-3-3/3-3-2-2-2	2697 Conn
2700	3-4-3-4-3/3-3-3-3-3	
10	3-3-2-3-3/4-3-3-3-3	
20	3-4-4-4-4/3-4-3-3-4	2729 Conn
30	3-3-3-3-3/3-3-3-4-3	
40	3-4-4-3-4/4-4-3-4-3	
50	4-5-4-5-4/4-5-4-4-4-	
60	3-3-3-3-3/4-4-4-4-4	2761 Conn
70	5-5-4-4-4/4-4-4-4-4	
80	4-4-4-4-4/3-3-3-3-3	
90	3-4-3-2-3/5-3-3-3-3	
2800	4-4-4-5-4/3-5-4-4-4	
10	4-3-4-5-4/4-4-5-5-5	
20	5-4-3-3-3/5-6-5-5-7	2823 Conn
30	7-7-7-4-3/4-2-5-4-4	
40	5-4-4-6-4/5-5-3-3-3	
50	3-2-3-2-3/3-3-4-2-4	2855 Conn
60	4-4-3-4-4/4-4-4-4-4	
70	6-8-9-7-6/4-3-4-3-8	
80	5-5-6-6-4/4-4-5-5-4	2886 Conn
90	3-4-5-4-3/3-4-3-3-4	

Shawver-Armour, Inc.

January 15, 1960
Watkins # 1

DEPTH	MINUTES	REMARKS
2900	3-3-3-4-4/7-11-10-10-2	2910 Trip
10	3-3-2-2-3/3-2-4-3-4	2917 Conn
20	4-5-5-4-6/5-5-3-4-5	
30	3-3-4-5-6/8-5-5-6-5	
40	4-5-5-5-5/6-5-5-5-4	2949 Conn
50	5-4-5-5-5/5-4-5-5-4	
60	5-4-4-5-4/3-3-3-3-3	
70	3-3-5-4-4/6-5-5-3-4	
80	3-4-4-5-4/5-4-3-3-3	2981 Conn
90	4-4-4-5-3/3-2-3-3-3	
3000	3-3-3-2-3/3-4-3-3-3	
10	3-3-4-2-3/3-3-4-3-4	3012 Conn
20	4-4-4-4-4/4-5-4-4-4	
30	4-3-4-4-5/5-5-5-4-4	
40	5-4-6-5-4/3-5-4-4-5	3044 Conn
50	5-4-4-4-6/5-5-5-5-6	
60	6-5-5-7-5/5-6-6-6-5	
70	5-4-4-4-4/4-4-5-4-4	2075 Conn
80	4-3-3-4-5/6-5-6-7-6	
90	5-5-5-5-5/5-5-9-6-6	
3100	5-7-8-6-6/6-6-5-4-4	3107 Conn
10	5-5-4-4-5/4-4-4-4-4	
20	4-5-4-4-3/3-2-2-2-2	
30	1-1-1-1-2/1-1-1-1-1	3139 Conn
40	4-6-5-4-5/5-5-5-5-6	
50	4-6-6-6-6/6-7-6-7-6	
60	6-6-7-6-6/7-6-5-6-6	
70	7-6-6-6-6/6-8-5-8-6	3170 Conn
80	6-7-8-7-7/8-9-8-6-8	
90	8-10-8-8-7/8-8-10-8-7	
3200	10-7-6-11-9/10-11-6-5-5	3201 Conn
10	7-5-5-5-5/4-5-5-6-5	3207 Trip
20	4-5-5-6-7/5-6-7-8-8	
30	5-5-4-3-3/4-3-2-3-4	3233 Conn
40	4-5-6-5-4/5-4-5-4-4	
50	4-5-5-5-5/5-6-6-6-5	
60	5-5-5-5-4/3-3-2-2-2	3264 Conn
70	3-5-5-5-5/4-4-4-5-4	
80	4-5-5-5-4/4-3-5-4-4	
90	3-4-4-3-3/3-3-4-4-4	3296 Conn

Shawver-Armour, Inc.

January 15, 1960
Watkins # 1

DEPTH	MINUTES	REMARKS
3300	4-3-6-5-5/5-4-5-5-5	
10	4-4-5-5-5/4-5-4-3-3	
20	5-5-4-5-6/5-3-3-5-5	3326 Conn
30	5-4-4-4-5/5-5-4-5-5	
40	4-3-3-3-3/5-5-5-5-4	
50	5-6-7-7-6/6-6-5-4-5	3357 Conn
60	5-5-6-6-6/6-7-7-7-4	
70	3-3-3-3-4/6-7-8-8-6	
80	5-6-6-6-5/3-4-5-6-5	3389 Conn
90	5-6-5-5-6/6-4-4-4-5	
3400	6-7-7-7-9/8-10-8-8-7	
10	6-7-8-6-9/7-5-6-8-7	
20	7-5-6-7-8/10-10-10-8-10	
30	5-5-5-8-5/10-4-2-3-3	3436 Trip
40	13-7-9-5-2/4-4-3-3-2	
50	3-3-3-4-2/5-4-6-5-5-	
60	5-5-5-5-4/3-4-6-4-7	
70	6-6-7-7-6/3-4-4-5-3	
80	6-7-8-8-7/7-7-9-8-8	3484 Conn
90	9-12-11-14-13/13-15-17-15-12	
3500	12-12-12-12-10/12-12-10-11-12	
10	11-10-11-10-13/9-13-10-10-10	
20	11-9-10-10-10/11-11-11-9-12	
30	10-11-12-9-10/5-7-9-8-7	
40	10-7-8-9-9/10-10-3-4-6-	3547 Trip
50	6-6-5-6-7/7-5-6-5-5	
60	6-7-7-8-6/8-9-9-8-7	
70	7-7-12-8-8/7-8-8-6-6	3578 Conn
80	10-8-10-10-9/9-8-9-9-8	
90	10-8-9-9-9/10-9-10-10-10	
3600	10-10-11-11-7/9-8-9-9-7	
10	10-10-10-7-9-/9-10-10-8-9	3610 Conn
20	9-9-9-10-10/9-11-10-10-10	
30	11-12-11-9-11/12-7-11-8-8	
40	9-12-7-13-10/15-12-15-8-9	3648 Trip
50	12-17-13-10-9/8-7-8-9	
60	11-10-10-10-8/8-10-9-10-10	
70	9-10-8-8-10/9-10-15-12-9	3673 Conn
80	15-11-14-13-13/14-12-14-15-12	3689 Conn
90	12-11-11-12-16-10-9-11-13-11	

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Watkins # 1

DEPTH	MINUTES	REMARKS
3700	11-11-10-13-11/12-11-10-10-11	3711 Conn
10	15-8-7-11-9/8-8-12-12-11	
20	15-12-12-13-14/14-17-17-19-15	
30	6-8-8-10-10/10-7-8-9-9/10-10-8-10-7	
40	10-10-8-10-7/9-7-10-9-7	
50	8-7-7-6-10/9-10-8-13-10	
60	7-13-9-10-9/8-9-8-7-10	3768 Conn
70	10-13-11-8-5/6-11-14-15-16	
80	13-11-12-12-14/12-11-11-10-10	
90	13-12-11-11-7/6-6-6-5-8	3794 Trip
3800	5-3-4-5-4/5-5-5-6-7	3801 Conn
10	8-7-7-8-8/9-8-8-8-10	
20	5-5-6-4-4/5-5-5-3-5	
30	4-5-5-4-4/4-4-4-4-5	3833 Conn
40	5-5-5-5-5/4-5-3-7-6	
50	7-8-9-6-7/8-6-6-6-7	
60	6-8-11-12-13/11-14-9-8-9	3864 Conn
70	10-10-6-9-8/8-8-17-19-17	
80	20-31	