

STAHL #1 WELL

Location: Approx. Ctr. NW/4 NW/4 NW/4 Sec. 21-9S-18W, Rooks County, Kansas
 Operator: Heathman-Honaker Drilling Co., Inc.
 Contractor: Heathman-Honaker Drilling Co., Inc.
 Surface Casing: 9 jts. (169.40') 8-5/8" @ 158' w/100 sacks cement and 1 sack CC.
 Oil String: 116 jts. (3708.56') 5 1/2" 14# set @3589' w/125 sacks cement - 1' off bottom.
 ABANDONED: 5-18-49 (to be plugged after pipe is pulled)

Date Spudded: 4-23-49
 Rotary Completion Date: 5-3-49
 Total Depth: (rotary) 3590'
 (cable) 3599' (-1428)
 Elevation: 2171 KB

T O P S (KB)

Anhydrite	1505	{ + 666 }
Heebner	3304	{ -1133 }
Lansing-Kansas City	3346	{ -1175 }
Arbuckle	3587	{ -1416 }
R.T.D.	3590'	

L O G

(Figures indicate bottom of formation)

Sand and shale	0 to 160
Sand and shale	760
Shale and shells	1505
Anhydrite	1543
Shale shells	2165
Shale lime	3590'
Total Depth (rotary)	3590'

Completion Information:

Drilled plug- no shows- Drilled deeper to 3599' T.D. - no shows; perforated formation 3589.6 to 3598' with 47 shots; acidized with 500 gal. Bailed 1 boph for 6 hrs., with trace water; acidized with 2000 gal. through tubing, using Dowell electric pilot. Swabbed 26 bo and 79 bw in 10 hrs. 900' off bottom. Ran Dowell spinner survey to find source of water; 70% fluid passing into first half foot below shoe, indicating possible ineffective x cement job. Water analysis indicated Arbuckle water. Plugged back to 3591 1/2 with sand and dumped 30 gal. plastic for plug. Drilled plastic plug; cleaned out sand to 3599' T.D.; swabbed 43.68 bw and 6.78 bo in 6 hrs.

Plugged back with Lane-Wells plug at 3447; perforated with 30 shots from 3426 to 3431; swabbed 6 1/2 bwph for 5 hours. Plugged back with Lane-Wells plug at 3191; perforated with 24 shots to 3162 to 3166; filled 700' water in 3 hrs.

Test abandoned - to be plugged after pipe is pulled.

The undersigned, Heathman-Honaker Drilling Co., Inc. hereby certifies that the above log is a true and correct log of the ~~form~~ formations encountered and the completion information in drilling the above noted well as reflected by the Daily Drilling Reports.

DRILLING TIME LOG

Heathman-Honaker Drilling Co., Inc., et al
 #1 STAHL

NW/4 NW/4 NW/4 Sec.21-9S-18W
 Rooks County, Kansas
 Elevation: 2171 KB

DEPTH	MINUTES	REMARKS
1' drilling time from 2900' to Total Depth		
2900 to 2910	4-6-6-5-4-5-3-5-5-4	
2920	4-4-4-6-6-6-5-4-4-4	
2930	5-5-7-5-4-3-3-3-3-3	
2940	3-3-3-3-4-4-4-4-5-7	
2950	7-6-6-5-4-4-6-4-5-6	
2960	6-4-4-3-4-3-7-6-6-6	
2970	7-8-6-5-5-6-8-10-7-7	
2980	8-5-7-5-7-4-6-7-7-6	
2990	5-6-5-4-4-6-4-2-7-4	
2990 to 3000	4-4-5-6-6-6-7-6-7-7	
3010	7-7-7-7-6-5-7-8-4-5	
3020	3-4-4-4-3-4-4-5-6-6	
3030	6-6-5-9-8-7-9-8-8-7	
3040	8-8-6-4-4-5-4-5-4-4	
3050	6-7-8-4-4-3-4-5-5-5	
3060	5-2-1-2-3-4-5-5-5-5	
3070	6-7-7-7-6-8-8-5-4-5	
3080	5-5-6-5-5-6-5-5-6-6	
3090	6-6-6-5-6-6-6-5-6-7	
3090 to 3100	11-7-6-5-6-5-6-5-6-5	
3110	5-5-5-6-7-7-7-7-7-8	
3120	8-8-8-8-8-8-7-7-7-7	
3130	7-7-7-7-7-7-7-7-7-7	
3140	7-7-7-7-7-7-7-7-7-7	
3150	7-7-7-8-8-8-7-7-8-12	
3160	9-8-9-11-10-10-9-6-9-7	
3170	9-12-12-11-8-7-4-3-3-3	
3180	2-1-1-1-1-1-1-1-1-1	
3190	6-4-12-12-11-7-10-9-11-8	
3190 to 3200	7-10-8-8-7-8-8-9-8-12	
3210	8-7-8-11-9-8-12-11-9-12	Trip @ 3210'
3220	7-8-5-5-5-5-7-7-5-7	
3230	7-7-6-6-5-7-9-5-5-5	
3240	6-6-10-8-7-10-10-9-5-6	
3250	6-7-8-8-10-11-7-4-2-3	
3260	3-3-3-4-4-6-6-7-9-8	
3270	10-11-11-8-10-9-9-9-10-10	
3280	8-7-8-4-8-13-10-7-10-11	
3290	9-9-8-6-9-9-10-10-9-10	
3290 to 3300	10-9-8-6-5-9-10-10-10-10	
3310	9-7-8-9-5-5-5-10-10-12	
3320	13-11-6-7-7-7-8-8-10-11	
3330	10-11-10-10-10-10-13-14-14-12	
3340	11-10-11-14-13-14-9-11-13-14	
3350	8-7-10-10-12-12-14-14-10-13	
3360	14-14-12-15-13-14-16-17-17-17	
3370	16-20-16-16-16-15-15-15-17-15	
3380	12-14-16-17-14-4-4-5-6-5	Trip @ 3376'
3390	5-4-3-4-5-6-6-7-6-5	
3390 to 3400	4-5-6-6-4-5-5-4-3-4	
3410	5-4-4-4-5-5-7-5-7-7	
3420	7-4-4-6-5-6-8-6-7-5	
3430	6-6-6-8-10-8-6-6-8-8	
3440	3-2-2-2-4-4-5-10-10-5	
3450	4-8-7-7-6-4-10-8-9-7	
3460	9-13-13-11-10-10-10-8-7-8	
3470	9-8-11-10-12-10-11-7-8-10	
3480	13-13-8-11-9-10-11-12-9-8	
3490	5-6-9-15-12-13-15-14-18-14	

6/2

May 25, 1949

Re: Heathman-Honaker #1 Stahl
NW/4 NW/4 NW/4 Sec.21-9S-18E
Rooks County, Kansas
Elevation: 2171 KB - 2167 Gd.

Heathman-Honaker Drilling Co., Inc.
and
Mr. A. A. Seeligson, Jr.

Gentlemen:

Important geologic markers drilled in the Stahl #1 were as follows:

Anhydrite	1505 (+ 666)
Topeka limestone	3033 (- 917)
Heebner shale	3304 (-1133)-
Lansing-Kansas City	3346 (-1175)
Arbuckle dolomite	3537 (-1416)

Three slight oil shows judged non-commercial were encountered in the Topeka limestone series. The first was in sugary slightly oolitic limestones showing spotty oil staining from 3166 to 3170 feet, resting on porous brown sugary fine dolomite and dolomitic limestone with slight spotty oil staining. No odor was present in fresh cuttings. This zone yielded 720 feet of water in three hours when perforated with 23 shots from 3162 to 3166 feet (cable tool measurements from ground datum = 3166 to 3170 feet rotary measurements). The second zone of non-commercial oil staining occurred in lumpy slightly porous limestones with an oolitic tendency from 3247 to 3257 feet. The third zone consisted of vuggy, fossiliferous, sub-oolitic limestone with low porosity and traces of oil staining from 3330 to 3333.

The Lansing-Kansas City limestones showed several zones of slight oil staining but porosity was very low throughout the entire section. Traces of oil staining were present in one foot of oolitic limestone from 3343 to 3349 feet, near the top of the Lansing. A second zone consisted of slightly porous oolitic limestone from 3430 to 3437 feet which showed some oil staining. Fresh cuttings had a faint petroleum odor. When tested with 30 shots from 3426 to 3431 feet (= 3430 to 3435 feet rotary measurements) this zone swabbed 6 bbl. of water per hour. This zone was considered as of possible commercial value before testing and is the best oil show in the Lansing-Kansas City section. Traces of oil staining were present from 3494 to 3500

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Heathman-Honaker

and

A. A. Seeligson, Jr.

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feet in finely crystalline white limestones. Very slight traces of porosity and oil staining were scattered through the intervals from 3509 to 3520 feet and 3530 to 3534 feet, but these were of poor quality.

The Arbuckle dolomite at 3537 (-1416) was encountered structurally high. No Conglomerate or Skampson sections were present. Cuttings from 3537 to 3590 rotary total depth showed buff-white medium to coarse dolomite, tightly crystalline with low porosity. Fresh cuttings had a petroleum odor and traces of oil staining. Because of the high structural position, the oil staining, and the odor, it was recommended that 5 $\frac{1}{2}$ " casing be cemented at 3539 feet.

When the plug was drilled there was no fill up. Deepening to 3599 feet total depth also resulted in no fluid fill up due to tight dolomite. At the total depth of 3599 (-1428) the bottom of the hole is level with the bottom of the hole in Gulf's Stahl #1 in the southeast corner of the same quarter section (SE/4 SE/4 NW/4 Sec. 21-9S-13W), which produced 16,237 bbls. oil from June 1947 to March 1949 and was then producing at the rate of 12 bbls. oil per day.

Because of the tight section encountered, the 10 feet of Arbuckle section exposed to the open hole was fractured by shooting with Lane-Wells bullets prior to acidizing with 500 gallons. It then bailed 1 $\frac{1}{2}$ boph. The well was reacidized with 2000 gal. through tubing, using the Dowell electric pilot to prevent acid from attacking the cement. It then swabbed 79 bbls. water and 26 bbls. oil. To eliminate the possibility that the water might be coming from beyond the pipe, a plastic squeeze job was completed. After drilling the plastic plug, the test swabbed 43 bbls. water and 6 bbls. oil in six hours, which was below the economic limit.

Because the Stahl #1 swabbed uneconomic amounts of oil together with large amounts of water, from the Arbuckle and yielded only water from the best shows in the Lansing and Topeka sections, it was necessary plug and abandon.

Yours very truly,

Robert F. Walters

Robert F. Walters

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 Drilling Time Log
 #1 Stahl, NW/c Sec.31-9S-18W

DEPTH	MINUTES	REMARKS
3490 to 3500	20-21-7-7-5-5-4-6-7-4	Trip @ 3493
3510	6-7-6-6-7-7-9-9-8-6	
3520	7-8-8-7-5-8-7-6-5-7	
3530	7-7-7-7-8-5-7-6-6-8	
3540	5-6-7-5-8-8-6-10-6-9	
3550	10-10-8-9-8-8-9-7-8-7	
3560	5-6-7-6-7-7-8-9-10-10	
3570	8-10-10-8-9-9-10-9-10-7	
3580	8-9-8-8-8-10-7-8-7-8	
3590	8-8-8-9-8-7-9-6-5-5	
3590	Total Depth	