

JACK H. BROWN

GEOLOGIST

Operator:	Northern Pump Co.	Section 26-266-18W
Well:	#1 McClanahan-Rillinghaus	Center NW/4 NE/4
Commenced:	10/14/66	Edwards County, Kansas
Completed:	10/20/66 (Rotary)	Elev. 2172' K.B.; 2169' D.F.; 2167' Grd.
		A.T.D. 3283'
		Radiation - Guard Log
		8-5/8" @ 292'; 7" @ 445';
		4-1/2" @ 3382'

Geological Data (Log measurements from Kelly Bushing)

The Chayenne Sandstone occurs from 433 to 457 feet and 468 to 487 feet. Porosities range from 22% to 34%. This zone should afford good water disposal facilities.

Cimarron Anhydrite	1176	(#996)
Base Anhydrite	1196	(#976)

Another porous zone for water disposal is from 2590 to 2610 feet in the cherty Florence limestone.

	<u>% Porosity</u>
2590-96	16
2596-2606	22
2606-10	17

Indian Cave Sandstone 3139 (-967)

3139-50 Poorly developed sandstone zone with dark gray to black shale and fine gray micaceous silty sandstone.

Brownsville Limestone (Wabaunsee) 3163 (-991)

Langdon Sandstone 3236 (-1064)

3236-45	Gray fine to medium angular porous friable glauconitic micaceous sandstone with slight hydrocarbon fluorescence.
3245-48	Shale
3248-63	Sandstone as above. Somewhat cleaner and more porous.

<u>Log analysis:</u>	<u>% Porosity</u>	<u>% Water Saturation</u>
3238-42	26	38
3242-45	23	45
3248-63	22 to 28	70

(The effect of gas on the Neutron reading tends to give lower porosity and higher water saturation calculations in this sandstone.)

Northern Pump Co.
61 McClaschen-Ellinghaus

Section 26-268-18W
Center NW/4 NE/4, Edwards County, Kansas

DST 3218-88

Gas to surface in 2-1/2 minutes; Gauged 1,450,000 C.F. Gas

Pre-flow pressures	1860 to 4080/20 minutes
Initial shut-in pressure	10170/30 minutes
Opened tool - gauged 2,310,000 C.F. Gas in 3 minutes	
Sprayed muddy water in 8 minutes.	
Flow pressures	3720 to 4610/60 minutes
Final shut-in pressure	9820/30 minutes
Recovered 307 feet slightly muddy water.	

This well is 15 feet structurally lower than the gas well offset to the north.

Jack H. Brown

JHB:je

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Operator: Southern Pump Co.
Well: W. Holliman-Billinghurst
Commenced: 12/15/65
Completed: 10-26/66 (Rotary)

Section 26-265-15W
Center NW/4 NE/4
Edwards County, Kansas
Elev: 2172' K.S.; 2169' D.F.
2167' Ord.
R.T.D. 3283'
Radiation - Good Log

DRILLING TIME LOG

Feet	Time	Minutes	Remarks
0 - 10	11:00	4-1-2-2-1-1-2-2-1-1	
10 - 20	11:05	1-1-2-1-2-2-1-2-1-1	
20 - 30	11:10	1-2-1-1-2-1-1-2-1-1	
30 - 40	11:15	1-3-1-1-2-1-1-2-3-1	
40 - 50	11:20	1-1-2-1-3-1-1-3-1-1	
50 - 60	11:25	1-1-2-1-3-1-1-3-1-1	
60 - 70	11:30	1-1-2-1-3-1-1-3-1-1	
70 - 80	11:35	1-1-2-1-3-1-1-3-1-1	
80 - 90	11:40	1-1-2-1-3-1-1-3-1-1	
90 - 100	11:45	1-1-2-1-3-1-1-3-1-1	
100 - 110	11:50	1-1-2-1-3-1-1-3-1-1	
110 - 120	11:55	1-1-2-1-3-1-1-3-1-1	
120 - 130	12:00	1-1-2-1-3-1-1-3-1-1	
130 - 140	12:05	1-1-2-1-3-1-1-3-1-1	
140 - 150	12:10	1-1-2-1-3-1-1-3-1-1	
150 - 160	12:15	1-1-2-1-3-1-1-3-1-1	
160 - 170	12:20	1-1-2-1-3-1-1-3-1-1	
170 - 180	12:25	1-1-2-1-3-1-1-3-1-1	
180 - 190	12:30	1-1-2-1-3-1-1-3-1-1	
190 - 200	12:35	1-1-2-1-3-1-1-3-1-1	
200 - 210	12:40	1-1-2-1-3-1-1-3-1-1	
210 - 220	12:45	1-1-2-1-3-1-1-3-1-1	
220 - 230	12:50	1-1-2-1-3-1-1-3-1-1	
230 - 240	12:55	1-1-2-1-3-1-1-3-1-1	
240 - 250	13:00	1-1-2-1-3-1-1-3-1-1	
250 - 260	13:05	1-1-2-1-3-1-1-3-1-1	
260 - 270	13:10	1-1-2-1-3-1-1-3-1-1	
270 - 280	13:15	1-1-2-1-3-1-1-3-1-1	
280 - 290	13:20	1-1-2-1-3-1-1-3-1-1	
290 - 300	13:25	1-1-2-1-3-1-1-3-1-1	
300 - 310	13:30	1-1-2-1-3-1-1-3-1-1	
310 - 320	13:35	1-1-2-1-3-1-1-3-1-1	
320 - 330	13:40	1-1-2-1-3-1-1-3-1-1	
330 - 340	13:45	1-1-2-1-3-1-1-3-1-1	
340 - 350	13:50	1-1-2-1-3-1-1-3-1-1	
350 - 360	13:55	1-1-2-1-3-1-1-3-1-1	
360 - 370	14:00	1-1-2-1-3-1-1-3-1-1	
370 - 380	14:05	1-1-2-1-3-1-1-3-1-1	
380 - 390	14:10	1-1-2-1-3-1-1-3-1-1	
390 - 400	14:15	1-1-2-1-3-1-1-3-1-1	
400 - 410	14:20	1-1-2-1-3-1-1-3-1-1	
410 - 420	14:25	1-1-2-1-3-1-1-3-1-1	
420 - 430	14:30	1-1-2-1-3-1-1-3-1-1	
430 - 440	14:35	1-1-2-1-3-1-1-3-1-1	
440 - 450	14:40	1-1-2-1-3-1-1-3-1-1	
450 - 460	14:45	1-1-2-1-3-1-1-3-1-1	
460 - 470	14:50	1-1-2-1-3-1-1-3-1-1	
470 - 480	14:55	1-1-2-1-3-1-1-3-1-1	
480 - 490	15:00	1-1-2-1-3-1-1-3-1-1	
490 - 500	15:05	1-1-2-1-3-1-1-3-1-1	
500 - 510	15:10	1-1-2-1-3-1-1-3-1-1	
510 - 520	15:15	1-1-2-1-3-1-1-3-1-1	
520 - 530	15:20	1-1-2-1-3-1-1-3-1-1	
530 - 540	15:25	1-1-2-1-3-1-1-3-1-1	
540 - 550	15:30	1-1-2-1-3-1-1-3-1-1	
550 - 560	15:35	1-1-2-1-3-1-1-3-1-1	
560 - 570	15:40	1-1-2-1-3-1-1-3-1-1	
570 - 580	15:45	1-1-2-1-3-1-1-3-1-1	
580 - 590	15:50	1-1-2-1-3-1-1-3-1-1	
590 - 600	15:55	1-1-2-1-3-1-1-3-1-1	
600 - 610	16:00	1-1-2-1-3-1-1-3-1-1	
610 - 620	16:05	1-1-2-1-3-1-1-3-1-1	
620 - 630	16:10	1-1-2-1-3-1-1-3-1-1	
630 - 640	16:15	1-1-2-1-3-1-1-3-1-1	
640 - 650	16:20	1-1-2-1-3-1-1-3-1-1	
650 - 660	16:25	1-1-2-1-3-1-1-3-1-1	
660 - 670	16:30	1-1-2-1-3-1-1-3-1-1	
670 - 680	16:35	1-1-2-1-3-1-1-3-1-1	
680 - 690	16:40	1-1-2-1-3-1-1-3-1-1	
690 - 700	16:45	1-1-2-1-3-1-1-3-1-1	
700 - 710	16:50	1-1-2-1-3-1-1-3-1-1	
710 - 720	16:55	1-1-2-1-3-1-1-3-1-1	
720 - 730	17:00	1-1-2-1-3-1-1-3-1-1	
730 - 740	17:05	1-1-2-1-3-1-1-3-1-1	
740 - 750	17:10	1-1-2-1-3-1-1-3-1-1	
750 - 760	17:15	1-1-2-1-3-1-1-3-1-1	
760 - 770	17:20	1-1-2-1-3-1-1-3-1-1	
770 - 780	17:25	1-1-2-1-3-1-1-3-1-1	
780 - 790	17:30	1-1-2-1-3-1-1-3-1-1	
790 - 800	17:35	1-1-2-1-3-1-1-3-1-1	
800 - 810	17:40	1-1-2-1-3-1-1-3-1-1	
810 - 820	17:45	1-1-2-1-3-1-1-3-1-1	
820 - 830	17:50	1-1-2-1-3-1-1-3-1-1	
830 - 840	17:55	1-1-2-1-3-1-1-3-1-1	
840 - 850	18:00	1-1-2-1-3-1-1-3-1-1	
850 - 860	18:05	1-1-2-1-3-1-1-3-1-1	
860 - 870	18:10	1-1-2-1-3-1-1-3-1-1	
870 - 880	18:15	1-1-2-1-3-1-1-3-1-1	
880 - 890	18:20	1-1-2-1-3-1-1-3-1-1	
890 - 900	18:25	1-1-2-1-3-1-1-3-1-1	
900 - 910	18:30	1-1-2-1-3-1-1-3-1-1	
910 - 920	18:35	1-1-2-1-3-1-1-3-1-1	
920 - 930	18:40	1-1-2-1-3-1-1-3-1-1	
930 - 940	18:45	1-1-2-1-3-1-1-3-1-1	
940 - 950	18:50	1-1-2-1-3-1-1-3-1-1	
950 - 960	18:55	1-1-2-1-3-1-1-3-1-1	
960 - 970	19:00	1-1-2-1-3-1-1-3-1-1	
970 - 980	19:05	1-1-2-1-3-1-1-3-1-1	
980 - 990	19:10	1-1-2-1-3-1-1-3-1-1	
990 - 1000	19:15	1-1-2-1-3-1-1-3-1-1	

R.T.D. 3283'

DST 31' & Strip pipe @ 3112'

Circ. & DST @ 3258'

Circ. @ 3283'

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