

15-~~100~~ 441- 20114.00-00 5m

CONTRACTORS WELL LOG

OPERATOR: Graham-Michaelis Corp.  
 CONTRACTOR: Abercrombie Drilling, Inc.  
 WELL NAME: CRAWFORD #4-22  
 LOCATION: 440 FSL 330 FEL SE SE SE  
 Osborne County, Kansas  
 SPUD DATE: 9/24/81  
 COMPLETION DATE: 10/05/81

0	200	Clay, Sand, & Shale
200	262	Blue Shale
262	940	Shale
940	1237	Shale & Sand
1237	1274	Anhydrite
1274	2050	Shale
2050	2235	Lime & Shale
2235	2665	Shale & Lime
2665	3180	Lime & Shale
3180	3280	Shale & Lime
3280	3485	Lime
3485	3598	Lime & Chert
3598	3680	Lime
3680	3700	Lime & Conglomerate
3700	3813	Conglomerate
3813	3890	Lime
3890	3954	Dolomite
	3954	Rotary Total Depth

Spud @ 12:45 p.m., 9/24/81. Drilled 262' of a 12 1/2" hole. Ran 6 jts. of 8 5/8" 23# casing set @ 260' RTD. Cemented with 190 sx. Common 3% c.c., 2% gel. Cement did circulate. Plug was down @ 5:00 p.m., 9/24/81.

3954' TD. Ran 96 joints of 5 1/2" 15 1/2# casing set @ 3784' RTD. Cemented 1st stage with 200 sx. Common 10% Salt, 5 sx. Salt Flush. Plug was down @ 1:00 p.m., 10/05/81. 2nd Stage cemented with 350 sx. 50-50 posmix, 6% gel. Plug was down @ 1:55 p.m., 10/05/81.

SAMPLE TOPS:

Anhydrite 1237'  
 B/Anhydrite 1274'

RECEIVED  
 STATE CORPORATION COMMISSION  
 10-16-1981  
 OCT 16 1981

STATE OF KANSAS )  
 ) SS  
 COUNTY OF SEDGWICK )

CONSERVATION DIVISION  
 Wichita, Kansas

Jack L. Partridge, Vice President of Abercrombie Drilling, Inc., does hereby state that the above and foregoing is a true and correct copy of the log of the CRAWFORD #4-22, 440 FSL, 330 FEL, SE SE SE, Osborne County, Kansas.

ABERCROMBIE DRILLING, INC.

BY: Jack L. Partridge  
 Jack L. Partridge, Vice Pres.

Subscribed and sworn to before me, a Notary Public, in and for the aforesaid county and state as of this 12th day of October, 1981.



Elizabeth G. Terry  
 Elizabeth G. Terry  
 NOTARY PUBLIC

# Petro-Log

# Radiation Guard Log

15-141-20114-00-00

COMPANY GRAHAM-MICHAELIS CORPORATIONWELL CRAWFORD #4-22

FIELD \_\_\_\_\_

COUNTY OSBORNE STATE KANSASLocation C. E/2 NE-SW-SW

Other Services: \_\_\_\_\_

Sec. 22 Twp. 9s Rge. 15W
 Permanent Datum: GROUND LEVEL Elev. 2020 Elev.: K.B. 2025  
 Log Measured From K.B., 5 Ft. Above Perm. Datum D.F. \_\_\_\_\_  
 Drilling Measured From KELLY BUSHING RECEIVED G.L. 2020  
STATE CORPORATION COMMISSION

Date	<u>10/3/81</u>		<u>10-19-2000</u> JUN 19 2000
Run No.	<u>ONE</u>		
Depth-Driller	<u>3680</u>		CONSERVATION DIVISION Wichita, Kansas
Depth-Logger	<u>3681</u>		
Btm. Log Inter.	<u>3680</u>		
Top Log Inter.	<u>SURF.</u>		
Casing-Driller	<u>8 5/8</u>	<u>260</u>	
Casing-Logger			
Bit Size	<u>7 7/8</u>		
Type Fluid in Hole	<u>CHEMICAL</u>		
Dens.   Visc.	<u>9.2</u>   <u>54</u>		
pH   Fluid Loss	<u>6.4</u>   <u>17.2</u> ml		
Source of Sample	<u>FLOWLINE</u>		
R <sub>m</sub> @ Meas. Temp.	<u>.22</u> @ <u>69°F</u>	@ *F	@ *F
R <sub>l</sub> @ Meas. Temp.	<u>.17</u> @ <u>69°F</u>	@ *F	@ *F
R <sub>s</sub> @ Meas. Temp.	<u>.33</u> @ <u>69°F</u>	@ *F	@ *F
Source: R <sub>m</sub>   R <sub>s</sub>	<u>CHARTS</u>		
R <sub>m</sub> @ BHT	<u>.13</u> @ <u>113°F</u>	@ *F	@ *F
Time Since Circ.	<u>1 1/2 HOURS</u>		
Max. Rec. Temp.	<u>113°F</u>		*F
Equip.   Location	<u>H-3</u>   <u>GB</u>		
Recorded By	<u>BOB HARRELL</u>		
Witnessed By	<u>MR. LARRY BOOKLESS</u>		

### EQUIPMENT DATA

GAMMA RAY			NEUTRON		
RUN NO.	ONE		ONE		
TOOL MODEL NO.	<u>21</u>		<u>n/n</u>		
DIAMETER	<u>3.5"</u>		<u>3.5"</u>		
DETECTOR MODEL NO.	<u>21</u>		<u>21</u>		
TYPE	<u>Scint</u>		<u>He3</u>		
LENGTH	<u>4"</u>		<u>6"</u>		
DISTANCE TO N SOURCE	<u>120"</u>		<u>NEEJ</u>		
HOIST TRUCK NO.	<u>H-3</u>		<u>7171/60</u>		
INSTRUMENT TRUCK NO.	<u>H-3</u>		<u>17"</u>		
TOOL SERIAL NO.	<u>21</u>		<u>Am Be</u>		
			<u>3 Curies</u>		

### LOGGING DATA

GENERAL			GAMMA RAY			NEUTRON						
RUN NO.	FROM	TO	DEPTH	SPEED FT./MIN.	T.C. SEC.	SENS. SETTINGS	ZERO DIV. 1 OR R	API G.R. UNITS PER LOG DIV.	T.C. SEC.	SENS. SETTINGS	ZERO DIV. 1 OR R	API N UNITS PER LOG DIV.
<u>1</u>	<u>3680</u>	<u>2700</u>	<u>2700</u>	<u>30</u>	<u>2</u>	<u>480</u>	<u>1 L</u>	<u>10</u>	<u>2</u>	<u>640</u>	<u>7 L</u>	<u>100</u>
<u>1</u>	<u>2700</u>	<u>SURE.</u>	<u>SURE.</u>	<u>60</u>	<u>1</u>	<u>480</u>	<u>1 L</u>	<u>10</u>	<u>1</u>	<u>640</u>	<u>7 L</u>	<u>100</u>
Run No.	Bit	From	To	Wgt.	Size	From	To	Surf				
<u>1</u>	<u>12 1/4</u>	<u>260</u>	<u>3680</u>	<u>8 5/8</u>	<u>8 5/8</u>	<u>260</u>	<u>260</u>	<u>Surf</u>				
<u>1</u>	<u>7 7/8</u>	<u>260</u>	<u>3680</u>									
Run No.	Bit	From	To	Wgt.	Size	From	To	Surf	PETRO-LOG T. D.	CUSTOMER T. D.	RESET:	
							<u>3681</u>		<u>3681</u>	<u>3680</u>		

REMARKS All interpretations are opinions based on inferences from electrical or other measurements and we shall not be liable for any loss, cost, damage or expense incurred by any person using the information herein for any purpose other than that for which it was supplied. We warrant the accuracy or correctness of any interpretation, and we shall not be liable for any loss, cost, damage or expense incurred by any person using the information herein for any purpose other than that for which it was supplied.

GAMMA

NEUTRON