

KANSAS DRILLERS LOG

RECEIVED
 STATE CORPORATION COMMISSION
 APR 4 - 1974

S. 2 T. 20S R. 8 ^W

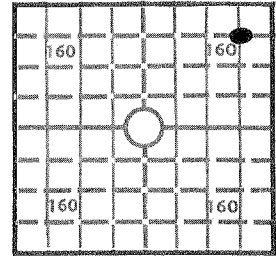
API No. 15 — 159 — 20,476
 County Number

Loc. C NE NE

Operator NORTHERN NATURAL GAS
 Address 2223 DODGE STREET, OMAHA NEB. 68102
 Well No. 1 Lease Name CALDWELL

County RICE

640 Acres
 N



Locate well correctly
 Elev.: Gr. 1719.24

Footage Location
660 feet from (N) (X) line 660 feet from (E) (X) line

Principal Contractor WOODMAN + TRANNITTI DRNG Geologist R.D. DOUGHERTY, M.F. PRYOR

Spud Date 7-20-73 Total Depth 3520 P.B.T.D.

Date Completed 1-31-74 Oil Purchaser

DF _____ KB 1724.24

CASING RECORD

Report of all strings set — surface, intermediate, production, etc.

Purpose of string	Size hole drilled	Size casing set (in O.D.)	Weight lbs/ft.	Setting depth	Type cement	Sacks	Type and percent additives
<u>SURFACE</u>	<u>12 1/4"</u>	<u>8 5/8"</u>	<u>24</u>	<u>1143</u>	<u>SALT SATURATED COMMON</u>	<u>700</u>	<u>3% HA 5</u>
<u>PRODUCTION</u>	<u>7 7/8"</u>	<u>5 1/2"</u>	<u>17</u>	<u>3520</u>	<u>"</u>	<u>800</u>	<u>.75% CRF-2</u> <u>10% GYLSENITA/3X</u>

LINER RECORD

PERFORATION RECORD

Top, ft.	Bottom, ft.	Sacks cement	Shots per ft.	Size & type	Depth interval
			<u>4</u>	<u>4" CSG GUN</u>	<u>3302-3308</u>

TUBING RECORD

Size	Setting depth	Packer set at
<u>2 7/8"</u>	<u>3302</u>	<u>3264</u>

ACID, FRACTURE, SHOT, CEMENT SQUEEZE RECORD

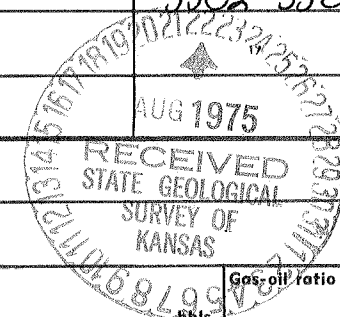
Amount and kind of material used	Depth interval treated
<u>500 GAL 15% MCA</u>	<u>3302-3308</u>
<u>10,000 GAL GELLED BRINE w/10,000# SAND</u>	

INITIAL PRODUCTION *

Date of first production _____ Producing method (flowing, pumping, gas lift, etc.) _____


RATE OF PRODUCTION PER 24 HOURS	Oil	Gas	Water	Gas-oil ratio

Disposition of gas (vented, used on lease or sold) _____ Producing interval (s) _____



INSTRUCTIONS: As provided in KCC Rule 82-2-125, within 90 days after completion of a well, one completed copy of this Drillers Log shall be transmitted to the State Geological Survey of Kansas, 4150 Monroe Street, Wichita, Kansas 67209. Copies of this form are available from the Conservation Division, State Corporation Commission, 3830 So. Meridian (P.O. Box 17027), Wichita, Kansas 66217. Phone AC 316-522-2206. If confidential custody is desired, please note Rule 82-2-125. Drillers Logs will be on open file in the Oil and Gas Division, State Geological Survey of Kansas, Lawrence, Kansas 66044.

* WELL PRESENTLY BEING EVALUATED *

Operator NORTHERN NATURAL GAS CO.		DESIGNATE TYPE OF COMP.: OIL, GAS, DRY HOLE, SWDW, ETC.: GAS
Well No. 1	Lease Name CALDWELL	
S 2 T 20 R 8 		

WELL LOG

Show all important zones of porosity and contents thereof; cored intervals, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

SHOW GEOLOGICAL MARKERS, LOGS RUN, OR OTHER DESCRIPTIVE INFORMATION.

FORMATION DESCRIPTION, CONTENTS, ETC.	TOP	BOTTOM	NAME	DEPTH
CORE #1	3258	3290	TOP OF SALT	+970, 760
CORE #2	3290	3350	TOWANDA	+420, 1300
CORE #3	3350	3382	TOPEKA	-670, 2390
CORE #4	3382	3433	HEEBNER	-956, 2676
CORE #5	3433	3480	TORONTO	-983, 2703
DST #1 WINFIELD, IBHP 67#/30min, IFP 14#, FBHP 54#/30min, FFP 27#, REC 26' MUD	1240	1270	DOUGLAS	-996, 2716
DST #2 TOWANDA, IBHP 186#/30min, IFP 14#, FBHP 329#/60min, FFP 29#, REC. 2.4 MCFG, 30' MUD	1306	1330	BASE KAN. CITY	-1434, 3143
			CONG	-1459, 3179
			VIOLA	-1531, 3251
DST #3 TARKIO, IBHP 767#/30min, IFP 63#, FBHP 751#/60min, FFP 71# REC. 125 MCFG, 60' MUD	2060	2131	SIMPSON	-1575, 3295
			ARBUCKLE	-1629, 3349
DST #4 LANSING, IBHP 104#/30min, IFP 26#, FBHP 78#/30min, FFP 35#, REC. 25' OIL + GAS CUT MUD + 240' GAS	3120	3146	RT.D.	-1800, 3520
			THE FOLLOWING LOGS WERE RUN BY WELEX INC.	
			RADIATION	
			INDUCTION	
			SPONTANEOUS POTENTIAL	
			DENSITY	
			ACOUSTIC VELOCITY	
			FRAC. FINDER	
			MICRO-SEISMOGRAM	
DST #5 VIOLA, IBHP 361#/60min, IFP 17#, FBHP 370#/60min, FFP 34# REC. 45' GAS CUT MUD + 2080' GAS	3260	3290		
DST #6 SIMPSON SAND + 1' ARBUCKLE IBHP 1148#/60min, IFP 188-298# 375' BRACKISH WATER + 764 MCFG	3303	3350		

USE ADDITIONAL SHEETS, IF NECESSARY, TO COMPLETE WELL RECORD.

Date Received	Signature
	Title
	Date