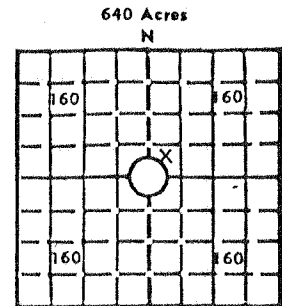


KANSAS DRILLERS LOG

API No. 15 — 159 — 20,726
County Number

Operator Northern Natural Gas Company		
Address P. O. Box 88 Lyons, Kansas 67554		
Well No. #2-10	Lease Name Alderman	
Footage Location 2264 feet from (N) XX line 2079 feet from (E) XXX line		
Principal Contractor Sterling Drilling Co.		Geologist
Spud Date 1/17/78	Total Depth 3575	P.B.T.D.
Date Completed 3/30/78	Oil Purchaser	

S. 2 T. 20 R. 8 ^NW
Loc. 2264' SNL & 2079' WEL
County Rice



Locate well correctly
Elev.: Gr. 1715
DF _____ KB 1728

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
Surface	12 1/4"	8 5/8"	23.6	1082	150sx Common 500sx Pozmix	650	100 w/12# Gil. 650 w/3% C.C.
Production	7 7/8"	5 1/2"	15.5	3574	50/50 Pozmix	650	400 w/4% Gel., 10% Halad 9 & 5# Gil. 250 w/18% Salt & 3/11% CFR-2

LINER RECORD

PERFORATION RECORD

Top, ft.	Bottom, ft.	Sacks cement	Shots per ft.	Size & type	Depth interval
			4	D.P. Jet	3440-3470
TUBING RECORD					3392-3430
			4	D.P. Jet	3332-3382
Size 2 7/8"	Setting depth 3470	Packer set at 3387			

ACID, FRACTURE, SHOT, CEMENT SQUEEZE RECORD

Amount and kind of material used	Depth interval treated
2000 Gal. 15% HCL	3332-3382
1600 Gal. 15% HCL	3392-3430
1400 Gal. 15% HCL	3440-3470

INITIAL PRODUCTION

Date of first production Gas Storage Well		Producing method (flowing, pumping, gas lift, etc.)			
RATE OF PRODUCTION PER 24 HOURS	Oil bbls.	Gas MCF	Water bbls.	Gas-oil ratio CFPB	
Disposition of gas (vented, used on lease or sold)			Producing interval(s)		

Well No. 2-10	Lease Name Alderman	Gas Storage Well		
S <u>2</u> T <u>20</u> R <u>8</u> ^{EX} W				
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
Hutchinson Salt	754	1024	GRN	0-3565
Chase Group	1188		Density	1080-3571
Council Grove Group	1533		SS/FF/SCB	13-3565
Tarkio Lm.	2063		IES	2800-3571
Howard Lm.	2292		BHC	1080-3565
Heepner Shale	2680		Dip	2790-3571
Lansing/K.C. Group	2854			
Basal Penn. Sh. & Cong.	3183			
Simpson Group	3282			
Arbuckle Dolomite Group	3329			
USE ADDITIONAL SHEETS, IF NECESSARY, TO COMPLETE WELL RECORD.				
Date Received	<u>Gary Wilson</u> Signature			
	Senior Storage Reservoir Engineer			
	Title			
	4/24/78			
	Date			