

WICHITA BRANCH

KANSAS DRILLERS LOG

s.11 T.20 R.8 K
W

API No. 15 — 159 — 20,725
County Number

Loc. 1800' WEL & 75' NSL

County Rice

Operator
Northern Natural Gas Company

Address
P. O. Box 88 Lyons, Kansas 67554

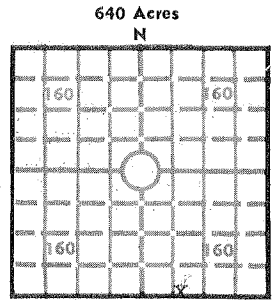
Well No. #11-11 Lease Name Tobias

Footage Location
75 feet from (N) (S) line 1800 feet from (E) (W) line

Principal Contractor Sterling Drilling Co. Geologist

Spud Date 11/7/78 Total Depth 3512 P.B.T.D.

Date Completed 3/21/78 Oil Purchaser



Elev.: Gr. 1649

DF KB 1662

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	1056	50-50 Pozmix	500	2% Gel. & 3% CC
Production	7 7/8"	5 1/2"	15.5	3511	50-50 Pozmix	750	500 w/ 5# Gil., 1% Gel. & 1/4% Halad 9 250 w/ 2% Gel., 18 Salt & .75% CFR-2

LINER RECORD

PERFORATION RECORD

Top, ft.	Bottom, ft.	Sacks cement	Shots per ft.	Size & type	Depth interval
			4	DP Jet	3300-3340
			4	DP Jet	3350-3390

TUBING RECORD

ACID, FRACTURE, SHOT, CEMENT SQUEEZE RECORD

Amount and kind of material used	Depth interval treated
1680 Gal. 15% HCL	3300-3340
1680 Gal. 15% HCL	3350-3390

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)		

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.

erator

DESIGNATE TYPE OF COMP.: OIL, GAS, DRY HOLE, SWDW, ETC.:

Northern Natural Gas Company

Well No.

11-11

Lease Name

Tobias

Gas Storage Well

S 11 T 20 R 8 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	704	962	GRN	0-3506
Chase Group	1136		Density	1054-3511
Council Grove Group	1481		MS/FF	1054-3505
Tarkio Lm.	2019		CB/SS	0-1054
Howard Lm.	2260		BHC	1054-3505
Heebner Shale	2656		IES	2750-3512
Lansing/K.C. Group	2830			
Basal Penn. Sh. & Cong.	3163			
Simpson Group	3235			
Arbuckle Dolomite Group	3297			

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

Date Received

Gary D. Wilson

Signature

Senior Storage Reservoir Engineer

Title

4/24/78

Date