

AFFIDAVIT TO ESTABLISH TEMPORARY PRODUCTIVITY

This form must be filed in duplicate within five days after completion of the well:

One copy to State Corporation Commission
500 Insurance Building-212 N. Market-Wichita 2, Kansas
One copy to State Corporation Commission
925 Patton Road, Great Bend, Kansas

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OPERATOR Cities Service Oil Company LOCATION OF WELL:
LEASE Borger "A" 2086 Ft. from West line.
WELL NUMBER 2 766 Ft. from North line.
PURCHASER Cities Service Oil Co. OF THE NW/4 OF SEC. 25 TWP. 19 RGE. 22W
COUNTY Ness
FIELD Schaben PRODUCING FORMATION Miss. (Osage)
Total Depth 4410, PSTD 4406 Top Prod. Form. 4390 (-2110)
Acid; Date December 19, 1964 Prod. Perfs. 4394-4404
Amount 500 Gal. Prod. Perfs. _____

PRODUCTION TEST

Date December 20, 1964 How Produced Swab
Oil Produced 100.57 Bbl. Length of Test 10 Hours,

A F F I D A V I T

STATE OF KANSAS)
COUNTY OF BARTON) SS

O. C. Atkinson of lawful age, being first duly sworn upon his oath, deposes and says:

That he is Division Engineer for Cities Service Oil Company, Operator of the Borger "A" Lease, and is duly authorized to make this affidavit for and on behalf of said operator, that Well No. 2 on said lease has been completed and was capable of producing twenty-five barrels of oil per day as of the 20th day of December, 1964, and that all information entered herein with respect to said well is true and correct.

Further affiant saith not.

(S) C. C. Atkinson

Subscribed and sworn to before me this 21st day of December, 1964

C. M. McFarland
NOTARY PUBLIC
C. M. McFarland

My Commission expires December 6, 1966.



DOWE

DIVISION OF THE DOW CHEMICAL COMPANY

RECORDED SERVICE

TREATMENT NO. 3-6-6146

TYPE OF
SERVICE

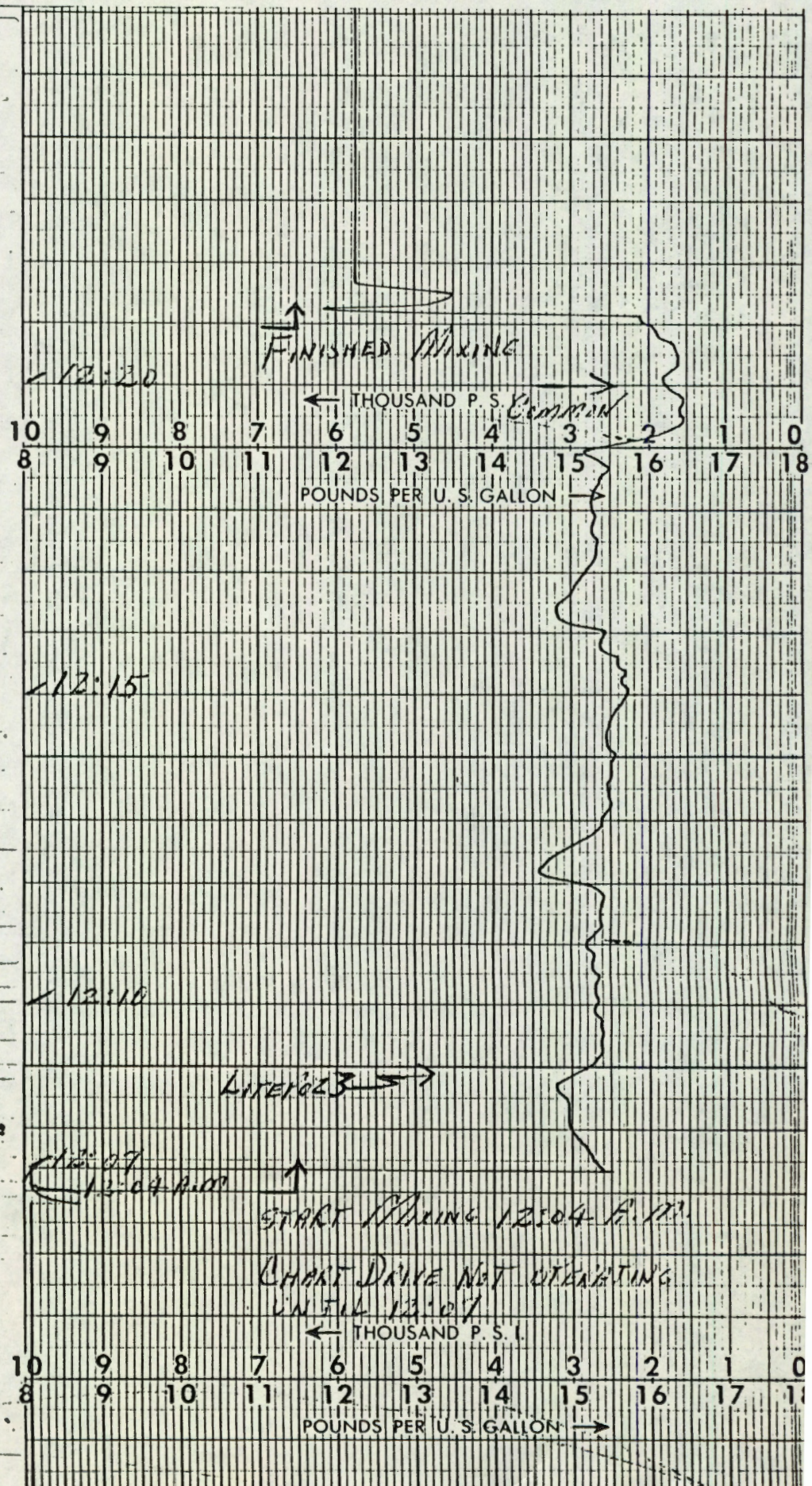
CEMENT SURFACE CASING

DATE 11-28-64

OWNER CITIES SERVICE OIL CO.	WELL NAME AND NUMBER BORGER "A" #2
OWNER'S REPRESENTATIVE MR. RAY BLANDIN	SERVICE ENGINEER DAN O'KELLY

REMARKS:

250 SX 50/50 LITEPOZ 3 + 3% D33A
50 SX Common + 3% D33A



Great Bend, Kansas
January 13, 1965

To: H. J. Lucchi

From: J. E. Craig

RE: State Physical Test - Schaben Mississippi Field,
Ness County, Kansas

<u>Well No.</u>	<u>Date</u>	<u>Form.</u>	<u>Bbls.</u> <u>Oil</u>	<u>Bbls.</u> <u>Water</u>	<u>Hrs.</u>	<u>Potent.</u>	<u>Previous Test</u> <u>Date</u> <u>Potent.</u>
Borger "A" #2	12-31-64	Miss.	146.52	1.48	24	147	New Oil Well

JEC:VA

CC: O. C. Atkinson
R. E. Adams
C. J. Russell

BATCH ACID TREATMENT

Well No. BORGER-A-#1

Date 10-21-70

Quantity acid 250 gal.

Type acid XL FL 41 15%

Salt water flush 45 BBLs

Production, before: 29 oil, 76 water, 24 hrs.

Production, after: 40 oil, 159 water, 24 hrs.

(1)	Q - PRODUCING RATE, BPD,	<u>550</u>	
(2)	U - VISCOSITY, CENT,	<u>30</u>	
(3)	B - FVF	<u>1.2</u>	
(4)	M - SLOPE OF B-U CURVE, PSI/CYCLE	<u>166</u>	
(5)	H - THICKNESS OF PRODUCING ZONE, FEET,	<u>12'</u>	
(6)	K - PERM., MD. = $162.5 Q U B / M H$	<u>73.4</u>	
(7)	P_1 - PRESSURE ON SLOPE @ 1 HOUR, PSI,	<u>1340</u>	
(8)	P_2 - PRESSURE @ 1 SEC. = $(P_1 - 3.56 M)$	<u>749</u>	
(9)	P_F - FLOWING PRESSURE, PSI,	<u>455</u>	
(10)	$2.302(P_2 - P_F) / M$	<u>+4.07</u>	
(11)	R_W - RADIUS OF DRILLED HOLE, INCHES,	<u>3.94</u>	$\rho_w = 15.52$
(12)	F - POROSITY, FRACTION, (ESTIMATE)	<u>.15</u>	
(13)	C - COMPRESS., VOL/VOL/PSI X 10^6	<u>10</u>	
(14)	$2.30 \log_{10} \left\{ \frac{10.5 K}{F C U R_W^2} \right\} + 0.8$	<u>+3.20</u>	
(15)	S - SKIN, DIMENSIONLESS, = $[(10) - (14)] / 2$	<u>+1.435</u>	
(16)	ΔP_S - PRESS. DROP DUE TO SKIN = $(.868 M S)$	<u>+63</u>	
(17)	P_F^* - FLOWING PRESS. W/NO SKIN = $(P_F + \Delta P_S)$	<u>518</u>	
(18)	P_E - FINAL PRESSURE, PSI,	<u>1389</u>	
(19)	$(P_E - P_1)$	<u>49</u>	
(20)	$\Delta \bar{P} = 1.151(P_E - P_1) / M$	<u>340</u>	
(21)	$\bar{T}$ - DIMENSIONLESS TIME @ 1 HOUR (FIG.1)	<u>.235</u>	
(22)	$FR_0^2 = 254 K / U C \bar{T}$	<u>2750</u>	
(23)	$(P_E - P_F^*)$	<u>971</u>	
(24)	$\log_{10} \bar{R} = (23) / 2 M$	<u>2.63</u>	
(25)	$\bar{R}$ - DRAINAGE RADIUS/RADIUS DRILLED HOLE	<u>425</u>	
(26)	R_E - DRAINAGE RADIUS, FT. = $(25) \times R_W / 12$	<u>140</u>	<u>19520</u>
(27)	F - POROSITY, FRACTION, = $(22) / (26)(26)$	<u>.141</u>	
(28)	PI - PRODUCTIVITY INDEX = $Q / (P_E - P_F)$	<u>.268</u>	$Q_{max} = 372 B/D$
(29)	PI - PI W/NO SKIN = $Q / (P_E - P_F^*)$	<u>.287</u>	$Q_{max} = 399 B/D$
(30)	F - EFFICIENCY = $100 \times (28) / (29)$		

FIELD West Sabine WELL Reagan #2

FORMATION Wair PRODUCING INTERVAL 4398-4410

PRESSURE BUILDUP CALCULATIONS