

WELL DATA SHEET



Lease BRIGGEMAN

Well No. 25-1

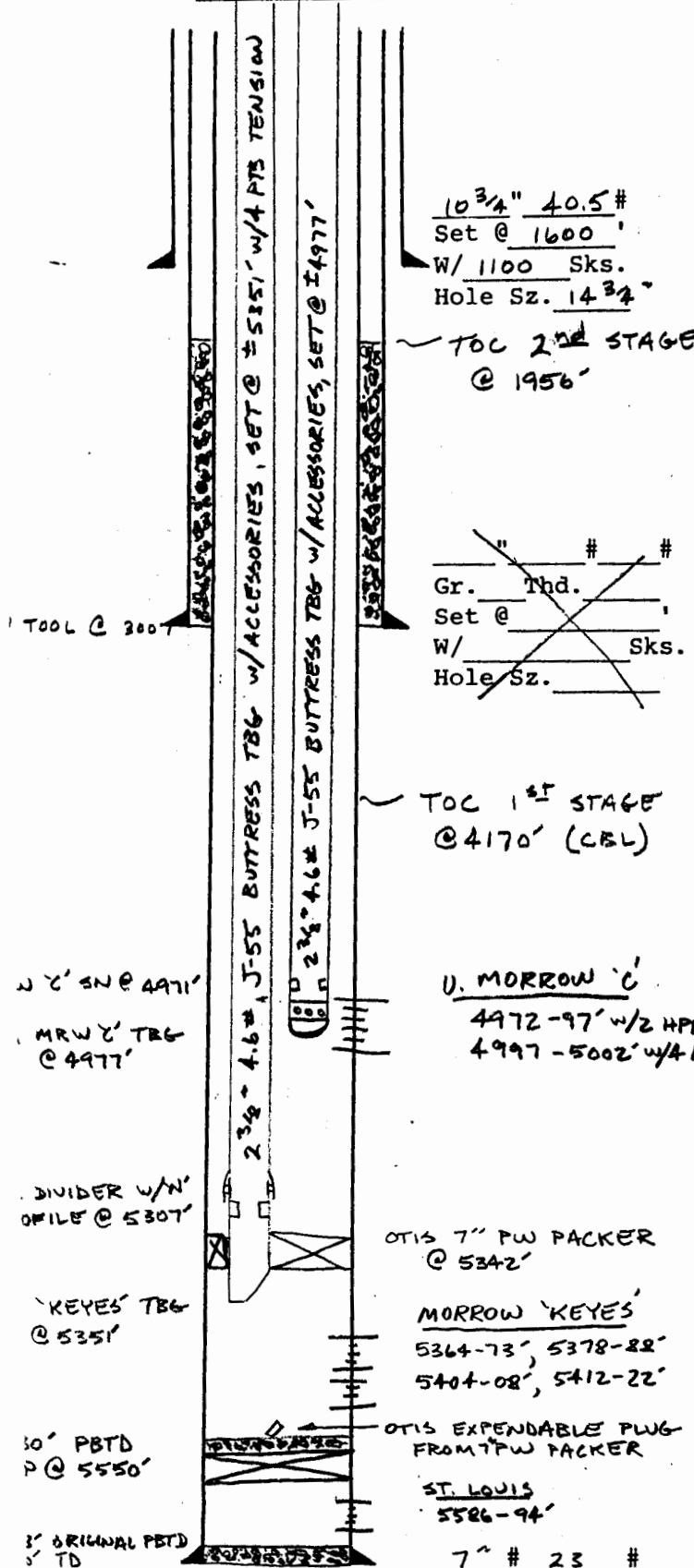
Location 660' FEL { 1980' FSL (CNESE) SEC. 25-315-41W County MORTON State KANSAS

K. B. Elev. 3359'
 G. T. Elev. 3346'
 Distance "H" 13'

Date Completed 3-26-86
 Formation (s) U. MORROW 'C'
MORROW 'KEYES'

Initial Production Oil	<u>MRW</u>	<u>KEYES</u>	B/D
Pump () Flow (X) Water	<u>+</u>	<u>4</u>	B/D
Other	<u>CAOF Gas</u>	<u>6037</u>	<u>9629</u> MCF/D

Initial Treatments PERF ST. LOUIS FROM 5586-94'
w/2 HPF, SWAB DRY; B/D w/1000 gal 15% HCL + ADDITIVES
SWAB TESTED 1.5 BPH w/TR OIL; SET CIBP @ 5550' TOP
w/20' CNT; PERF MRW 'KEYES' 5364-73', 5378-82', 5404-08',
5412-22' w/2 HPF; SWAB WELL IN AND FLOW TESTED 3300 MCFD
w/525# FTP; B/D w/450 gal 1 1/2% w/ADDITIVES; FLOW
TESTING 4800 MCFD w/745# FTP; SET OTIS 7" PW PKR w/PLUG
@ 5342'; PERF U. MRW 'C' FROM 4997-5002' w/4 HPF; SWAB
WELL IN & FLOW TESTED 3100 MCFD w/800# FTP; PERF U.
MRW 'C' FROM 4972-97' w/2 HPF; SWAB IN & FLOW TESTED
2600 MCFD w/280# FTP; KILL WELL AND RUN IN DUAL
WORKOVERS STRINGS OF 2 3/4" BUTTRESS TBG



Total Depth 5700'

Prepared by S Date 4-3-86

LEASE & WELL NO. BRIGGEMAN #25-1

P. CHS LABORATORIES

<input type="checkbox"/> P. O. BOX 2439	TEL. 806 669-6821	PAMPA, TEXAS 79066-2439
<input type="checkbox"/> P. O. BOX 3246	TEL. 806 797-4325	LUBBOCK, TEXAS 79452-3246

SAMPLE DATA

CUSTOMER..... J M HUBER CORPORATION

STATION No. --

OPERATOR..... J M HUBER CORPORATION

LEASE..... BRIGGMAN 25-1 KEYS

PLANT..... SPEARMAN

SAMPLE OF..... --

PRESSURE..... 16#

TEMPERATURE... --

ATM. TEMP..... --

SAMPLE DATE... 10-10-90

SAMPLED BY.... HUBER

ANALYSIS DATE. 10-18-90

SAMPLE CYL.No. PL-1865



ANALYSIS RESULTS

COMPONENT	MOL %	GPM,*
=====	=====	=====
NITROGEN N2	6.57	
CARBON D. CO2	0.46	
METHANE C1	83.43	
ETHANE C2	4.09	1.097
PROPANE C3	2.49	0.696
I-BUTANE IC4	0.55	0.185
N-BUTANE NC4	1.14	0.371
I-PENTANE IC5	0.38	0.146
N-PENTANE NC5	0.48	0.184
HEXANES+ C6+	0.41	0.185

DISTRIBUTION:

=====

J M HUBER CORPORATION

3-#7120 I-40 WEST, AMARILLO, TX 79106
MR PAUL WALKER

1-P O Box 888, SPEARMAN, TX 79081
MR JERRY TROUT

1-P O Box 2381, BORGER, TX 79007
MR DOUG REED

GASOLINE CONTENT (GPM), *

=====	=====
PENTANES & HEAVIER....	0.515
BUTANES & HEAVIER.....	1.071
PROPANE & HEAVIER.....	1.767
ETHANE & HEAVIER.....	2.864
26 # GASOLINE.....	0.758

HEATING VALUE,** (GROSS BTU/CF)

=====	=====
WATER VAP. SAT.....	1076
DRY GAS BASIS.....	1095

SPECIFIC GRAVITY

=====	=====
CALC., WATER SAT.....	0.686
CALC., DRY BASIS.....	0.687

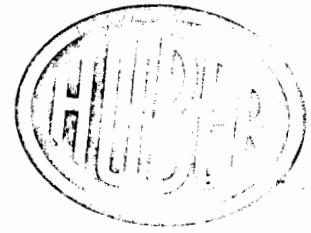
*, 14.65 PSIA & 60 F
**, 14.65 PSIA & 60 F

REMARKS:

HIGH PLAINS

WIRELINE SERVICES, INC.

P.O. BOX 981 • PERRYTON, TX 79070 - 806-435-7195



STATIC GRADIENT SURVEY

Company J.M. HUBER CORPORATION66 Test Date 8-24-89
Lease & Well No. BRIGGEMAN 25-1 LOWER Field KINSLER
Section 25 Blk/Twnshp 31S Srvy/Rg 41W
County MORTON State KANSAS
Measurements From 13' AGL Tubing Size 2 3/8 Set @ _____
Packer @ _____ Perforations 5364to 5422 Formation MORROW KEYES
Instrument Run Depth 5393 Maximum Temperature 144 F
Test Started @ 11:27AM Begining Tubing Pressure(DWT) 300 PSIG
Begining Casing Pressure(DWT) N/A PSIG
Shut-in Time 50 hrs
Date of Last Test _____
Datum Pressure Last Test _____ PSIG
Comments: PERFS ARE CLEAR - RAN TO 5450' FROM KB.

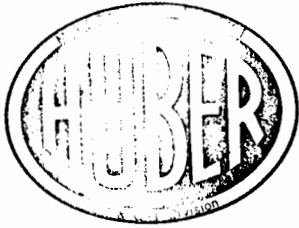
Instrument #: 57101 Range: 2010 psig Clock Range: 3 hrs

Depth of Bomb(ft)	Time	Pressure PSIG	dPressure PSI	dDepth (ft)	Gradient (PSI/ft)
0	11:27A	301.7	0.00	0	0.000
1500	11:33	313.5	11.82	1500	0.008
3000	11:38	325.6	12.03	1500	0.008
4500	11:44	338.6	13.08	1500	0.009
5093	11:48	344.4	5.75	593	0.010
5193	11:51	346.0	1.57	100	0.016
5293	11:54	347.0	1.05	100	0.010
5393	11:57	348.1	1.05	100	0.010

25-31-41 W
 Add
 for Well file

GEOLOGIC REPORT

J. M. Huber Corporation
 Briggeman #25 - 1



1980' FSL, 660' FEL
 Sec 25, T. 31 S., R. 41 W.
 Morton County, Kansas

Geologic supervision of this well was from 2000 feet to T.D. of 5700 feet. Gas detection equipment was functioning from 2280' to T.D. Thirty-foot samples were collected from 2000' to 2400', and ten-foot samples were collected from 2400' to T.D. Sample quality was excellent from 2400' to T.D.

All samples have been lagged to true drilling depth. On the following core description, depths have been corrected to electric log depths; the corrected depths are 3/2 feet higher than the drilling depths recorded on the preliminary core description.

The detailed core description varies slightly from the description of the samples cut during coring: the cuttings contained more glauconite and oil stain than the core. This is probably because well-indurated rock is over-represented in the cuttings, and the tighter rocks of the core contained more glauconite and oil stain.

Electric Log Tops

FORMATION	THIS WELL		RELATIVE	HUBER JOHNS#25-1	
	Depth	Elevation	ELEVATION	Depth	Elevation
K.B.		3359'			
Chase Group	2143'	+1216'	9' high	2156'	+1207'
Council Grove Gr	2518'	+841'	10' high	2532'	+831'
Admire Group	2824'	+535'	2' high	2830'	+533'
Wabaunsee Gr.	2890'	+469'	3' high	2897'	+466'
Topeka	3161'	+198'	1' high	3166'	+197'
Base Heebner	3612'	-253'	4' high	3620'	-257'
Lansing Group	3730'	-371'	2' high	3736'	-373'
Pleasanton Gr	4298'	-939'	5' high	4307'	-944'
Marmaton Gr.	4320'	-961'	9' high	4333'	-970'
Cherokee Gr.	4502'	-1143'	2' high	4510'	-1145'
Atoka	4762'	-1403'	2' high	4766'	-1405'
Morrow Shale	4902'	-1543'	8' high	4913'	-1551'
Mrw "C" sand	4972'	-1613'	12' high	4988'	-1625'
Mrw "F" sand	5195'	-1836'	26' high	5225'	-1679'
Mrw "G" sand	5242'	-1883'	28' high	5274'	-1911'
Mrw "G ₁ " sand	5266'	-1907'	30' high	5300'	-1937'
Keyes sand	5362'	-2003'	36' high	5402'	-2039'
Bottom Keyes	5423'	-2064'	5' high	5432'	-2069'
Miss. Chester	5426'	-2067'	7' high	5436'	-2074'
St. Genevieve	5450'	-2091'	26' high	5480'	-2117'
St. Louis	5516'	-2157'	34' high	5554'	-2191'

25-31-41 W

J.M. Huber, Briggeman #25 - 1

Core #1

5350' to 5410' (5347' to 5407' corrected to electric logs)
60 feet cut, 60 feet recovered

5350' to 5365' (5347' to 5361')	14'	Shale: black, fine textured, carbonaceous, slightly calcareous, fissile
5365' to 5368½' (5361' to 5364½')	3½'	Sandstone: off-white, coarse grained, moderately-well sorted, subrounded, quartzose, dolomitic cement, with brown and tan shale pebbles up to 3/4" in diameter, tight, no visible porosity, no fluorescence, no cut, no stain
5368½' to 5371' (5364½' to 5367')	2½'	Sandstone: off-white, fine to medium grained, mod. well sorted, subrounded, quartzose, dolomitic cement, friable, fair visible porosity, rare faint yellow fluor., fair streaming cut, no stain
5371' to 5377' (5367' to 5373')	6'	Sandstone: off-white, medium to coarse grained, well sorted, subrounded to subangular, quartzose, abundant plant fragments, friable, fair visible porosity, no stain, no fluor, fair milky cut.
5377' to 5377½' (5373' to 5373½')	½'	Shale: black, fn-txt, carbonac., calc, fissile.
5377½' to 5381½' (5373½' to 5377½')	4'	Sandstone: off-white, medium to coarse grained, poorly sorted, subrounded, quartzose, dolomitic cement, with black carbonaceous shale pebbles up to ½" in diameter, plant fragments, argillaceous in part, tight, no visible porosity, rare faint yellow fluor., no cut.
5381½' to 5385½' (5377½' to 5381½')	4'	Sandstone: off-white, medium to coarse grained, conglomeratic with pebbles to 3mm in diameter, angular to subrounded, quartzose, unconsolidated, excellent visible porosity, no stain, no fluor., poor milky cut.
5385½' to 5387' (5381½' to 5383')	1½'	Sandstone: off-white, fine to medium grained, subang. to subrnd., quartzose, dolomitic cement, with abundant black shale laminae, tight, no visible porosity, no stain, no fluor., no cut.
5387' to 5390½' (5383' to 5386½')	3½'	Sandstone: off-white, fine to medium grained, subrnd, with abundant plant fragments, friable, fair visible porosity, rare faint yellow fluor, no stain, good streaming cut.
5390½' to 5393½' (5386½' to 5389½')	3'	Sandstone as above with black shale pebbles up to 3/4" in diameter, pebbles flat near bottom of this zone, faint stain, faint fluor., fair streaming cut.

J.M. Huber, Briggeman # 25-1
Core # 1, continued

- | | | |
|--|-----|--|
| 5393½' to 5405½'
(5389½' to 5401½') | 12' | Sandstone: off-white, very-fine to fine grained, well-sorted, subangular, quartzose, dolomitic cement, glauconitic, with numerous black shale laminae, ripple cross-stratification in part, tight, no visible porosity, no stain, no fluor., no cut. |
| 5405½' to 5409½'
(5401½' to 5405½') | 4' | Sandstone: off-white, very fine grained, well sorted, subangular, quartzose, glauconitic, argillaceous in part, with abundant plant fragments, no visible porosity, no stain, no fluor, poor milky cut, with a few shale laminae. |
| 5409½' to 5411'
(5405½' to 5407') | 1½' | Sandstone: off-white, medium to coarse grained, moderately well sorted, subangular, quartzose, friable, fair visible porosity, scattered dull fluor., no cut, no stain, with a few shale laminae. |

J.M. Huber, Briggeman # 25-1

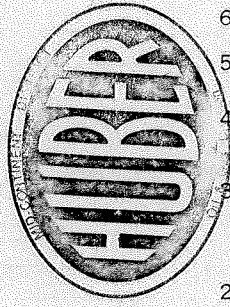
Zones of Interest

- 2000' to 4900' -- No formations above the Morrow are considered productive; none of the zones exhibiting good porosity had good gas shows or good sample shows. Limestones in the Topeka and Kansas City (3160'-3168' and 4080'-4100', respectively) have low water saturations using the standard Archie equation. However, the lack of sample shows and the presence of moldic porosity suggests that the zones are wet.
- 4972' to 5002' -- Morrow "C" sand -- This zone displayed excellent sample porosity and shows; the electric log response is like the same zone in the Huber, Johns #25-1, and the zone is structurally higher than the productive Huber, Johns well. This zone should definitely produce.
- 5010' to 5020' -- Morrow "D" sand-- This sand is not developed. It is likely that the conglomerate logged through this interval is actually part of the bottom of the "C" sand.
- 5195' to 5212' -- Morrow "F" sand-- This zone had a relatively good gas show and poor sample show. Samples and electric logs suggest that the zone is tight.
- 5242' to 5250' -- Morrow "G₁" sand -- This zone had a small gas show but the samples appeared tight, argillaceous and had no sample show. Electric logs confirm that the zone is tight.
- 5266' to 5298' -- Morrow "G₂" sand -- This zone displayed good gas show, good sample show, and the drilling break and sample quality suggests moderate porosity. Electric logs confirm possible production.
- 5361' to 5422' -- Morrow Keyes sand -- This entire zone should produce because gas and sample shows continued almost to the base of the sand. Intervals having high Gamma Ray readings may contribute to production because the increased radioactivity is related to organic matter or shale laminae. There was little or no dispersed shale in the samples.
- 5586' to 5596' -- Mississippian St. Louis -- This zone displayed good porosity in chalk; there did not seem to be any oomoldic porosity. There was no gas show and samples although stained did not cut. Electric logs suggest potential for production. This zone should be tested.

Edith Campbell
Edith Campbell
1919 Tenth Avenue
Canyon, Texas 79015

1st Sales 2-88

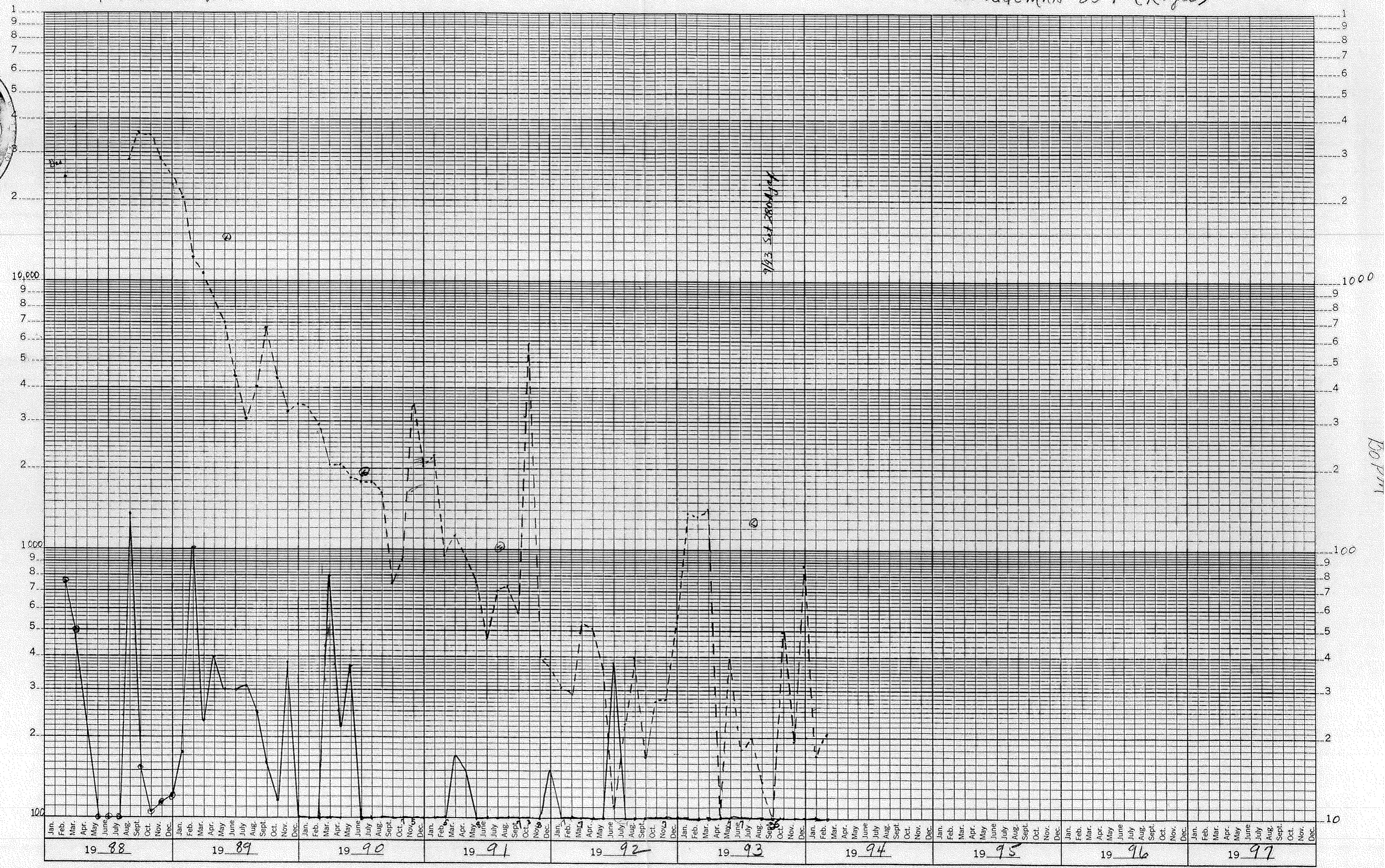
BRIGGEMAN 25-1 (Reyes)



47 6740

K-E 10 YEARS BY MONTHS x 3 LOG CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.

MCFM



BoPm

STATE OF KANSAS - CORPORATION CO. ASSOCIATION
ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

FORM G-2
8-7-58

TYPE TEST: Deliverability Open Flow TEST DATE: April 30, 1991

COMPANY: J. M. Huber Corporation LEASE: Briggeman WELL NO.: 25-1

COUNTY: Morton LOCATION: C NE SE SECTION: 25 TWP: 31S RANG: 41W

FIELD: Kinsler RESERVOIR: Upper Morrow 'C' PIPELINE CONNECTION: Colony Natural Gas

COMPLETION DATE: 3-19-86 PLUG BACK TOTAL DEPTH: 5655' PACKER SET AT: 5342'

CASING SIZE	WT.	L.D.	SET AT	PERF.	TO
7"	23#	6,366	5699'	4972'	- 5002'

TUBING SIZE	WT.	L.D.	SET AT	PERF.	TO
2-3/8"	4.6#	1,995	4977'		

TYPE COMPLETION (Describe): Dual (Gas/Gas) TYPE FLUID PRODUCTION: Gas & Condensate

PRODUCING THRU: Tbg RESERVOIR TEMPERATURE: 143° at 5002' BAR. PRESS - P_a: 14.4 Psia

GAS GRAVITY - G_g: .990 % CARBON DIOXIDE: W/NITROGEN: API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): 4987' TYPE METER CONN.: Flange (METER RUN)(PROVER) SIZE: 3"

SHUT-IN PRESSURE: SHUT IN 4-26 1991 AT 9:30 (AM) (XX) TAKEN 4-29 1991 AT 9:30 (AM) (XX)
 FLOW TEST: STARTED 4-29 1991 AT 9:30 (AM) (XX) TAKEN 4-30 1991 AT 9:30 (AM) (XX)

OBSERVED DATA

DURATION OF SHUT-IN: 72 HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h _w)(h _d)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _c)(P _d) psia	psig	(P _w)(P _c)(P _d) psia		
SHUT-IN						82.0	96.4	37.0	51.4	72	
FLOW	2.250	23.0	2.9	60		82.0	96.4	64.0	78.4	24	1-cond.

RATE OF FLOW CALCULATIONS

COEFFICIENT (P _w) ² / (P _d) ² Mafd	(METER) (PROVER) PRESSURE psia	EXTENSION √(P _w h _w)	GRAVITY FACTOR P _g	FLOWING TEMP. T _L	DEVIATION FACTOR P _{pv}	RATE OF FLOW R Mafd	GOR	G _m
29.52	37.4	10.4	1.005	1.000	1.027	317		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_d)² = 9.3, (P_w)² = 6.2, P_d = 80 % (P_c - 14.4) + 14.4 = 77.1, (P_d)² = 5.9

(P _d) ² - (P _w) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	(P _c ² - P _d ²) / (P _d ² - P _w ²)	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mafd
9.1	3.1	2.9	0.468	0.869	0.406	2.549	808
3.4	3.1	1.1	0.040	0.869	0.035	1.084	344

OPEN FLOW 808 Mafd @ 14.65 psia DELIVERABILITY 344 Mafd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct.

Executed this the 11th day of June, 1991

Don Cummings

For Company
Checked by

Witness (if any)

James P. Gray

