

MEXICO OIL CONSERVATION COMMISSION
One Point Back Pressure Test for Deliverability
(Deliverability)

Form C-122-C
4-1-54

Pool Undesignated Formation Pennsylvanian County Lea
Initial X Annual _____ Special _____ Date of test November 11, 1961
Company Pan American Petroleum Corp. Lease Mary Nellis Well No. 1
Unit 0 Sec. 5 Twp. 19-S Rge. 33-E Purchaser Southern Union
Casing 5 1/2" Wt. 17-20 I.D. - - Set at 13,723 Perf. 13324-359 To 13412-425
Tubing 2" Wt. 4.7 I.D. 1.995 Set at 13,430 Perf. Open ended To _____
Gas Pay: From 13320 To 13425 L 13430 x G .7896 = GL 10,581 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Single- Bradenhead-G.G. or G.O. Dual

FLOW DATA

Started		Taken		Duration Hours	Type Taps	Line Size	Orifice Size	Static Press.	Differ- ential	Flow Temp.
Date	time	Date	time							
<u>11/11/61</u>	<u>NOON</u> <u>12 XX</u>	<u>11/12/61</u>	<u>NOON</u> <u>12 XX</u>	<u>24</u>	<u>Flg.</u>	<u>4</u>	<u>2</u>	<u>453</u>	<u>11</u>	<u>72</u>
	PM		PM							

FLOW CALCULATIONS

Static Pressure P _f	Differ- ential h _w	Meter Extension $\sqrt{P_f h_w}$	24-Hour Coeff- icient	Gravity Factor F _g	Temp. Factor F _t	Compress- ability F _{pv}	Rate of Flow MCF/Da. @ 15.025 psia Q
<u>466.2</u>	<u>11</u>	<u>71.62</u>	<u>25.58</u>	<u>0.9258</u>	<u>0.9887</u>	<u>1.054</u>	<u>1.764</u>

SHUT-IN DATA

Shut-in		Press. Taken		Duration Hours	Wellhead Pressure (P _c) psia		W.H. Working Pressure (P _w) and (P _t) psia	
Date	Time	Date	Time		Tubing	Casing	Tubing	Casing
<u>11/8/61</u>	<u>AM</u>	<u>11/11/61</u>	<u>NOON</u> <u>12 XX</u>	<u>70</u>	<u>4366.2</u>	<u>1313.2</u>	<u>513.2</u>	<u>1313.2</u>
	<u>2:00 PM</u>		PM					

FRICTION CALCULATIONS(if necessary)

$$P_r^2 = (9.936 \times 1.764)^2 (0.5174) \div (513.2)^2$$

$$P_r^2 = 422.4$$

DELIVERABILITY CALCULATIONS

$$P_w \underline{649.9} \quad P_c \underline{4366.2} \quad P_w + P_c \underline{0.1488}$$

$$1 - \frac{P_w}{P_c} \underline{0.8512} \quad 1 + \frac{P_w}{P_c} \underline{1.1488} \quad \left(1 - \frac{P_w}{P_c}\right) \left(1 + \frac{P_w}{P_c}\right) = M \underline{0.97786}$$

$$.36 + M \underline{0.3681} \quad \text{Log } \underline{9.565966} \quad \times (n) \underline{1.0000} = \underline{9.565966} +$$

SUMMARY

$$P_c = \underline{4366.2} \text{ psia}$$

$$Q = \underline{1.764} \text{ MCF/Da.}$$

$$P_w = \underline{649.9} \text{ psia}$$

$$P_d = \underline{3493} \text{ psia}$$

$$D = \underline{639.3} \text{ MCF/Da.}$$

COMPANY Pan American Petroleum Corporation
ADDRESS Box 68, Hobbs, New Mexico
AGENT and TITLE Original Signed By J. W. Meek, Area Engineer
WITNESSED B. A. Kelley, and J. T. Rodgers
COMPANY Pan American Petroleum Corporation

$$\text{Log } Q = \underline{10.246499}$$

$$\text{Log } D = \underline{9.812465-10}$$

$$\text{Antilog } = \underline{639.3 \text{ MCF}} = D$$

REMARKS

GOR 29,400 cf/bbl. Slope of back pressure curve assumed 1.000. AOF based on one-point test herein reported.