

COPY

HUMBLE OIL & REFINING COMPANY

Farmington, New Mexico
HOUSTON, TEXAS
September 18, 1957

Mr. Emery C. Arnold
Supervisor, District III
New Mexico Oil Conservation Commission
120 E. Chaco
Aztec, New Mexico

Dear Mr. Arnold

Initial Potential tests, using a 3/4-inch positive choke in accordance with the Commission's Memorandum 1-56, were conducted recently for Humble's Jicarilla Apache Tribe J-9, a gas-gas dual well in the South Blanco Field. Completed forms C-122 for the tests are attached and show that Jicarilla J-9-Chacra produced through the tubing whereas J-9-Pictured Cliffs produced through the casing (tubing-casing annulus). Because of road washouts and general muddy conditions, the first test (Pictured Cliffs) was made after a 13-day shut-in instead of the usual 7-day period. In accordance with your request, a 7-day shut-in period was allowed from the first test to the date of the second test (Chacra zone).

In view of the tests being conducted at a time when a Commission representative was not available to witness one or both of the measurements, the following information is submitted in accordance with the advance request by Mr. A. R. Kendrick of your office.

Date shut in, after cleaning:	Pictured Cliffs	8-21-57
	Chacra	8-23-57

Pictured Cliffs (casing) Test:	9-3-57
Shut-in Casing Pressure:	840 psig
Shut-in Tubing Pressure:	881 psig
Opened casing (annulus) on 3/4-inch choke for 3 hours	

After	Pressure, psig	
	Casing	Tubing
Zero (Shut in)	840	881
1/2 hour	98	882
1 hour	93	882
1-1/2 hours	84	882
2 hours	79	882
2-1/2 hours	75	882
3 hours	70	882

Calculated rate of flow at end of test: 943 Mcf/D
Calculated Absolute Open Flow Potential: 951 Mcf/D

Chacra (Tubing) Test:	9-10-57
Shut-in Tubing Pressure:	898 psig
Shut-in Casing Pressure:	850 psig

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

ONE
SHUT-IN-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool South Blanco-Pict. Cliffs Formation Pictured Cliffs County Rio Arriba
Initial X Annual _____ Special _____ Date of Test 9-3-57
Company Humble Oil & Refining Company Lease Jicarilla Apache Tribe J Well No. 9 (Pict. Cliffs)
Unit 0 Sec. 6 Twp. 25N Rge. 9W Purchaser Not Connected (To be Southern Union Gas Company)
Casing 5-1/2" Wt. 14 I.D. 5.012 Set at 3905 Perf. 2837 To 2896
Tubing 2-3/8" Wt. 4.7 I.D. 1.995 Set at 3698 Perf. None To None *Got sleeve, closed, at 2800'*
Gas Pay: From 2837 To 2896 L 2837 xG 0.7 (Est) GL 1986 Bar.Press. 12
Producing Thru: Casing X Tubing _____ Type Well Gas-Gas Dual
Date of Completion: 9-10-57 Sweet Packer at 3310-3315 Reservoir Temp. 95° F (Based on measurements in other wells)

OBSERVED DATA

Tested Through (Pictured Cliffs) (Choke) (None) Type Taps _____

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Sizing) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>881 (Chacra)</u>		<u>840 (Pictured Cliffs)</u>		
1.		<u>3/4"</u>	<u>70</u>		<u>528</u>	<u>882</u>		<u>70</u>	<u>55</u>	<u>3 hours</u>
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>12.365</u>		<u>82</u>	<u>1.0048</u>	<u>0.9258</u>	<u>1.00</u>	<u>943</u>
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c _____ (1-e^{-s})

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 852 P_c² 725.9

No.	P _w Calculated E _r (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ² (Thousands)	P _c ² -P _w ²	Cal. P _w	P _w (psia) P _c (psia)
1.	<u>84</u>					<u>7.1</u>	<u>718.8</u>	<u>84</u>	<u>0.099</u>
2.									
3.									
4.									
5.									

Absolute Potential: 951 MCFPD; n 0.65COMPANY Humble Oil & Refining Company
ADDRESS Box 1268, Farmington, New MexicoAGENT and TITLE Russell M. Lilly, District SuperintendentWITNESSED COPY ORIGINAL
COMPANY SIGNED R. M. Lilly

REMARKS

BGH/r
Orig. & 2 cc: NMOC, Altec, N.M.
cc: NMOC, Midland, Texas
cc: Well record file

Three-hour test with 3/4-inch choke, 7 days prior to the test of tubing zone (Chacra zone), was made in accordance with New Mexico Oil Conservation Commission Memorandum 1-56, relating to Initial Potential Tests, San Juan Basin. Total shut-in period of Pictured Cliffs zone, before test, was 13 days.



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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

~~ONE~~
~~POINT~~ POINT BACK PRESSURE TEST FOR GAS WELLS

Pool South Blanco - Chaera Formation Chaera County Rio Arriba
Initial X Annual _____ Special _____ Date of Test 9-10-57
Company Humble Oil & Refining Company Lease Jicarilla Apache Tribe J Well No. 9 (Chaera zone)
Unit 0 Sec. 6 Twp. 25N Rge. 5W Purchaser Not Connected (To be Southern Union Gas Company)
Casing 5-1/2" Wt. 14 I.D. 5012 Set at 3905 Perf. 3708 To 3732
Tubing 2-3/8" Wt. 4.7 I.D. 1.995 Set at 3698 Perf. None To None *GOT 5/1000' open at 3665'*
Gas Pay: From 3708 To 3732 L 3665 xG 0.7 (Est.) GL 2566 Bar.Press. 12.0
Producing Thru: Casing _____ Tubing X Type Well Gas-Gas Dual
Date of Completion: 9-10-57 Sweet Packer at 3710-3715 Reservoir Temp. 110° F (Est.)

OBSERVED DATA

Tested Through (Pressure) (Choke) (Vent) Type Taps _____

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Prover) (Line) Size	(Choke) (Vent) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.		<u>3/4"</u>	<u>57</u>		<u>58</u>	<u>57 (Chaera)</u>	<u>58</u>	<u>570 (Pictured Cliffs)</u>		<u>3 hours</u>
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>12.365</u>		<u>69</u>	<u>1.0019</u>	<u>0.9258</u>	<u>1.00</u>	<u>791</u>
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c _____ (1-e^{-S})

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 910 P_c² 828.1

No.	P _w Calculated X _g (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-S})	P _w ² (Thousands)	P _c ² -P _w ²	Cal. P _w	P _w (psia) P _c (psia)
1.	<u>119</u>					<u>14.2</u>	<u>813.9</u>	<u>119</u>	<u>0.131</u>
2.									
3.									
4.									
5.									

Absolute Potential: 801 MCFPD; n 0.75COMPANY Humble Oil & Refining CompanyADDRESS Box 1268, Farmington, New MexicoAGENT AND TITLE Russell M. Lilly, District SuperintendentWITNESSED COPY ORIGINAL SIGNED: R M LILLY

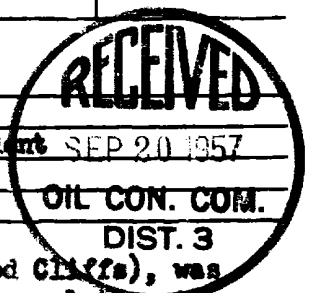
COMPANY _____

EGH/r

REMARKS

Three-hour test with 3/4-inch choke, 7 days after test of casing zone (Pictured Cliffs), was made in accordance with New Mexico Oil Conservation Commission Memorandum 1-56, relating to Initial Potential Tests, San Juan Basin. Total shut-in period of Chaera zone, before test, was 18 days.

Orig. & 2 cc: NMOC, Altec, N.M.
cc: HOC&Co, Midland, Texas
cc: Well record file



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