

# PAN AMERICAN PETROLEUM CORPORATION

Box 487, Farmington, New Mexico  
November 16, 1959

File: B-2368-400.1

Subject: Packer Leakage Test  
Houck Gas Unit No. 1  
SW/4 NE/4, Section 6  
T-29-N, R-9-W  
San Juan County, New Mexico

Mr. E. C. Arnold (2)  
New Mexico Oil Conservation Commission  
1000 Rio Brazos Road  
Aztec, New Mexico

Dear Sir:

In accord with Rules and Regulations of the New Mexico Oil Conservation Commission, Pan American Petroleum Corporation hereby gives the required 3-day notice in advance that it plans to conduct a packer leakage test on Houck Gas Unit No. 1 beginning at 1:00 p.m., on Thursday, November 19, 1959. Houck Gas Unit No. 1 is dually completed in the Mesaverde (Blanco) and Pictured Cliffs (Blanco) formations.

A similar dual completion in the Mesaverde and Pictured Cliffs formations was authorized for Pubco Petroleum Company's State of New Mexico No. 14, SW/4 SW/4 Section 36, T-30-N, R-9-W, by Order No. DC-801, dated August 26, 1959.

Very truly yours,

PAN AMERICAN PETROLEUM CORPORATION

*L. O. Speer, Jr.*  
L. O. Speer, Jr. *LMR*  
Area Superintendent

RBB:hh

cc: El Paso Natural Gas Co.  
Farmington, New Mexico  
Delhi-Taylor Oil Corp.  
Farmington, New Mexico



## PAN AMERICAN PETROLEUM CORPORATION

Box 487, Farmington, New Mexico  
November 27, 1959

File: B-2380-400.1

Subject: Application for Dual Completion  
Houck Gas Unit No. 1  
Blanco Mesaverde and  
Blanco Pictured Cliffs Fields  
San Juan County, New Mexico

Mr. A. L. Porter (2)  
New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Dear Sir:

In accordance with the provisions of Rule No. 112-A, Multiple Completions, as amended by Order No. B-1214, dated July 3, 1958, Pan American Petroleum Corporation respectfully requests administrative approval to dually complete the Houck Gas Unit No. 1 in the Blanco Mesaverde and Blanco Pictured Cliffs gas zones. Houck Gas Unit No. 1 is located in Unit G, Section 6, T-29-N, R-9-W, and is approximately five miles west of Pubco Petroleum Corporation's State No. 14 which was approved for dual completion in the same zones by Order No. DC-801 dated August 26, 1959.

As specified in Rule 112-A, we are submitting in quadruplicate an Application for Dual Completion, a Diagrammatic Sketch of Dual Completion, and a plat showing the location of the Houck Gas Unit No. 1 with respect to offsetting wells, including the names and addresses of offset operators. Also submitted is one copy of the electric log which has been posted with the required completion data.

Also being submitted in quadruplicate is a Packer Leakage Test which was completed successfully on November 23, 1959. Included with the Packer Leakage Test is the required packer setting affidavit.

By registered letter, offset operators are being furnished a copy of this letter and a copy of the Dual Completion Application.

Very truly yours,

PAN AMERICAN PETROLEUM CORPORATION

Original signed by

L. O. SPEER, JR.

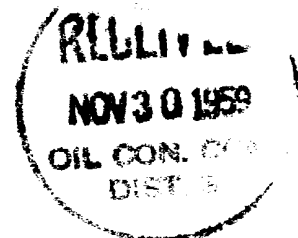
L. O. Speer, Jr.

Area Superintendent

RBB:hh

cc: Mr. E. C. Arnold (2) ✓  
El Paso Natural Gas Co., Farmington, N. M.  
Delhi-Taylor Oil Corp. Farmington, N. M.  
Texaco, Inc., Farmington, N. M.

COPY



AMERICAN REPRODUCTION CORPORATION

Box 187, Franklin, New Jersey  
November 27, 1959

Dear Sir:

Enclosed for you are two copies of  
a letterhead memorandum dated  
November 27, 1959, and a copy of  
a letterhead memorandum dated  
November 27, 1959.

Very truly yours,  
[Signature]  
[Name]  
[Title]

cc: [Name]

Enclosed for you are two copies of a letterhead memorandum dated November 27, 1959, and a copy of a letterhead memorandum dated November 27, 1959. The letterhead memoranda are being furnished to you for your information and for your use in the preparation of the report on the subject of the investigation of the activities of the [Name] in the [Location] area. The letterhead memoranda are being furnished to you for your information and for your use in the preparation of the report on the subject of the investigation of the activities of the [Name] in the [Location] area.

The letterhead memorandum dated November 27, 1959, is being furnished to you for your information and for your use in the preparation of the report on the subject of the investigation of the activities of the [Name] in the [Location] area. The letterhead memorandum dated November 27, 1959, is being furnished to you for your information and for your use in the preparation of the report on the subject of the investigation of the activities of the [Name] in the [Location] area.

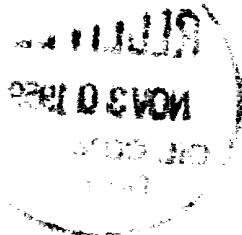
The letterhead memorandum dated November 27, 1959, is being furnished to you for your information and for your use in the preparation of the report on the subject of the investigation of the activities of the [Name] in the [Location] area. The letterhead memorandum dated November 27, 1959, is being furnished to you for your information and for your use in the preparation of the report on the subject of the investigation of the activities of the [Name] in the [Location] area.

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Very truly yours,

[Signature]  
[Name]

[Signature]  
[Name]



cc: [Name]  
[Name]  
[Name]  
[Name]  
[Name]

COPY

OIL CONSERVATION COMMISSION  
1000 Rio Brazos Rd.  
Aztec, New Mexico

OIL CONSERVATION COMMISSION  
BOX 871  
SANTA FE, NEW MEXICO

DATE 11-30-59

RE: Proposed NSP \_\_\_\_\_

Proposed NSL \_\_\_\_\_

Proposed NFO \_\_\_\_\_

Proposed DC ✓

Gentlemen:

I have examined the application dated 11-27-59  
for the Paul L. Linn Block 1, Sec 14, T4N, R10E, S10W  
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

Approve  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

Emery C. Clark  
OIL CONSERVATION COMMISSION

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

## APPLICATION FOR DUAL COMPLETION

Field Name <b>Blanco Mesaverde</b>		County <b>San Juan</b>		Date <b>November 27, 1959</b>
Operator <b>Pan American Petroleum Corporation</b>		Lease <b>Houck Gas Unit</b>		Well No. <b>1</b>
Location of Well	Unit <b>G</b>	Section <b>6</b>	Township <b>29N</b>	Range <b>9W</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☒ NO ☐

2. If answer is yes, identify one such instance: Order No. **DC-801**; Operator, Lease, and Well No.: **Pabco Petroleum Company, State No. 14, SW/4 SW/4 Section 36 T-30-N, R-9-W**

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	<b>Blanco Pictured Cliffs</b>	<b>Blanco Mesaverde</b>
b. Top and Bottom of Pay Section (Perforations)	<b>2212-2250</b>	<b>3854-4750</b>
c. Type of production (Oil or Gas)	<b>Gas</b>	<b>Gas</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Flowing</b>	<b>Flowing</b>

4. The following are attached. (Please mark YES or NO)

Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

Yes c. Waivers consenting to such dual completion from each offset operator; or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*

Yes d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

**El Paso Natural Gas Company, Box 997, Farmington, New Mexico**

**Delhi-Taylor Oil Corporation, 305 W. Main, Farmington, New Mexico**

**Texaco, Inc., Box 817, Farmington, New Mexico**

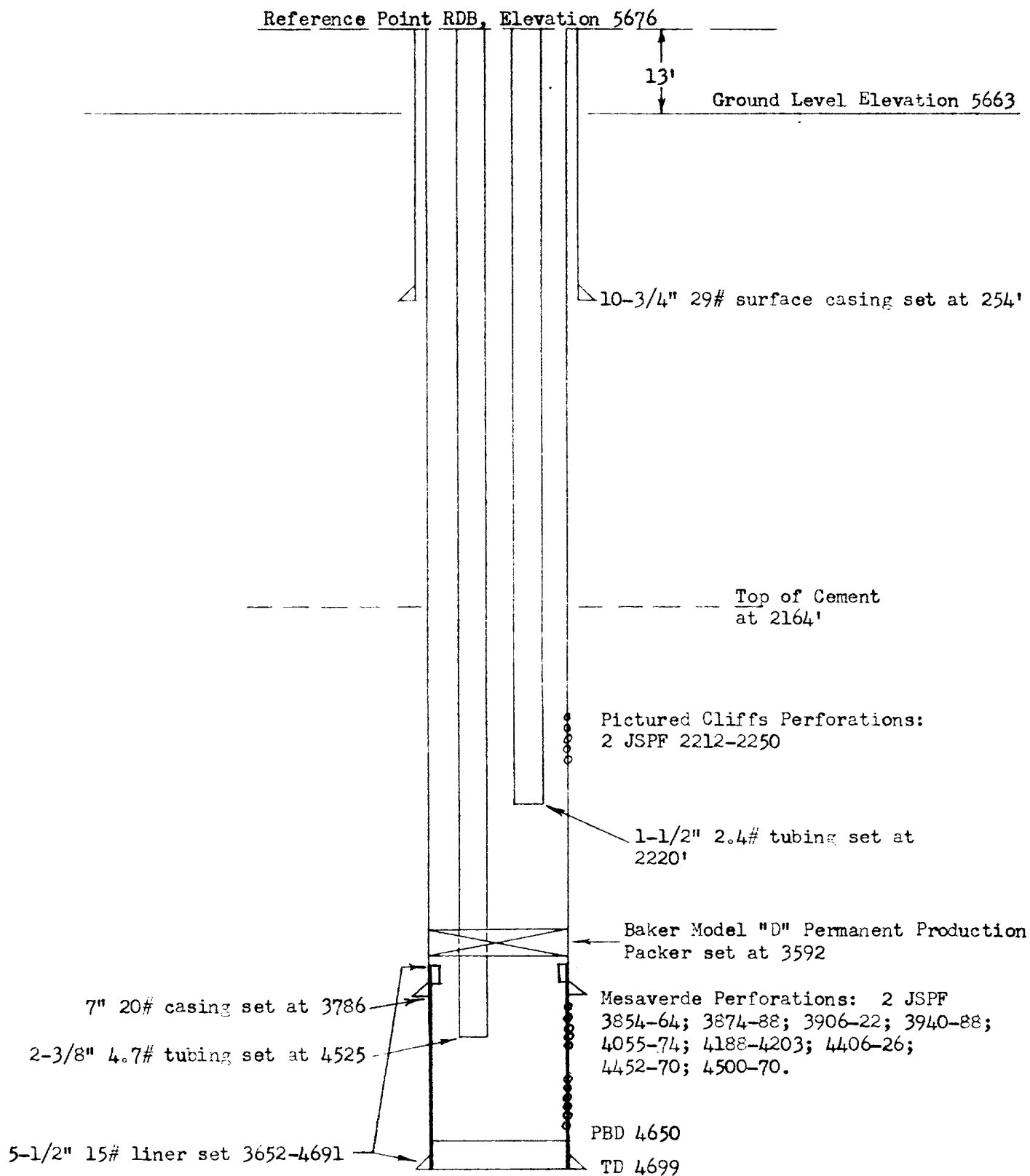
6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☒ NO ☐ . If answer is yes, give date of such notification **Registered Mail, 11-27-59** .

CERTIFICATE: I, the undersigned, state that I am the **Area Superintendent** of the **Pan American Petroleum Corporation** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

*L. O. Speer, Jr.*  
L. O. Speer, Jr. Signature

\* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.



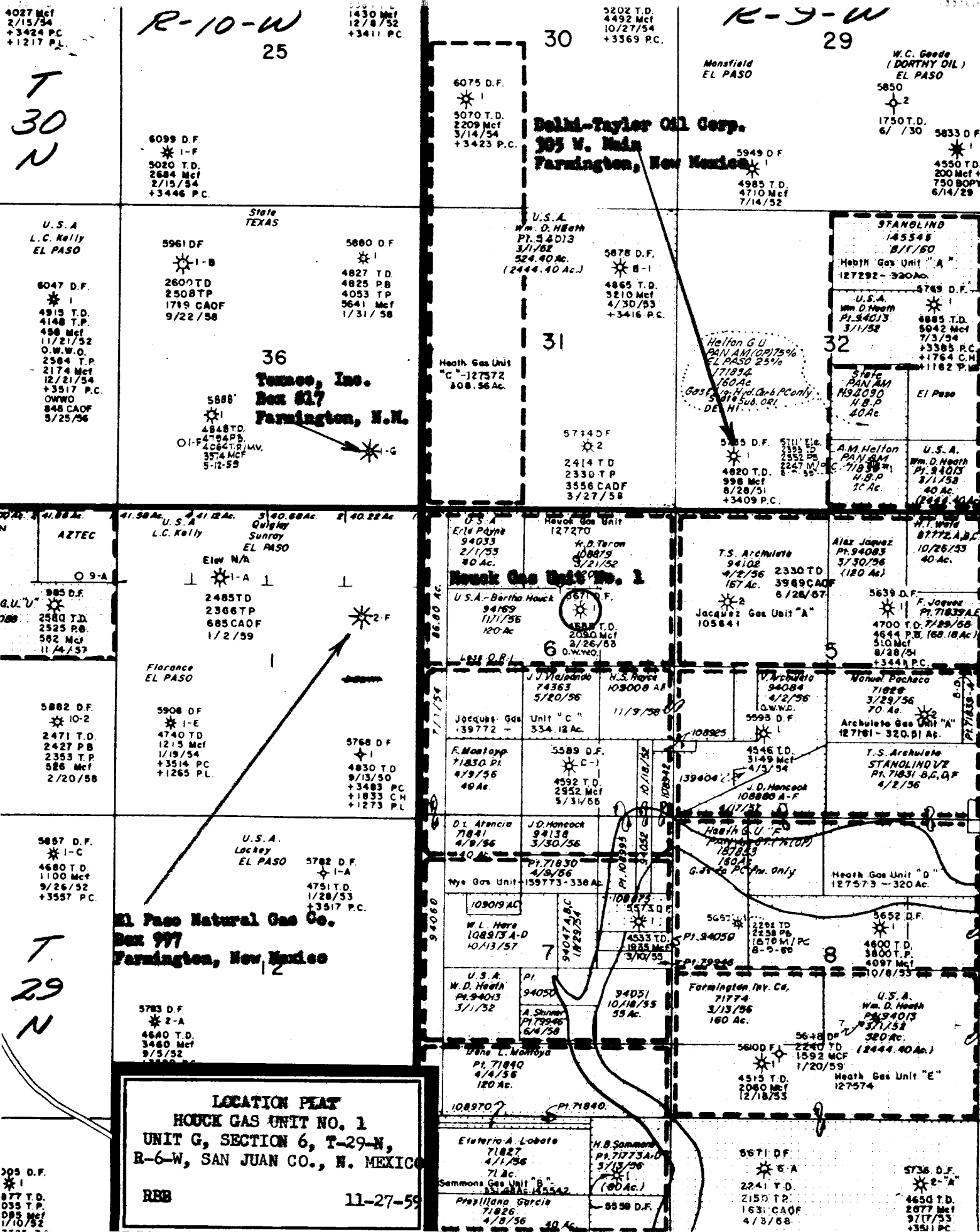
PAN AMERICAN PETROLEUM CORPORATION

SCALE:

RBB 11-27-59

Houck Gas Unit No. 1 - Diagrammatic Sketch of Dual Completion

DRG.  
No.



LOCATION PLAT  
HOUCK GAS UNIT NO. 1  
UNIT G, SECTION 6, T-29-N,  
R-6-W, SAN JUAN CO., N. MEXICO  
REB 11-27-59

STATE OF NEW MEXICO     }  
COUNTY OF SAN JUAN    }

I, Mack Mahaffey, being first duly sworn upon my oath depose and says as follows:

I am an employee of Baker Oil Tools, Inc., and that on October 26, 1959, I was called to the location of the Pan American Petroleum Corporation's Hensok Gas Unit No. 1, Well located in the Unit G of Section 6, Township 29N, Range 9W, N. M. P. M. for the purpose of installing a production packer. Under my direct supervision a Baker Model D production packer was set at 3592 feet. The production packer was properly set in accordance with the usual practices and customs of the industry.

Mack Mahaffey

Baker Oil Tools, Inc.

Subscribed and sworn to before me, a Notary Public in and for San Juan County, New Mexico, the 5th day of November, 1959.

Douglas H. Hill  
Notary Public in and for San Juan  
County, New Mexico

My Commission Expires Oct. 29, 1962

My commission expires



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## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Blanco-Mesaverde Formation Mesaverde County San Juan  
(Dual with Blanco-Pictured Cliffs)  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 11-23-59

Company Pan American Petroleum Corp. Lease Houck Gas Unit Well No. 1

Unit G Sec. 6 Twp. 29N Rge. 9W Purchaser El Paso Natural Gas Company

\*Casing 7 Wt. 20 I.D. 6.456 Set at 3786 Perf. 3854 To 4570

Tubing 2-3/8 Wt. 4.7 I.D. 1.995 Set at 4525 Perf. 4529 To 4525

Gas Pay: From 3786 To 4686 L 4529 xG 0.673 -GL 3041 Bar.Press. 12

Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Gas-Gas Dual

Date of Completion: 11-8-59 Packer 3592 Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. 120° F

\*5" 15# liner set 3632-4691

## OBSERVED DATA

Tested Through (416064) (Choke) (416065) Type Taps \_\_\_\_\_

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Choke) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI	Shut in 15 days					863		---		
1.	2"	3/4"	232		80° (est.)	283		---		3 hours
2.										
3.										
4.										
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	12.365		244	1.000	0.9441	1.026	2922
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 9.402 (1-e<sup>-s</sup>) 0.198

Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 875 P<sub>c</sub><sup>2</sup> 765,625

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> /P <sub>c</sub>
1.	275	75,625	27.673	756.766	149,444	225,069	540,556	476	
2.									
3.									
4.									
5.									

Absolute Potential: 3794 MCFPD; n 0.75

COMPANY Pan American Petroleum Corporation

ADDRESS Box 457, Farmington, New Mexico

AGENT and TITLE M. H. Bauer, Jr., Area Engineer *RM Bauer, Jr.*

WITNESSED \_\_\_\_\_

COMPANY \_\_\_\_\_

REMARKS \_\_\_\_\_



## INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

## NOMENCLATURE

$Q$  = Actual rate of flow at end of flow period at W. H. working pressure ( $P_w$ ).  
MCF/da. @ 15.025 psia and 60° F.

$P_c$  = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.  
psia

$P_w$  = Static wellhead working pressure as determined at the end of flow period.  
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia

$P_t$  = Flowing wellhead pressure (tubing if flowing through tubing, casing if  
flowing through casing.) psia

$P_f$  = Meter pressure, psia.

$h_w$  = Differential meter pressure, inches water.

$F_g$  = Gravity correction factor.

$F_t$  = Flowing temperature correction factor.

$F_{pv}$  = Supercompressibility factor.

$n$  = Slope of back pressure curve.

Note: If  $P_w$  cannot be taken because of manner of completion or condition of well, then  $P_w$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_t$ .

OIL CONSERVATION COMM.		
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