NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Blanco Formation Mesa Verde County Rio Arriba

Initial X Annual ____ Special ____ Date of Test Sept. 26, 1957

Company Southern Union Gas Co. Lease San Juan Unit 29-7 Well No. 59

Unit L Sec. 27 Twp. 29N Rge. 7W Purchaser El Paso Natural Gas Co.

Casing 7 5/8" Wt. 26.4 I.D. 6.969 Set at 0.3815 3480-6029 Perf. 5353 To 5914

Tubing 2 3/8" Wt. 4.7 I.D. 2.0 Set at 5934 Perf. 5904 To 5934

Gas Pay: From 5353 To 5914 L ____ xG 0.67 est. -GL ____ Bar.Press. 12.0

Producing Thru: Casing ____ Tubing X Type Well Single - Gas
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: ____ Packer ____ Reservoir Temp. ____

OBSERVED DATA

Tested Through ~~(Prover)~~ (Choke) ~~(Meter)~~ Type Taps ____

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						1059		1061		75 days
1.		3/4"	294		65°	294	65°	674		3 hours
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.	12.3650		306	0.9952	0.9463	1.034	3,684
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 1073 P_c^2 1151.3
P_w 686 P_w^2 470.6

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.									
2.						470.6	680.7		0.639
3.									
4.									
5.									

Absolute Potential: 5,474 MCFPD; n 0.75

COMPANY Southern Union Gas Co.
ADDRESS P. O. Box 815; Farmington, New Mexico
AGENT and TITLE Vernon Rucker, Geologist
WITNESSED Tom Grant
COMPANY El Paso Natural Gas Co.

REMARKS

RECEIVED
OIL CON. COM.
DIST. 3

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.

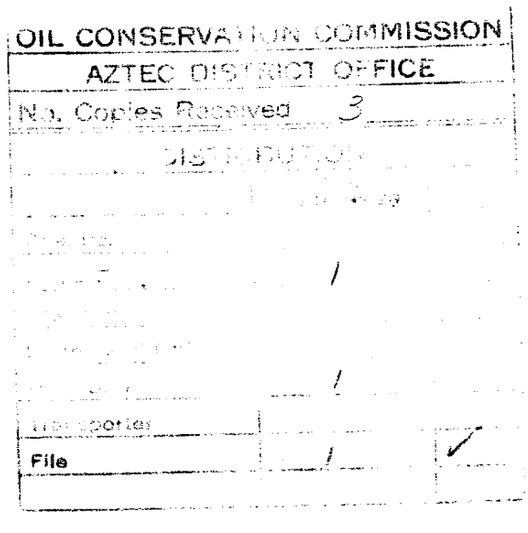
F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

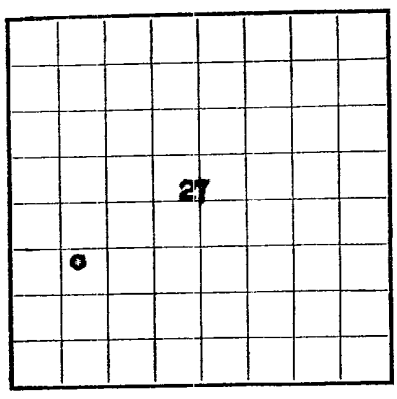
Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.



Budget Bureau No. 42-R355.4.
Approval expires 12-31-60.

Form 9-330

U. S. LAND OFFICE Santa Fe
SERIAL NUMBER SF 078425
LEASE OR PERMIT TO PROSPECT



LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
OCT 14 1957
U. S. GEOLOGICAL SURVEY
FARMINGTON, NEW MEXICO

LOG OF OIL OR GAS WELL

Company Southern Union Gas Company Address 1001 Burt Building, Dallas, Texas
Lessor or Tract San Juan 29-7 Unit Field Blanco State New Mexico
Well No. 59 Sec. 27 T. 29N R. 7W Meridian N.M.P.M. County Rio Arriba
Location 1650 ft. {N.} of S Line and 990 ft. {E.} of W Line of Section 27 Elevation 5865
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed L. S. Maennink
Date October 9, 1957 Title Exploration Engineer

The summary on this page is for the condition of the well at above date.

Commenced drilling 6-22-, 19 57 Finished drilling 7-9-, 19 57

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OCT 15 1957
OIL CON. COM.
DIST. 3

OIL OR GAS SANDS OR ZONES

(*Denote gas by G*)

No. 1, from 5353 to 5914 (G) No. 4, from ____ to ____
No. 2, from ____ to ____ No. 5, from ____ to ____
No. 3, from ____ to ____ No. 6, from ____ to ____

IMPORTANT WATER SANDS

No. 1, from ____ to ____ No. 3, from ____ to ____
No. 2, from ____ to ____ No. 4, from ____ to ____

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated From—	Perforated To—	Purpose
10-3/4	32.75#	8RD	H-40	214					Surface Production
7-5/8	26.4#	8RD	J-55	3815					
5-1/2	15.5#	8RD	J-55	5914					

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
10-3/4	214 GL	200	Halliburton		
7-5/8	3815 KB	150	Halliburton		
5-1/2	Liner, top 3480, bottom 6029	w/275 sacks			
2-3/8	5914				

FOLD MARK

PLUGS AND ADAPTERS

Heaving plug—Material ____ Length ____ Depth set ____
Adapters—Material ____ Size ____

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
Perf. 5353-5462, 5734-5748, 5816-5914, fraced with 109,536 gals. water and 100,000# sand.						

TOOLS USED

Rotary tools were used from -0- feet to 3810 w/mud feet, and from 3810 feet to 6030 w/gas feet
Cable tools were used from ____ feet to ____ feet, and from ____ feet to ____ feet

DATES

7-14-, 19 57 Put to producing ____, 19____

The production for the first 24 hours was ____ barrels of fluid of which ____% was oil; ____% emulsion; ____% water; and ____% sediment. Gravity, °Bé. ____

If gas well, cu. ft. per 24 hours 5474 MCF Gallons gasoline per 1,000 cu. ft. of gas ____

Rock pressure, lbs. per sq. in. 1061#/75 days

EMPLOYEES

Flenger Drilling, Inc., Driller J. M. Murphy, Driller
R. L. Lynch, Driller J. A. Thompson, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
-0-	216	216	Sand rock - shale
216	1842	1626	Sand & shale
1842	1945	103	Shale
1945	3420	1475	Sand & shale
3420	3624	204	Sand, shale & coal
3624	3895	271	Sand & shale
3895	4233	338	Sand
4233	5566	1333	Sand & shale
5566	5630	64	Sand, shale & coal
5630	6030 TD	400	Sand & shale

TOPS: Pictured Cliffs 3632
Cliff House 5270
Point Lookout 5810

[OVER]
16—43094-4

FORMATION RECORD—Continued

FROM—	TO—	TOTAL FEET	FORMATION

16—43094-2 U. S. GOVERNMENT PRINTING OFFICE

HISTORY OF OIL OR GAS WELL

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.