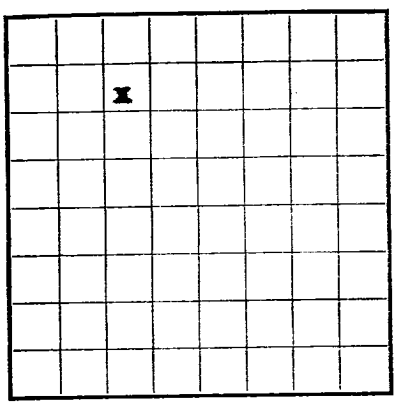
Budget Bureau No. 42-R355.4.
Approval expires 12-31-60.

Form 9-330

RECEIVED

U. S. LAND OFFICE Santa Fe
SERIAL NUMBER SF-080614
LEASE OR PERMIT TO PROSPECT Gallegos Canyon Unit

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



LOCATE WELL CORRECTLY

LOG OF OIL OR GAS WELL

Company Pan American Petroleum Corporation Address Box 480, Farmington, New Mexico
Lessor or Tract Gallegos Canyon Unit Field Basin Dakota State New Mexico
Well No. 102 Sec. 13 T. 29N R. 13W Meridian N.M.P.M. County San Juan
Location 1190 ft. {N./S.} of N Line and 1740 ft. {E./W.} of W Line of Section 13 Elevation 5430 (RDB)
(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 ORIGINAL SIGNED BY R. W. Bauer, Jr. Title Senior Petroleum Engineer

Date September 25, 1961

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

Commenced drilling August 11, 1961 Finished drilling August 21, 1961

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 5953 to 5957 No. 4, from ____ to ____
No. 2, from 5965 to 5971 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
8-5/8"	24#	8rd	A.R.M.C.	360'	Guide				Surface
4-1/2"	9.5#	8rd	C.P.& I.	6104	Guide				Oil String

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8-5/8"	360'	225	Halliburton	1 plug	
4-1/2"	6088'	975	Halliburton	2 plug	

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

TOOLS USED

Rotary tools were used from 0 feet to 6092' feet, and from ____ feet to ____ feet
Cable tools were used from ____ feet to ____ feet, and from ____ feet to ____ feet

DATES

Completed as Shut In Basin Dakota Field Gas Well September 10, 1961 Well Shut-in for pipeline connection
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 2506 Gallons gasoline per 1,000 cu. ft. of gas ____

Rock pressure, lbs. per sq. in. 1900 (SICP)

EMPLOYEES

John D. Roe, Driller J. G. Brinkly, Driller
R. C. Cary, Driller Charles Lockhart, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1280	1280	Surface sands and shales
1280	1540	260	Pictured Cliffs sands and shales
1540	2325	785	Lewis shale
2325	4090	1765	Mesaverde sands and shale
4090	5005	915	Mancos shale
5005	5422	417	Gallup sands and shale
5422	5750	328	Sanastee sands and shales
5750	5870	120	Greenhorn sands and shales
5870	6092	222	Dakota sands and shales
			(Tops from "E" Log)

16—43094-4

FORMATION RECORD—Continued

FROM—	TO—	TOTAL FEET	FORMATION

FROM—	TO—	TOTAL FEET	FORMATION

FORMATION RECORD

Dufiet

Dufiet

EMPLOYEES

Rock pressure, lbs. per sq. in.

H gas well, cu. ft. per 24 hours

Gallons gasoline per 1,000 cu. ft. of gas

stimulation; % water; bbls. % sediment.

The production for the first 24 hours was ... barrels of fluid of which % was oil; %

Gravity, °Bé.

Put to producing ... lbs.

DATES

Kofaty tools were used from ... feet to ... feet, and from ... feet to ... feet

Cable tools were used from ... feet to ... feet, and from ... feet to ... feet

TOOLS USED

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

SHOOTING RECORD

Adapters—Material ... Size ...

Heaving plug—Material ... Length ... Depth set ...

PLUGS AND ADAPTERS

Size	Where set	Material used	Length	Depth set

MUDDING AND CEMENTING RECORD

Size	Where set	Number of sacks of cement	Method used	Mud gravity	Amount of mud used

HISTORY OF OIL OR GAS WELL

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

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.

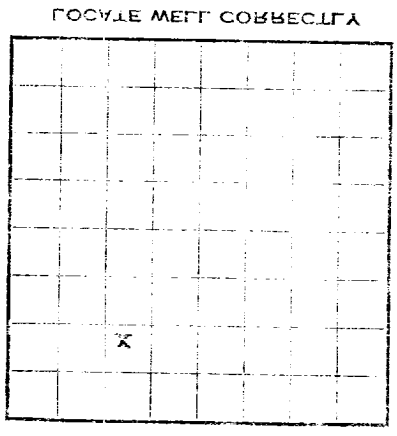
Spudded 12-1/4" hole August 11, 1961. Set 8-5/8" casing at 360' with 225 sacks of cement containing 2 percent Calcium Chloride. Circulated 10 sacks of cement. Tested 8-5/8" casing with 500 psi for 30 minutes, held with no indication of pressure drop. Reduced hole to 7-7/8" at 360'.

Set 4-1/2" casing at 6088' with Halliburton DV tool at 1603'. Cemented first stage with 275 sacks 6 percent gel cement containing 1-1/2 pounds medium Tuf Plug and 100 sacks neat cement. Tested casing with 3000 psi for 15 minutes, which held with no indication of pressure drop. Cemented second stage with 500 sacks 6 percent gel cement. Circulated out 65 sacks good cement. Tested with 3000 psi for 15 minutes, which held no indication of pressure drop.

Ran Gamma Ray Correlation Log and perforated Dakota with 6 shots per foot 5953-5957' and 5965 - 5971'. Sand water fracked with 24,000 gallons water containing 1 per cent Calcium Chloride and 7 pounds per 1,000 gallons J-22 and 39,000 pounds sand. Pressures were: Breakdown 1480 psi; Maximum treating 3000 psi; Minimum treating 2200 psi; Average treating 2700 psi. Average injection rate 33.4 barrels per minute.

Gallegos Canyon Unit 102 Completed September 10, 1961 as Shut-in Basin Dakota Field Gas Well. Preliminary test September 10, 1961 flowed 3 hours and gauged 2506 MCF per day with tubing pressure flowing 150 psi and casing pressure flowing 500 psi. Top pay Dakota 5952'. Elevation ground level 5417'. Rotary Drive Bushing 5430'.

LOCATE WELL CORRECTLY



LOG OF OIL OR GAS WELL

GEOLOGICAL SURVEY

DEPARTMENT OF THE INTERIOR

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