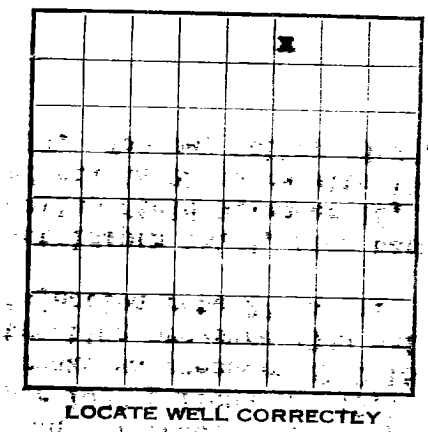
Form 9-330

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

RECEIVED
NOV 24 1961
OIL CON. COM.
DIST. 3

U.S. LAND OFFICE Santa Fe
SERIAL NUMBER 3F-078807-A
LEASE OR PERMIT TO PROSPECT Gallegos Canyon Unit



LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Pan American Petroleum Corporation Address P. O. Box 480, Farmington, New Mexico
Lessor or Tract Gallegos Canyon Unit Field Totah Gallup State New Mexico
Well No. 101 Sec. 13 T. 28N R. 13W Meridian N.M.P.M. County San Juan
Location 520 ft. {N./S.} of S Line and 189 ft. {E./W.} of E Line of Section 13 Elevation 5746 (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 R. M. Bauer, Jr.
Date November 21, 1961 Title Senior Petroleum Engineer

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

Commenced drilling October 11, 19 61 Finished drilling October 27, 19 61

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from Dakota shot 5547' to _____ 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
8-5/8"	22.7#	SJ	Armco	203'	Guide				Surface
4-1/2"	10.5#	8rd	Ohio	5660'	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"	211'	170	1 plug		
4-1/2"	5660'	325	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 5648 feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

Completed as pumping oil well Totah Gallup field November 16, 1961 First new oil Put to producing November 13, 1961

The production for the first 24 hours was 77 barrels of fluid of which 99.8% was oil; _____% emulsion; _____% water; and .2% sediment. Gravity, °Bé. 40.7° API

If gas well, cu. ft. per 24 hours _____ Gallons gasoline per 1,000 cu. ft. of gas _____
Rock pressure, lbs. per sq. in. _____

EMPLOYEES

K. R. Runyan, Driller K. B. McDonald, Driller
Jackie White, Driller Pete Yates, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1500	1500	Surface sand and shale.
1500	1650	150	Pictured Cliffs sand and shale.
1650	2445	795	Lewis shale.
2445	4258	1813	Mesaverde sand, shale, and coal.
4258	5182	924	Mancos shale.
5182	5648	466	Gallup sand and shale.
			(Tops from "E" log)

FROM—	TO—	TOTAL FEET	FORMATION

10—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.

Spudded 12-1/4" hole October 11, 1961. Set 8-5/8" casing at 211' with 170 sacks of cement containing 2 percent Calcium Chloride. Circulated 5 sacks of cement. After waiting on cement, tested 8-5/8" casing with 400 psi for 15 minutes, which held with no indication of pressure drop. Reduced hole to 7-7/8" at 212'.

Core No. 1 5535-5542' Gallup. Recovered 7' as follows: 7' black shale with vertical fractures. Core bit indicated iron in hole. Ran magnet and recovered large piece of bit cone. Re-ran magnet and no record of iron. Ran 6-1/8" corehead.

Core No. 2 5542-5569' Gallup. Recovered 27' as follows: 3' shale, 2' sandy shale, 2' shale, 1' very shaly sand, 4' sand low porosity and permeability, 2' very shaly sand and oil and gas bleeds 5554-5555', 2' shale and sand streaks, and 11' shale with occasional thin sand streaks, and vertical fracturing 5542-5554' and 5558-5569'.

Total depth 5648'. Set 4-1/2" casing at 5640' with DV tool at 1886'. First stage cemented with 120 sacks 4 percent Gel Incor cement containing 1-1/2 pounds Tuf Plug per sack followed by 40 sacks neat Incor cement. Tested 3000 psi for 15 minutes, which held with no indication of pressure drop. Waited on cement 4 hours. Second stage cemented with 145 sacks 6 percent gel Incor cement. After waiting on cement tested 4-1/2" casing with 3000 psi for 15 minutes, which held with no indication of pressure drop. Drilled DV tool at 1886'. Displaced mud and water and tested 4-1/2" casing with 100 psi for 15 minutes, which held with no indication of pressure drop.

Spotted 350 gallons spearhead acid over Gallup. Ran correlation log. Perforated 5 holes with Western Gulpiane Perforator at 5547'. Pumped in treatment spearhead of 2500 gallons oil containing 75 pounds Adomite Mark II per 1000 gallons. Sand oil fracked with 22,000 gallons of oil containing 50 pounds Adomite Mark II per 1000 gallons and 15,000 pounds 20-40 sand and tail-in 5,000 pounds 10-20 sand. Breakdown pressure 2100-1600 psi, treating pressure 3300 psi and minimum treating pressure 2400 psi. Average injection rate 27 barrels per minute. Landed 2-3/8" tubing at 5503'.

Totaldepth 5648', plug back depth 5600'. Completed as pumping oil well Totah Gallup Field November 16, 1961. Potential test November 18, 1961 pumped 77 barrels of oil in 24 hours with 15-48" strokes per minute and 2-1/4" pump. Gravity 40.7° API. Top pay Gallup 5542'.