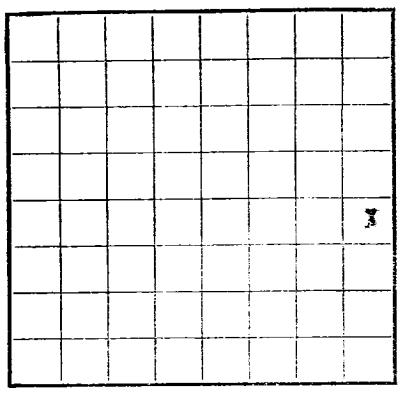
Form 9-330

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

U. S. LAND OFFICE Navajo Tribal
SERIAL NUMBER 14-20-603-2200
LEASE OR PERMIT TO PROSPECT Navajo Tribal "C"



LOCATE WELL CORRECTLY

RECEIVED NOV 23 1960

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Pan American Petroleum Corporation Address Box 480, Farmington, New Mexico
Lessor or Tract Navajo Tribal "C" Field Undesignated Gallup State New Mexico
Well No. 2 Sec. 20 T. 29N R. 14W Meridian N.M.P.M. County San Juan
Location 2310 ft. {N.} of S Line and 330 ft. {E.} of W Line of Section 20 Elevation 5570 (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 R. M. Bauer, Jr.

Date November 22, 1960 Title Area Engineer

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

Commenced drilling November 4, 19 60 Finished drilling November 14, 19 60

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 5056 to 5066 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"	24	8RT	National	200	Guide				Surface
4-1/2"	9.5	8RT	J-55	5184	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"	212	160 sacks cement	Halliburton	1 plug	
4-1/2"	5159	200 sacks cement	Halliburton	2 plug	

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

TOOLS USED

Rotary tools were used from 0 feet to 5165 feet, and from feet to feet
Cable tools were used from feet to feet, and from feet to feet

DATES

Completed November 21, 1960 as flowing oil well Undesignated Gallup Field Put to producing Date first new oil produced: November 20, 1960

The production for the first 24 hours was 209 barrels of fluid of which 99.6 % was oil; % emulsion; % water; and % sediment. Gravity, °Bé. 44.1° 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

, Driller , Driller
Pete Estes, Driller James Smith, Driller
M. O. Eberhold Bert W. Farris

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
Surface	937	937	Surface sands and shales.
937	1080	143	Pictured Cliffs sands and shales.
1080	1902	822	Lewis sands and shales.
1902	3772	1870	Mesaverde sands, shales and coals.
3772	4687	915	Mancos shale.
4687	5056	369	Gallup sands and shales.
5056	5165	109	Gallup sands.
			(Tops from E log)

16—43094-4

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 exact 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.

Navajo Tribal "C" Well No. 2. Spudded 12-1/4" hole and drilled to 212'. Set 8-5/8" casing at 212' with 160 sacks regular cement containing 2% calcium chloride. Circulated 15 sacks cement. After waiting on cement, tested casing with 500 psi for 30 minutes, which held with no indication of pressure drop. Reduced hole to 7-7/8" at 212' and resumed drilling operations.

Total depth 5165'. 4-1/2" casing was set at 5159' and cemented with 125 sacks 6% gel mixed with 1-1/2 pounds Tuf Plug per sack, followed by 75 sacks neat cement. After waiting on cement to set, tested casing with 3000 psi for 30 minutes with no indication of pressure drop. Resumed completion operations.

Plug back depth 5130'. Ran correlation log. Perforated Gallup with 6 shots per foot 5058-5064. Sand-oil fracked with 93,000 gallons oil and 30,000 pounds sand. Breakdown pressure 2100 psi, average injection rate 26 barrels per minute. Cleaned out sand to 5130'. Landed 2" tubing at 5069'. Completed November 21, 1960, as producing oil well, Undesignated Gallup field. Potential test November 21, 1960, flowed 209 barrels oil per day on 16/64" choke.

LOG OF OIL OR GAS WELL

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