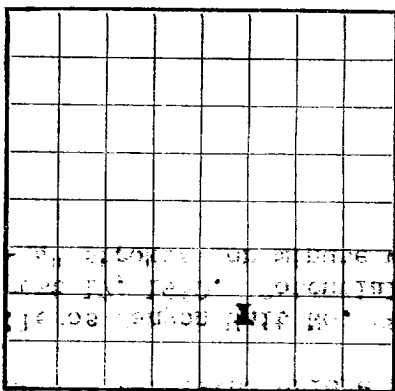


U. S. LAND OFFICE Santa Fe
SERIAL NUMBER SF 080844
LEASE OR PERMIT TO PROSPECT
Gallagos Canyon UnitUNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company PAN-AMERICAN PETROLEUM CORPORATION Address Box 480, Farmington, New Mexico
Lessor or Tract Gallagos Canyon Unit Field Undesignated State New Mexico
Well No. 84 Sec. 31 T. 26 N. R. 11 E. Meridian N.M.P.M. County San JuanLocation 990 ft. N of S Line and 1980 ft. W of E Line of Section 31 Elevation 6032(RDB)

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. O. Speer, Jr.Date August 23, 1960 Title Area Superintendent

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

Commenced drilling July 7, 1960 Finished drilling July 24, 1960

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 5723 to 5777 No. 4, from to
No. 2, from 5828 to 5843 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		Purpose
							From—	To—	
<u>8-5/8"</u>	<u>22.7</u>	<u>4</u>	<u>API</u>	<u>599</u>	<u>Guide</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>4-1/2"</u>	<u>9.5</u>	<u>8RT</u>	<u>J-55</u>	<u>5944</u>	<u>Guide</u>	<u> </u>	<u> </u>	<u> </u>	<u>Oil String</u>

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
<u>8-5/8"</u>	<u>211</u>	<u>115 sacks of cement</u>	<u>Halliburton 2 Plug</u>	<u> </u>	<u> </u>
<u>4-1/2"</u>	<u>5925</u>	<u>400 sacks of cement</u>	<u>Halliburton 2 Stage</u>	<u> </u>	<u> </u>

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
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TOOLS USED

Rotary tools were used from 0 feet to 5925 feet, and from feet to feetCable tools were used from feet to feet, and from feet to feetCompleted as pumping oil well Undesignated Date first new oil produced Gallup August 17, 1960 Put to producing August 11, 1960Potential test August 17, 1960 pumped 65 barrels oil per day.The production for the first 24 hours was 65 barrels of fluid of which 99.6% was oil; % emulsion; % water; and 4% sediment. Gravity, °Bé. 40.1 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

Pete Bates, Driller J. D. Coleman, Driller
George Seal, Driller E. H. Wisener, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
<u>0</u>	<u>1799</u>	<u>1799</u>	<u>Surface, Kirtland, Farmington, Fruitland sands, shales, and coals.</u>
<u>1799</u>	<u>2000</u>	<u>201</u>	<u>Pictured cliffs sands and shales.</u>
<u>2000</u>	<u>3407</u>	<u>1407</u>	<u>Lewis sands and shales.</u>
<u>3407</u>	<u>3494</u>	<u>87</u>	<u>Cliffhouse sands and shales.</u>
<u>3494</u>	<u>4283</u>	<u>789</u>	<u>Menefee shale.</u>
<u>4283</u>	<u>4564</u>	<u>281</u>	<u>Point Lookout sands and shales.</u>
<u>4564</u>	<u>5418</u>	<u>854</u>	<u>Mancos shale.</u>
<u>5418</u>	<u>5723</u>	<u>305</u>	<u>Gallup sand and shales.</u>
<u>5723</u>	<u>5777</u>	<u>54</u>	<u>Upper Gallup pay, sands and shales.</u>
<u>5777</u>	<u>5925</u>	<u>148</u>	<u>Lower Gallup pay, sands and shales.</u>
(Tops from E. Log)			

RECO.

WORKING

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

Spudded 11" hole on July 7, 1960 and drilled to 211'. Set 8-5/8" casing at 211' with 115 sacks neat cement containing 2 percent calcium chloride. Circulated 10 sacks of cement. After waiting on cement tested 8-5/8" casing with 400 psi for 30 minutes which held with no indication of pressure drop. Reduced hole to 7-7/8" at 211' and resumed drilling operations.

Total depth 5925' plug back depth 5911'. Set 4-1/2" casing at 5925' with DV tool at 2081'. Cemented first stage with 100 sacks 6 percent gel cement with 1-1/2 pound tuf plug per sack followed by 100 sacks neat cement. Tested with 3000 psi for 30 minutes which held with no indication of pressure drop. Cemented second stage with 200 sacks 6 percent gel cement with 1-1/2 pound tuf plug per sack. Tested DV tool with 2500 psi for 30 minutes which held with no indication of pressure drop. Received good circulation throughout on both stages. Drilled DV tool at 2081' and cleaned out to plug back depth. Tested 4-1/2" casing with 1400 psi which held with no indication of pressure drop. Released at July 26, 1960.

Plug back depth 5891' - Moved in pulling unit July 28, 1960. Displaced water with oil. Tested casing with 3000 psi for 30 minutes, which held with no indication of pressure drop. Spotted 500 gallons BDA. Perforated lower Gallup 6 shots per foot 5831-5840'. Sand oil fractured with 25,000 gallons oil and 20,000 pounds sand. Breakdown pressure 2200-1400 psi. Started sand at 1/2 pound per gallon with minimum treating pressure 2850 psi for first 100 barrels oil. Sand at 1 pound per gallon with maximum treating pressure 3000 psi for next 100 barrels oil. Sand at 1/2 pound per gallon with average treating pressure 2900 psi for last 100 barrels oil. Finished at 2900 psi. Average injection rate 31 barrels per minute. Instant shut in pressure 1200 psi. 5 minute shut in pressure 1150 psi and 10 minute shut in pressure 1100 psi. Set Baker retrievable bridge plug at 5804'. Perforated 6 shots per foot 5764-5774'. Spotted 250 gallons BDA. Sand oil fractured with 29,200 gallons oil and 29,200 pounds sand. Breakdown pressure 2900 psi, average treating pressure 2750 psi, sanded off and pressure increased to 3200 psi. Cleaned out sand and retrieved bridge plug. Landed 2 3/8" tubing at 5876' - 2 METE

Gallejos Canyon Unit No. 88 was completed as pumping oil well Undesignated Gallup Field August 17, 1960. Potential test August 17, 1960 pumped 65 barrels oil per day on 14-44" strokes per minute with 1-1/2" pump.

GEOLOGICAL SURVEY

DEPARTMENT OF THE INTERIOR
UNITED STATES

DATE OF BIRTH: 1907
PLACE OF BIRTH: LORENA, TEXAS

SECRET//NOFORN

CONFIDENTIAL

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HARRIS PULSON 401 15-152001