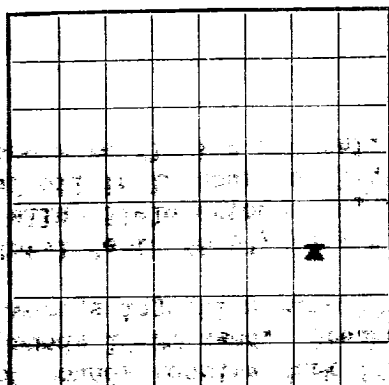
U. S. LAND OFFICE Santa FeSERIAL NUMBER 5F-77966

LEASE OR PERMIT TO PROSPECT

Gallegos Canyon Unit

UNITED 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 MexicoLessor or Tract Gallegos Canyon Unit Field Cha Cha Gallup State New MexicoWell No. 118 Sec. 23 T. 20N R. 13W Meridian N.M.P.M. County San JuanLocation 1980 ft. N. of 2 Line and 775 ft. W. of 2 Line of Section 23 Elevation 5859' (RMB)
(Depth four 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 October 24, 1961Title Senior Petroleum Engineer

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

Commenced drilling October 2, 1961 Finished drilling October 13, 1961

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 5519' to 5524' 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		Purpose
							From—	To—	
<u>8-5/8"</u>	<u>22.7#</u>	<u>5</u>	<u>Arco</u>	<u>203'</u>	<u>Guide</u>				<u>Surface</u>
<u>4-1/2"</u>	<u>10.9#</u>	<u>8BT</u>	<u>Arco</u>	<u>5699'</u>	<u>Guide</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>212'</u>	<u>150</u>	<u>Halliburton 1 plug</u>		
<u>4-1/2"</u>	<u>1765'</u>	<u>375</u>	<u>Halliburton 2 plug</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

TOOLS USED

Rotary tools were used from _____ feet to 5699 feet, and from _____ feet to _____ feet

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

Completed as flowing oil well Cha Cha DATES First new OilGallup Field October 20, 1961 Put to producing October 27, 1961The production for the first 24 hours was 752 barrels of fluid of which 99.8% was oil; _____ % emulsion; _____ % water; and .2 % sediment. Gravity, °Bé. 41.9 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

S. E. Kinney, Driller Jim Speaker, Driller
Earl Babcock, Driller Jim Babcock, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
<u>0</u>	<u>1510</u>	<u>1510</u>	<u>Undifferentiated surface sand and shale.</u>
<u>1510</u>	<u>1709</u>	<u>199</u>	<u>Pictured Cliffs sand and shale.</u>
<u>1709</u>	<u>2431</u>	<u>722</u>	<u>Louis shale.</u>
<u>2431</u>	<u>4263</u>	<u>1832</u>	<u>Mesaverde sand, shale, and coal.</u>
<u>4263</u>	<u>5164</u>	<u>901</u>	<u>Mancos shale.</u>
<u>5164</u>	<u>5489</u>	<u>325</u>	<u>Gallup sand and shale.</u>
<u>5489</u>	<u>5625</u>	<u>136</u>	<u>Gallup pay sands.</u>
<u>5625</u>	<u>5699</u>	<u>74</u>	<u>Manastee sand and shale.</u>
			<u>(Top from " " log)</u>



Local depth 5699', plug back depth 5696'. Completed on 10/20/61. Casing 376 barrels of oil in 12 hours on 8/4 choke with tubing pressure 1100 psi and casing pressure 1100 psi. Top pay casing 5116'. UNITARY TEST 5879'.

Spotted 300 gallons breakdown acid. Run correlation log. Perforated casing with 80 shots per foot 5519-5524'. Pumped in treatment 2000 gallons oil containing 5 gallons I-5, 5 gallons O-15, and 75 pounds Adomite Mark II per 1000 gallons. Spent oil treated with 20,500 gallons oil containing 2 gallons I-5 and 30 pounds Adomite Mark II per 1000 gallons. Breakdown pressure 1800-1300 psi, treating pressure 2600 psi. Average injection rate 30 barrels per minute. Landed 2-3/8" tubing at 5564'.

Pressure 5699', plug back depth 5696'. Completed on 10/20/61. Casing 376 barrels of oil in 12 hours on 8/4 choke with tubing pressure 1100 psi and casing pressure 1100 psi. Top pay casing 5116'. UNITARY TEST 5879'.

Core No. 1 5490-5540' casing. Recovered 50' as follows: 28' shale with occasional thin sand streaks and vertically fractured throughout, 1' sandy shale with pea sized nodules, 3-1/2' sand with fair porosity and permeability and occasional thin shale streaks, 3-1/2' sandy shale, and 9' shale with vertical fractures. Recovered 45' as follows: 32' shale with vertical fractures and occasional thin sand streaks, 5' sandy shale vertical fractures, 2' very shaly sand, and 6' all shaly sand with occasional thin sand streaks and vertical fractures. Recovered 20' as follows: 7-1/2' very shaly sand, 15' shaly sand, and 15' shaly sand with occasional thin sand streaks. Broken with vertical fractures.

Spaced 12-1/4" hole on October 2, 1961, and drilled to 276'. Set 8-9/8" casing at 272' with 150 sacks of cement containing 8% cement calcium chloride. Circulated 10 sacks of cement. After waiting on cement tested 8-5/8" casing with 500 psi for 30 minutes, which held with no indication of pressure drop. Reduced hole to 7-7/8" at 274' and resumed drilling operations.

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, 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 balling.

HISTORY OF OIL OR GAS WELL

FORMATION RECORD—Continued		TO—		TOTAL FEET		FORMATION	
FROM—		TO—		TOTAL FEET		FORMATION	
The production for the first 24 hours was 1.88 water and 1.18 oil.		The production for the first 24 hours was 1.88 water and 1.18 oil.		The production for the first 24 hours was 1.88 water and 1.18 oil.		The production for the first 24 hours was 1.88 water and 1.18 oil.	
Hook pressure, the period in		Hook pressure, the period in		Hook pressure, the period in		Hook pressure, the period in	
Gas well on the 24 hours		Gas well on the 24 hours		Gas well on the 24 hours		Gas well on the 24 hours	
Gravity, 8.81, was oil		Gravity, 8.81, was oil		Gravity, 8.81, was oil		Gravity, 8.81, was oil	
Put to producing		Put to producing		Put to producing		Put to producing	
10		10		10		10	
DATES		DATES		DATES		DATES	
Tools used		Tools used		Tools used		Tools used	
SPOOLING RECORD		SPOOLING RECORD		SPOOLING RECORD		SPOOLING RECORD	
PLUGS AND ADAPTORS		PLUGS AND ADAPTORS		PLUGS AND ADAPTORS		PLUGS AND ADAPTORS	
MAINTENANCE AND OPERATING RECORD		MAINTENANCE AND OPERATING RECORD		MAINTENANCE AND OPERATING RECORD		MAINTENANCE AND OPERATING RECORD	