

U. S. LAND OFFICE **Navajo Tribal**
 SERIAL NUMBER **14-20-603-2199**
 LEASE OR PERMIT TO PROSPECT
Navajo Tribal "E"

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 Mexico**
 Lessor or Tract **Navajo Tribal "E"** Field **Undesignated Gallup** State **New Mexico**
 Well No. **2** Sec. **21** T. **29N** R. **14W** Meridian **N.M.P.M.** County **San Juan**
 Location **1780** ft. **N.** of **3** Line and **835** ft. **W.** of **3** Line of **Section 21** Elevation **5528** (RIB)
 (Derrick base 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 **L. O. Speer, Jr.**
 Date **August 15, 1960** Title **Area Superintendent**

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

Commenced drilling **July 20, 1960** Finished drilling **July 30, 1960**

OIL OR GAS SANDS OR ZONES

(Designate gas by G)
 No. 1, from **2140** to **2157** 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	Length	Depth	Casing	Casing	Casing	Perforated		Purpose
							From	To	
8-5/8"	27.7	115	2140	2157	2157	2157			Oil string
5-1/2"	11	200	2157	2357	2357	2357			

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8-5/8"	211	115 sacks of cement	Ballston 2 Plug		
5-1/2"	2283	200 sacks of cement	B. J. Service 2 Plug		

MARK

PLUGS AND ADAPTERS

Heaving plug—Material _____ Length _____ Depth set _____
 Adapters—Material _____ Size _____

SHOOTING RECORD

Shot	Strat used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary 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

Completed as flowing oil well. Designation _____ Date first new oil produced _____
 Gallup Field 8-13-60 Potential test August 19, 1960 at to producing _____, 1960
 1960 flowed 100 barrels oil per day. The production for the first 24 hours was _____ barrels of fluid of which _____% was oil; _____%
 emulsion; _____% water; and _____% sediment. Gravity, °Bé. _____ °API

Gas oil _____ Gallons gasoline per 1,000 cu. ft. of gas _____
 Rock pressure, lbs. per sq. in. _____

EMPLOYEES

Cotton Gipsen _____, Driller James Smith _____, Driller
 H. O. Eberwald _____, Driller Jackie White _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1003	1003	Surface sands and shales including Fruitland and Farmington zones.
1003	1022	19	Pictured Cliffs sands and shales.
1022	2620	1598	Lewis Shale.
2620	3845	1225	Mesa Verde sands and shales and coals.
3845	4773	928	Mancos shale.
4773	5111	338	Gallup sands and shales.
5111	5289	178	Gallup pay sands and shales.
(Tops from E Log)			

(OVER)

HISTORY OF OIL OR GAS WELL

It is of the greatest importance to have a complete history of the well. Please state location, date of redrilling, and then with the reasons for the work and its results. If there were any changes made in the casing, state which and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been abandoned, state date, location, and number of shots. If plugs or bails were put in to test for water, state kind of material used, depth of water, and whether pumping or bailer.

Spudded 11" hole on July 20, 1960 and drilled to 211'. Set 8-5/8" casing at 211' with 115 sacks cement with 2% calcium chloride. Circulated 5 sacks cement. After waiting on cement tested 8-7/8" 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 5282' plug back depth 5238'. Ran electric log. Set 5-1/2" casing at 5283' with 100 sacks of gel cement with 1-1/2 pounds medium tuf plug per sack, followed by 100 sacks neat cement. Bumped plug and tested casing with 3000 psi for 30 minutes which held with no indication of pressure drop. Released rig July 31, 1960.

Moved in completion unit August 4, 1960. Tested casing with 3000 psi which held with no indication of pressure drop. Displaced water with oil and spotted 500 gallons spearhead acid on bottom. Ran Gamma Ray correlation log. Perforated Gallup with 6 shots per foot 5145-5153'. Sand oil fracked with 30,000 gallons oil and 30,000 pounds sand. Breakdown pressure 1700 - 1200 psi. Average treating pressure 2100 psi. Average injection rate 46 barrels per minute. Instantaneous shut in pressure 900 psi. Cleaned out sand 5150 - 5238' by reverse circulation. Landed 2-3/8" tubing at 5207'. Released rig August 7, 1960. Completed August 13, 1960 as flowing oil well in Undesignated Gallup Field. Potential Test August 12, 1960 flowed 101.28 barrels oil per day with 16/64" choke.

END OF HISTORY OF OIL OR GAS WELL