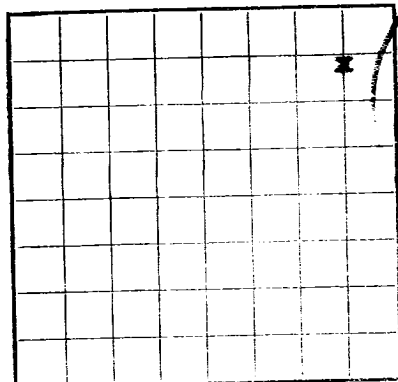
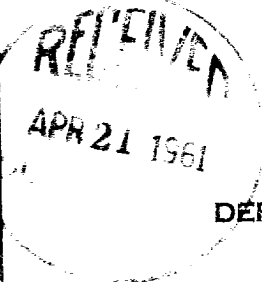


U. S. LAND OFFICE **Navajo Tribal**
SERIAL NUMBER **14-20-603-2198**
LEASE OR PERMIT TO PROSPECT

LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company **Pan American Petroleum Corporation** Address **Box 180, Farmington, New Mexico**
Lessor or Tract **Navajo Tribal** Field **Totah Gallup** State **New Mexico**
Well No. **2** Sec. **24** T. **29N** R. **74W** Meridian **N.M.P.M.** County **San Juan**
Location **820** ft. **S.** of **1** Line and **660** ft. **W.** of **1** Line of **Section 24** Elevation **5390**
(Derrick top 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. **R. M. Bauer, Jr.**
Signed

Date **April 14, 1961** Title **Senior Petroleum Engineer**

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

Commenced drilling **March 26**, 19**61** Finished drilling **April 8**, 19**61**OIL OR GAS SANDS OR ZONES
(Denote gas by G)

No. 1, from **5127** to **5141** 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—	
8-5/8"	204	6VT	CP41	196	Guide				Surface
4-1/2"	9.5#	6RT	CP41	5222	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"	210	180	Halliburton	1 plug	
4-1/2"	5212	200	Halliburton	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 **5214** feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

Completed as flowing **Totah Gallup Development** Date first new oil. _____
Well. **April 14**, 19**61** Put to producing **April 14**, 19**61**

The production for the first 24 hours was **225** barrels of fluid of which **99.8** % was oil; _____ %
emulsion; _____ % water; and **2** % sediment. Gravity, °Bé. _____

If gas well, cu. ft. per 24 hours _____ Gallons gasoline per 1,000 cu. ft. of gas _____

Rock pressure, lbs. per sq. in. _____

EMPLOYEES

D. M. Wilhelm, Driller **Bert W. Farris**, Driller
James Smith, Driller **Pete Estes**, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1045	1045	Surface sands and shales including Farmington and Fruitland Zones.
1045	1238	193	Pictured cliffs sands and shales.
1238	2004	766	Lewis sands, shales, and coals.
2004	3526	1522	Cliffhouse sands and shales and Mancos shales, sands, and coals.
3526	3816	290	Point lookout sands and shales.
3816	4754	930	Mancos shale.
4754	5127	373	Gallup sands and shales.
5127	5214	87	Gallup pay sands.
(Tops from E log)			

- 1 -

SECRET / NUMBER 14-00000

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FROM THE NEW YORK OFFICE

Run correlation log. Perforated Gallup with 6 shots per foot 5131-5138. Attempted to break down and could not with 3700 psi. Haveraged 600 galls BVA and set packer. Pressure remains to 1500 psi and smoke drops formation with 3600 psi through tubing. Good oil flowed with 19,200 gallons oil containing 50 pounds water Mark II. 3 gallons No. 11 U-26 and 2 gallons No. 1, minimum 2500 psi, maximum 2600 psi. Waterfall injection rate 30 barrels per minute. Pumped 2-3/8" tubing at 1160. Completed at 1161. Flowing oil with April 17, 1961. Total potential east lifted 229 barrels of oil per day at 16/64 inches.

Oil or Gas Sands or Coals

Total depth 5214'. Plug back depth 5175' - New Electric Log. Set 4-1/2" casing at 5211' with 195 sacks of cement containing 1 1/2 pounds of plug per sack, followed by 75 sacks of cement. Displaced plug with 300 gallons 15 percent BDA and oil. Tested casing with 5000 psi for 15 minutes which held with no indication of pressure drop. Released 18 April 8, 1961.

Core No. 1 - 5103-5163. Lithology - as follows: 2' shale, vertically fractured; 12' shale with occasional sand partings. Vertical fracture 5121-5122', 1-1/2' sandy shale, 11' sand, medium grained, good porosity, and permeability, with good odor, vertical fracture 5125-5126', and 5134-5135', bleeding oil and gas 5126-5134', 3-1/2' sandy shale with vertical fracture.

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 pigs 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, March 26, 1961, and drilled to 210'. Set 8-5/8" casing at 210'. Set 8-5/8" casing at 210'. With 160 sacks cement containing 2 percent Calcium Chloride. Circulated 55 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 210' and resumed drilling operations.

HISTORY OF OIL OR GAS WELL

16-42004-2 U. S. GOVERNMENT PRINTING OFFICE

FROM-	TO-	TOTAL FEET	FORMATION
0-10	10-20	10	SANDSTONE
10-20	20-30	10	SANDSTONE
20-30	30-40	10	SANDSTONE
30-40	40-50	10	SANDSTONE
40-50	50-60	10	SANDSTONE
50-60	60-70	10	SANDSTONE
60-70	70-80	10	SANDSTONE
70-80	80-90	10	SANDSTONE
80-90	90-100	10	SANDSTONE
90-100	100-110	10	SANDSTONE
100-110	110-120	10	SANDSTONE
110-120	120-130	10	SANDSTONE
120-130	130-140	10	SANDSTONE
130-140	140-150	10	SANDSTONE
140-150	150-160	10	SANDSTONE
150-160	160-170	10	SANDSTONE
160-170	170-180	10	SANDSTONE
170-180	180-190	10	SANDSTONE
180-190	190-200	10	SANDSTONE
190-200	200-210	10	SANDSTONE
200-210	210-220	10	SANDSTONE
210-220	220-230	10	SANDSTONE
220-230	230-240	10	SANDSTONE
230-240	240-250	10	SANDSTONE
240-250	250-260	10	SANDSTONE
250-260	260-270	10	SANDSTONE
260-270	270-280	10	SANDSTONE
270-280	280-290	10	SANDSTONE
280-290	290-300	10	SANDSTONE
290-300	300-310	10	SANDSTONE
300-310	310-320	10	SANDSTONE
310-320	320-330	10	SANDSTONE
320-330	330-340	10	SANDSTONE
330-340	340-350	10	SANDSTONE
340-350	350-360	10	SANDSTONE
350-360	360-370	10	SANDSTONE
360-370	370-380	10	SANDSTONE
370-380	380-390	10	SANDSTONE
380-390	390-400	10	SANDSTONE
390-400	400-410	10	SANDSTONE
400-410	410-420	10	SANDSTONE
410-420	420-430	10	SANDSTONE
420-430	430-440	10	SANDSTONE
430-440	440-450	10	SANDSTONE
440-450	450-460	10	SANDSTONE
450-460	460-470	10	SANDSTONE
460-470	470-480	10	SANDSTONE
470-480	480-490	10	SANDSTONE
480-490	490-500	10	SANDSTONE
490-500	500-510	10	SANDSTONE
500-510	510-520	10	SANDSTONE
510-520	520-530	10	SANDSTONE
520-530	530-540	10	SANDSTONE
530-540	540-550	10	SANDSTONE
540-550	550-560	10	SANDSTONE
550-560	560-570	10	SANDSTONE
560-570	570-580	10	SANDSTONE
570-580	580-590	10	SANDSTONE
580-590	590-600	10	SANDSTONE
590-600	600-610	10	SANDSTONE
600-610	610-620	10	SANDSTONE
610-620	620-630	10	SANDSTONE
620-630	630-640	10	SANDSTONE
630-640	640-650	10	SANDSTONE
640-650	650-660	10	SANDSTONE
650-660	660-670	10	SANDSTONE
660-670	670-680	10	SANDSTONE
670-680	680-690	10	SANDSTONE
680-690	690-700	10	SANDSTONE
690-700	700-710	10	SANDSTONE
700-710	710-720	10	SANDSTONE
710-720	720-730	10	SANDSTONE
720-730	730-740	10	SANDSTONE
730-740	740-750	10	SANDSTONE
740-750	750-760	10	SANDSTONE
750-760	760-770	10	SANDSTONE
760-770	770-780	10	SANDSTONE
770-780	780-790	10	SANDSTONE
780-790	790-800	10	SANDSTONE
790-800	800-810	10	SANDSTONE
800-810	810-820	10	SANDSTONE
810-820	820-830	10	SANDSTONE
820-830	830-840	10	SANDSTONE
830-840	840-850	10	SANDSTONE
840-850	850-860	10	SANDSTONE
850-860	860-870	10	SANDSTONE
860-870	870-880	10	SANDSTONE
870-880	880-890	10	SANDSTONE
880-890	890-900	10	SANDSTONE
890-900	900-910	10	SANDSTONE
900-910	910-920	10	SANDSTONE
910-920	920-930	10	SANDSTONE
920-930	930-940	10	SAND