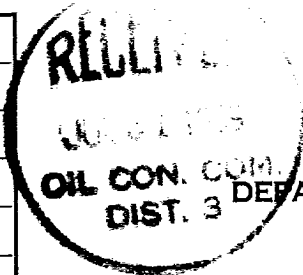
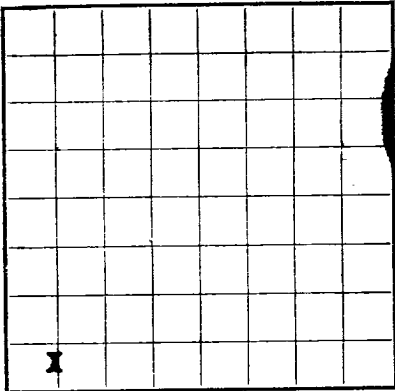


U. S. LAND OFFICE New Mexico
SERIAL NUMBER NM 05859
LEASE OR PERMIT TO PROSPECT _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUL 30 1959
U. S. GEOLOGICAL SURVEY
NEW MEXICO

LOG OF OIL OR GAS WELL

Company Pan American Petroleum Corporation Address Box 487, Farmington, New Mexico
Lessor or Tract L. V. Swartz Field Horseshoe Gallup State New Mexico
Well No. 1 Sec. 13 T. 30N R. 10W Meridian N.M.P.M. County San Juan
Location 580 ft. N. of 4 Line and 440 ft. E. of 7 Line of Section 13 Elevation 5350
(Derrick base relative to spot height)
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.
ORIGINAL SIGNED BY R. M. Bauer, Jr.
Signed _____
Date July 27, 1959 Title Area Engineer

The summary on this page is for the condition of the well at above date.
Commenced drilling June 22, 1959 Finished drilling July 6, 1959

OIL OR GAS SANDS OR ZONES
(Denote gas by G)

No. 1, from 3756 to 3780 No. 4, from _____ to _____
No. 2, from 3038 to 3062 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>slip joint</u>	<u>Amoco</u>	<u>202</u>	<u>Guide</u>				<u>Surface</u>
<u>5-1/2"</u>	<u>14</u>	<u>8RT</u>	<u>CFAI</u>	<u>3942</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>211</u>	<u>160 sacks cement</u>	<u>Halliburton 1 plug</u>		
<u>5-1/2"</u>	<u>3928</u>	<u>130 sacks cement</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 _____ feet, and from _____ feet to _____ feet
Cable tools were used from 0 feet to 3934 feet, and from _____ feet to _____ feet

DATES

Completed as flowing oil well Horseshoe Gallup Field Put to producing July 26 Date first new oil produced
The production for the first 24 59 hours was _____ barrels of fluid of which _____ % was oil; _____ %
Potential test flowed 82 barrels oil in 18 hours Gravity, °Bé. 99.6
emulsion; _____ % water; and _____ % sediment. 41.0 API
If gas well, cu. ft. per 24 hours _____ Gallons gasoline per 1,000 cu. ft. of gas _____
Gas oil ratio not yet available.
Rock pressure, lbs. per sq. in. _____

EMPLOYEES

_____, Driller _____, Driller
_____, Driller M. O. Ebersold, Driller
Cotton Gipson, Driller J. W. Jernigan
B. R. McClain

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
<u>0</u>	<u>211</u>	<u>211</u>	<u>Surface sands & shales.</u>
<u>211</u>	<u>580</u>	<u>369</u>	<u>Lewis shale.</u>
<u>580</u>	<u>850</u>	<u>270</u>	<u>Cliff house sands & shales.</u>
<u>850</u>	<u>2090</u>	<u>1240</u>	<u>Menefee sands, shales, & coals.</u>
<u>2090</u>	<u>2560</u>	<u>470</u>	<u>Point Lookout sands & shales.</u>
<u>2560</u>	<u>3717</u>	<u>1157</u>	<u>Mancos shales & sands.</u>
<u>3717</u>	<u>3756</u>	<u>39</u>	<u>Gallup sands & shales.</u>
<u>3756</u>	<u>3836</u>	<u>80</u>	<u>Verde Gallup pay sands & shales.</u>
<u>3836</u>	<u>3934</u>	<u>98</u>	<u>Horseshoe Gallup pay sands & shales.</u>
			<u>(Tops from E log)</u>

PLEASE DO NOT RETURN TO PROSPECT
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U. S. POST OFFICE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Perforated Lower Gallup with two shots per foot 3838-3862. Attempted to frac with 3400 pounds with no breakdown. Spotted 250 gallons breakdown acid. Attempted to sand oil two lower Gallup and could not breakdown at 3100 pounds. Re-perforated lower Gallup with two shots per foot 3838-3862. Attempted to sand oil frac Lower Gallup and could not breakdown at 3200 pounds. Acidized with 250 gallons breakdown acid. Breakdown pressure 3000-1000, treating pressure 1700, injection rate 5 barrels per minute. Sand oil fracked with 33,000 gallons oil and 45,000 pounds sand. Breakdown pressure 1900-1300 pounds, average treating pressure 1750 pounds, average injection rate 55 barrels per minute. Re-perforated upper Gallup with two shots per foot 3838-3862. Set bridge plug at 3820. Sand oil fracked with 28,000 gallons oil and 30,000 pounds sand. Breakdown pressure 3000-1500 pounds, treating pressure 2700-1750 pounds, average treating pressure 1800 pounds, average injection rate 55 barrels per minute. Re-perforated bridge plug. Landed 2" tubing 3864'. Completed as flowing oil well Horsehoe Gallup field July 27, 1959. Estimated first flow of 62 barrels oil in 18 hours then open 2" tubing at rate of 110 barrels oil per day.

5-1/2" casting was set at 3928, with 80 sacks 6% gel with 1-1/2 pounds Tur-Ping per sack followed by 50 sacks neat cement. Released 178 on July 6, 1959. Moved in completion unit and tested casing with 1000 pounds which held with no damage.

L. M. Swartz No. 1 was spudded on June 22, 1959 with rotary tools and drilled to 215 feet. 8-5/8" casing was set at 211 feet and cemented with 160 sacks of cement containing 25 calcium chloride. Cement was circulated. After waiting on cement, tested casing with 700 psi for thirty minutes with no indication of pressure drop. 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, 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.

HISTORY OF OIL OR GAS WELL

16-43094-2 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