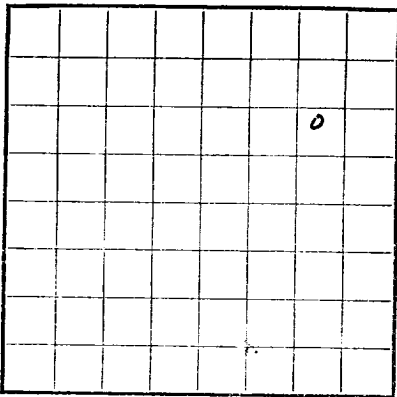


U. S. LAND OFFICE Santa Fe  
SERIAL NUMBER 978477  
LEASE OR PERMIT TO PROSPECT



LOCATE WELL CORRECTLY

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Western Natural Gas Company Address 823 Midland Tower, Midland, Texas  
Lessor or Tract Nordhaus-Federal Field Undesignated State New Mexico  
Well No. 5 Sec. 19 T. 25N R. 7W Meridian NMPM County Rio Arriba  
Location 1463ft. [S.] of N Line and 1166ft. [E.] of W Line of 19 Elevation 6484 Gr.  
(Derrick floor 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 [Signature]

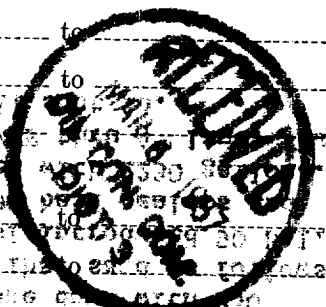
Date February 15, 1957 Title Office Manager

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

Commenced drilling 12-12, 19 56 Finished drilling 12-18, 19 56

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

No. 1, from 2142 to 2150 No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from 2160 to 2180 No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
No. 3, from 2184 to 2214 No. 6, from \_\_\_\_\_ to \_\_\_\_\_  
**IMPORTANT WATER SANDS**  
No. 1, from \_\_\_\_\_ to \_\_\_\_\_ No. 2, from \_\_\_\_\_ to \_\_\_\_\_  
No. 3, 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	24	8		105.3					Surface
5 1/2	15.5	8		105.3			2142	2214	Production

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8 5/8	106.3	80	Pump & plug	8.6	
5 1/2	2267	150	Pump & plug	9.8	

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 2267 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Cable tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

DATES

Put to producing 1-6-, 19 57

The production for the first 24 hours was \_\_\_\_\_ barrels of fluid of which \_\_\_\_\_% was oil; \_\_\_\_\_% emulsion; \_\_\_\_\_% water; and \_\_\_\_\_% 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. \_\_\_\_\_ Absolute potential - 9204.40 MCFPD thru 3/4" ch.

EMPLOYEES

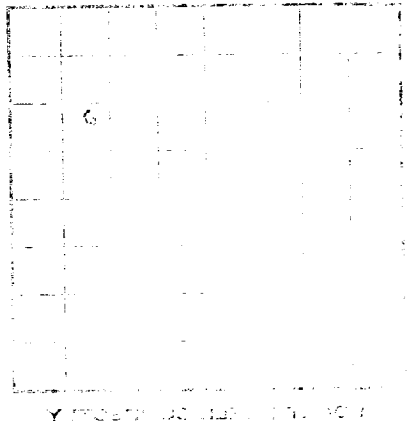
Seven day pressure buildup - 634 psig, Driller \_\_\_\_\_, Driller \_\_\_\_\_  
\_\_\_\_\_, Driller \_\_\_\_\_, Driller \_\_\_\_\_

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1610	1610	Sand with shale breaks
1610	1870	260	Shale with sand stringers
1870	2138	268	Sand, shale, & coal breaks
2138	2267	129	Sand with thin shale breaks (Pictured Cliffs)
			Top Pictured Cliffs - 2138'

U.S. Land Office, Bureau of Land Management, Department of the Interior, Washington, D.C.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

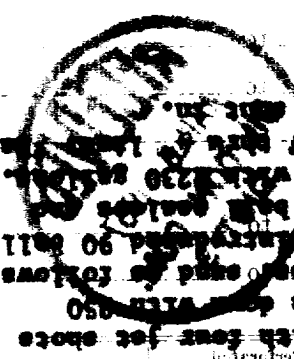


HISTORY OF OIL OR GAS WELL

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 pulling.

Perforated the 5/8" casing 2142-2150, 2160-2168, 2194-2214 feet with four jet shots per foot. Snapped casing dry. Well made 2 1/2" natural. Broke down with 150 gallons mud and sand - traced with 43,534 gallons water and 60,000 lbs. sand as follows: formation broke @ 1500 psi - pumped in 16,000 gallons @ 1500 psi and 90 ball sealers. Traced with 10,000 gallons @ 1800 psi then injected 2 ball sealers. Pressure went to 2500 psi - traced with 13,500 gallons & 1500 lbs. sand. Average injection rate was 38.5 psi per min. Well made 4600 psi with 1 1/2" in hole with 104 lbs of 1" slush line landed at 2196.75'. Well made 2 1/2" in hole with 104 lbs of 1" slush line landed at 2196.75'. Well made 2 1/2" in hole with 104 lbs of 1" slush line landed at 2196.75'.

OIL OR GAS WELLS OF MONKS



HISTORY OF OIL OR GAS WELL

FROM-	TO-	TOTAL FEET	FORMATION
2142	2150	8	Shale with sandstone streaks
2160	2168	8	Shale with sand streaks
2194	2214	20	Sand, shale, & coal streaks
			Sand with thin shale streaks (cleared clits)
			Top shales clits - 2134'