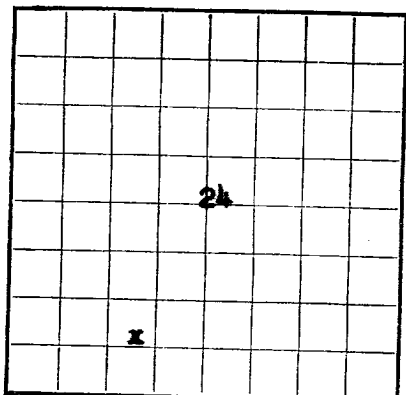


U. S. LAND OFFICE Santa Fe

SERIAL NUMBER SF-078284

LEASE OR PERMIT TO PROSPECT
14-08-001-439

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



LOCATE WELL CORRECTLY

LOG OF OIL OR GAS WELL

Company PACIFIC NORTHWEST PIPELINE CORP. Address 405 1/2 W. Broadway, Farmington, N.M.
Lessor or Tract 29-6 Field Blanco Mesa Verde State New Mexico
Well No. 28-24 Sec. 24 T. 29N R. 6W Meridian H.M.P.M. County Rio Arriba
Location 990 ft. N of S Line and 1650 ft. E of W Line of Section 24 Elevation 6768
(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 Original signed by T. A. Dugan

Date April 26, 1957

Title Assistant Division Manager

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

Commenced drilling February 15, 19 57 Finished drilling March 1, 19 57

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 0 5484 to 6066 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 None 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	
10-3/4	32.75	8 Rd	Republic	226.31	Baker				
7-5/8	26.4	8 Rd	Republic	289.05	Baker				
5-1/2	24	8 Rd	Republic	289.05	Baker				
2-3/8	4.7	8 Rd	Republic	5946.39	(Tubing)				

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
10-3/4	239'	200	Pump Plug		
7-5/8	3900'	200	Pump Plug		
5-1/2	6066'	150	Pump 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 _____ feet to _____ feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

_____, 19 57 Put to producing _____, 19 _____
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. 4,193

Tubing 1097 CAOF 7,882

Shut in 7 days

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0'	2853'	2853'	Surface
2853'	3036'	183'	Ojo Alamo
3036'	3444'	408'	Kirtland
3444'	3672'	228'	Fruitland
3672'	3782'	110'	Pictured Cliffs
3782'	5484'	1702'	Lewis
5484'	5565'	81'	Cliff House
5565'	5865'	300'	Manefee
5865'			Point Lookout
6066'			Total Depth
6015'			Plug Back Total Depth

FROM

TO

LOST FEET

(OVER)

FORMATION

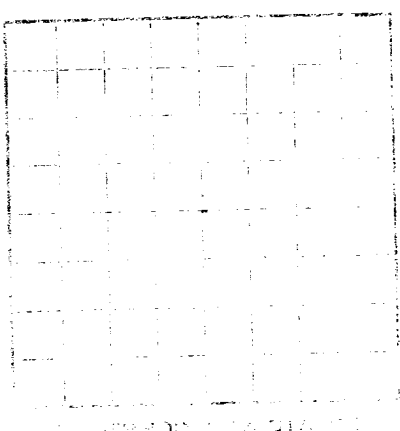
16-43094-4

FORMATION RECORD—Continued

U. S. LAND OFFICE
SPECIAL AGENTS
LEASE OR PERMIT TO PROSPECT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL



Original signed by T. A. Dugan

Oil or Gas Sands or Zones

Log: Large Wells Gamma Ray-Neutron 15' to 6014', with long spaced logs 2850' to 3900' and 5000' to 6014'.
Max deviation 30° @ 2111' and 2147'.
Frac w/ 159,000 gal water, RD 1400', IP 1400', max 1400', final 1400' standing.
We, the rate 68.1 bbls/min. used 420 bbls.
Important Water Sands

5958-60, 5964-68, 5982-84, 5988-92, 5994-96, 6000-6002.
5716-18, 5742-46, 5750-60, 5776-80, 5784-92, 5870-5904, 5910-14, 5918-28, 5932-44, 5944-56, 5952-58, 5958-62, 5964-68, 5970-74, 5976-80, 5982-86, 5988-92, 5994-98, 6000-6002.

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

FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	
FORMATION		TOTAL FEET		TO-		FROM-	