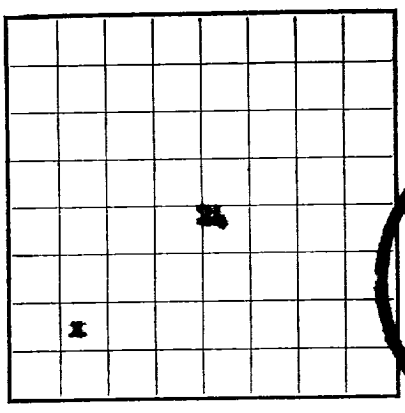
Budget Bureau No. 42-R355.4.
Approval expires 12-31-60.

Form 9-330

U. S. LAND OFFICE Santa Fe
SERIAL NUMBER [illegible]
LEASE OR PERMIT TO PROSPECT



LOCATE WELL CORRECTLY

1-[illegible]
1-A.J.Johnston
2-J. Gallegos
2-1 Farmington
1-[illegible]

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

14-08-001-446

LOG OF OIL OR GAS WELL

Company Pacific Northwest Pipeline Corp. Address 413 W. Main, Farmington, New Mexico
Lessor or Tract Unit 32-8 Field Largo Mesa Verde State New Mexico
Well No. 15-24 Sec. 24 T. 31N R. 8W Meridian N.M.P.M. County San Juan
Location 1190 ft. {N./S.} of Sec Line and 790 ft. {E./W.} of Sec Line of Sec 24 Elevation (Derrick floor relative to ground) 6133.4'

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
Title District Engineer

Date June 28, 1956

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

Commenced drilling 4-15-56, 19[illegible] Finished drilling 5-27-56, 19[illegible]

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from [illegible] to [illegible] No. 4, from [illegible] to [illegible]
No. 2, from 5292 to 5632 G No. 5, from [illegible] to [illegible]
No. 3, from [illegible] to [illegible] No. 6, from [illegible] to [illegible]

IMPORTANT WATER SANDS

No. 1, from [illegible] to [illegible] No. 3, from [illegible] to [illegible]
No. 2, from None to [illegible] No. 4, from [illegible] to [illegible]

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated From—	Perforated To—	Purpose
10-3/4	32.75	8rd	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
7-5/8	26.4	8rd	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
5-1/2	15.5	8rd	Lone Star	5301.75	Float				
2-3/8	4.7	8rd	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
10-3/4	214.37	150 sx reg 2% CaCl	Halliburton		
7-5/8	3560.75	150 sx 4% gel & 50 neat	Halliburton		
5-1/2	5435.25	20 sx reg. 6% gel & 4% add.	Halliburton		

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 5433 feet, and from ____ feet to ____ feet

DATES

[illegible], 19[illegible] Put to producing [illegible], 19[illegible]

The production for the first 24 hours was [illegible] barrels of fluid of which [illegible]% was oil; [illegible]% emulsion; [illegible]% water; and [illegible]% sediment. Gravity, °Bé. [illegible]

If gas well, cu. ft. per 24 hours [illegible] Gallons gasoline per 1,000 cu. ft. of gas [illegible]

Rock pressure [illegible] lbs. per sq. in. 4,372 Cal Absol Open Flow

EMPLOYEES

[illegible], Driller [illegible], Driller
Larry Bedford Drilling Foreman, Driller test 6-4-56 thru 3/4" choke
shut in for 7 days

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	2172	2172	Surface
2172	2294	122	Ojo Alamo-Sand
2294	3033	739	Kirtland-Shale w/some sand
3033	3343	310	Fruitland-Interbedded sand, shale and coal
3343	3468	125	Pictured Cliffs-Sand
3468	5292	1824	Lewis-Shale
5292	5383	91	Cliff House-Sand
5331	5632	301	Menefee-Interbedded sand, shale and coal
5632	5813	181	Point Lookout-Sand
5813			Total Depth

FROM— TO— TOTAL FEET [OVER] FORMATION 16—43094-4

FORMATION RECORD—Continued

FORMATION RECORD—Continued

FROM—	TO—	TOTAL FEET	FORMATION

HISTORY OF OIL OR GAS WELL

16—43094-2 U. S. GOVERNMENT PRINTING OFFICE

If 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.

Hole stopped hunting @ 3570'. Set 3 centralizers and landed hole w/water, tested casing w/1000#, tested ok. Perf 4 holes @ 3550' and set retainer @ 3445', tested casing w/1200#, tested ok. Established circulation w/1100#. Mixed 150 ex reg. cmt. w/2 pump press 400#. Max 800#, cleared perf w/5 bbls water, final 1300#. S.I.P. for 24 hours, press up w/3500# on perf. Drilled to TD of 5910', ran 116 jts, 5-1/2" casing. Hole ran the 116th jt of 5-1/2" pin on 114th jt pulled out of collar of 113th jt. Fished for 5-1/2" casing at 1533'. Recovered 2800' of junk pipe. Top of fish was then @ 4033', was not able to rec. the rest of the pipe. Ran 150 ex cmt. plug w/1% gel. Displaced. Released rig @ 6:00 p.m. 5-27-56.

Perf from 5477-5910', set whipstock @ 5900' drilled hole to 5913' (Total epth) Max pressure on 5-1/2" at 3950#. Ran 5913'. Perf 5696-5718, 5732-38, 5754-58, 5774-88, 5788-92, 5800-04, w/2 shots/ft. Frac w/50,560 gals water only. Max 1300#, final 1200#, to vac. Perf 5662-72 w/3 shots/ft. Perf 5652-62 w/2 shots/ft. Perf 5634-52 @ 5610'. Frac w/50,150 gals water only. Max 1300#, avg 1400#, Max 1500#, final 1400#, to vac. Retrieved @ & perf. 5444-52, 5462-66, 5472-76, 5502-06, 5544-53, 5570-84, w/4 shots/ft. Set @ 5610'. Frac w/50,400 gals water only. Max 1800#, avg 1600#, final 1450#, to vac. Retrieved perf 5392-98, 5306-30 w/3 shots/ft. Set @ 5415'. Frac w/47,040 gals water only. Max 1500#, avg 1450#, final 1450#, to vac. Retrieved @ 5306'. Set @ 5274'. Released rig 4:30 p.m. 5-28-56.

FORM 9-330

LOG OF OIL OR GAS WELL

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Lease or Permit to Prospect

Serial Number

L. S. Land Office