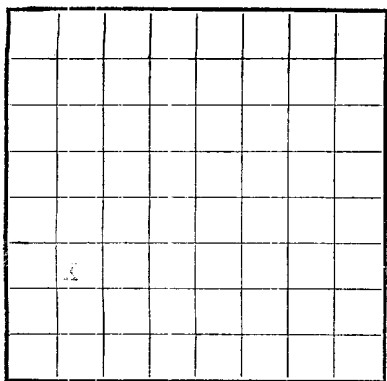


Form 9-330



LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company El Paso Natural Gas Company Address Box 997, Farmington, New Mexico
Lessor or Tract San Juan 20-5 Unit Field Blanco State New Mexico
Well No. 19 Sec. 10 T20N R. 5W Meridian N.M.P.M. County Rio Arriba
Location 165 ft. [N.] of S Line and 215 ft. [E.] of W Line of Section 10 Elevation 5950
(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.

Original Signed D. C. Johnston
Signed
Date December 19, 1957 Title Petroleum Engineer

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

Commenced drilling 7-15, 1957 Finished drilling 10-24, 1957

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 3597 to 3722 (G) No: 4, from 5796 to 5942 (G)
No. 2, from 5400 to 5472 (G) No. 5, from to
No. 3, from 5472 to 5796 (G) 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—	
10 3/4	32.75	8 E.	S. W.	152'	Baker				Surface
7 5/8	26.4	8 Bd.	J-55	3775'	Baker				Prod. Cas.
5 1/2	15.5	8 Bd.	J-55	3278'	Baker				Prod. Liner
2	4.4	8 Bd.	J-55	5946'					Prod. Tubing

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
10 3/4	374'	150	Circulated		
7 5/8	3767'	250	Single Stage		
5 1/2	3725-6003	300	Single Stage		

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

Gas Drilled

Rotary tools were used from 0 feet to 3707 feet, and from 3707 feet to 6009 feet
Cable tools were used from 0 feet to 180 feet, and from feet to feet

DATES

11-5, 1957 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 3,217,000 Gallons gasoline per 1,000 cu. ft. of gas

Rock pressure, lbs. per sq. in. 2043 A.G.F. = 6050 MCF/D

EMPLOYEES

, Driller , Driller
, Driller , Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	2905	2905	Tan to gry cr-grn ss interbedded w/gry sh.
2905	3030	125	Cjo Alamo ss. White cr-grn s.
3030	3365	335	Kirtland form. Gry sn interbedded w/tight gry fine grn ss.
3365	3507	222	Fruitland form. Gry carb sh, scattered coals, coals and gry, tight, fine-grn ss.
3507	3722	135	Pictured Cliffs form. Gry, fine-grn, tight, varicolored soft ss.
3722	5400	1678	Lewis formation. Gry to white dense sh w/silty to shaly ss breaks.
5400	5472	72	Cliff House ss. Gry, fine-grn, dense sil ss.
5472	5796	325	Manefee form. Gry, fine-grn s, carb sn & coal.
5796	5942	144	Point Lookout form. Gry, very fine sil ss w/frequent sn breaks.
5942	6009	67	Manecos formation. Gry carb sh.

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA
EXCEPT BARKER DOME STORAGE AREA)

Pool Blanco Formation Mesa Verde County Rio Arriba
Purchasing Pipeline El Paso Natural Gas Date Test Filed _____

Operator El Paso Natural Gas Lease San Juan 28-5 Unit Well No. 19
Unit L Sec. 10 Twp. 28N Rge. 5W Pay Zone: From 5443 To 5922
Casing: OD 5-1/2 WT. 15.5 Set At 6003 Tubing: OD 2 WT. 4.7 T. Perf. 5916
Produced Through: Casing _____ Tubing X Gas Gravity: Measured .675 Estimated _____
Date of Flow Test: From 4/9 To 4/17/58 * Date S.I.P. Measured 11/18/57
Meter Run Size _____ Orifice Size 1.250 Type Chart _____ Type Taps _____

Flowing casing pressure (Dwt) _____	psig + 12 = _____	psia	(a)
Flowing tubing pressure (Dwt) _____	psig + 12 = _____	psia	(b)
Flowing meter pressure (Dwt) _____	psig + 12 = _____	psia	(c)
Flowing meter pressure (meter reading when Dwt. measurement taken:			
Normal chart reading _____	psig + 12 = _____	psia	(d)
Square root: chart reading (_____) ² x spring constant _____	= _____	psia	(d)
Meter error (c) - (d) or (d) - (c) _____	± _____	psi	(e)
Friction loss, Flowing column to meter:			
(b) - (c) Flow through tubing: (a) - (c) Flow through casing _____	= _____	psi	(f)
Seven day average static meter pressure (from meter chart):			
Normal chart average reading _____	psig + 12 = _____	psia	(g)
Square root chart average reading (<u>8.15</u>) ² x sp. const. <u>10</u> _____	= <u>664</u>	psia	(g)
Corrected seven day ave. meter press. (p _f) (g) + (e) _____	= <u>664</u>	psia	(h)
P _t = (h) + (f) _____	= <u>664</u>	psia	(i)
Wellhead casing shut-in pressure (Dwt) <u>1243</u> _____	psig + 12 = <u>1055</u>	psia	(j)
Wellhead tubing shut-in pressure (Dwt) <u>979</u> _____	psig + 12 = <u>991</u>	psia	(k)
P _C = (j) or (k) whichever well flowed through _____	= <u>991</u>	psia	(l)
Flowing Temp. (Meter Run) <u>58</u> °F + 460 _____	= <u>518</u>	°Abs	(m)
P _d = ½ P _C = ½ (l) _____	= <u>496</u>	psia	(n)

Q = _____ X $\left(\frac{\text{FLOW RATE CALCULATION}}{\frac{\sqrt{(c)}}{\sqrt{(d)}} = \frac{\text{_____}}{\text{_____}} = \text{_____}} \right)^* = \underline{\underline{810}} \text{ MCF/day}$

(integrated)

$$D = Q \frac{810}{\left[\begin{array}{l} (P_c^2 - P_d^2) = 736065 \\ (P_a^2 - P_w^2) = 526568 \end{array} \right]^n \frac{1.3978}{1.2855}} = \frac{1041}{1.2855} \text{ MCF/da.}$$

$P_c =$ 991 psia
 $Q =$ 810 Mcf/day
 $P_w =$ 675 psia
 $P_d =$ 496 psia
 $D =$ 1041 Mcf/day

Company El Paso Natural Gas
By [Signature]
Title _____
Witnessed by _____
Company _____

- * This is date of completion test.
- * Meter error correction factor

GL	$(1-e^{-S})$	$(F_C Q)^2$	$(F_C Q)^2 (1-e^{-S})$	P_t^2	$P_t^2 + R^2$	P_w
3993	.252	58.003	14,617	440,896	455,513	675

$$D \text{ at } 500 = 1003$$

OP

