

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATA

DATE April 6, 1967

Operator El Paso Natural Gas Company		Lease Huerfano Unit No. 157	
Location 130'S, 305'E, Sec. 8 T-26-N, R-9-W		County San Juan	State New Mexico
Formation Dakota		Pool Basin	
Casing: Diameter 4.500	Set At: Feet 6904	Tubing: Diameter 2.375	Set At: Feet 6603
Pay Zone: From 332	To 6772	Total Depth: 6904	Shut In 3-17-67
Stimulation Method Sand Water Frac		Flow Through Casing	Flow Through Tubing X

Choke Size, Orifice meter 2 1/2" plate; 4" M. R.		Choke Constant 33.293		C Meter constant Tested through 3/4" Variable choke	
Shut-In Pressure, Casing, PSIG 1959	+ 12 = PSIA 1971	Days Shut-In	Shut-In Pressure, Tubing PSIG 1958	+ 12 = PSIA 1970	
Flowing Pressure: P meter 115; WH 315 PSIG	+ 12 = PSIA meter 127, WH 327		Working Pressure: Pw PSIG 730	+ 12 = PSIA 742	
Temperature: T = 72 °F	n = Ft = .9887		Fpv (From Tables) 1.013	Gravity .700	Fg = 1.1652

CHOKE VOLUME = Q = C x P_f x F_t x F_g x F_{pv}

Q = Calculated from Orifice meter reading = 2903 MCF/D

OPEN FLOW = Aof = Q $\left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$

Aof = $\left(\frac{3884841}{3334277} \right)^n = (2903)(1.1651)^{.75} = (2903)(1.1214)$

NOTE: The well produced 50.36 bbls. of oil into the tank during the test.

Aof = 3255 MCF/D



TESTED BY J. B. Goodwin, D. R. Roberts, and R. F. Headrick

WITNESSED BY T. E. Grant

CALCULATED BY H. E. McAnally

H. L. Kendrick
H. L. Kendrick

**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

5. LEASE DESIGNATION AND SERIAL NO.
SF 077980-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Huerfano Unit

8. FARM OR LEASE NAME
Huerfano Unit

9. WELL NO.
157

10. FIELD AND POOL, OR WILDCAT
Basin Dakota

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
**Sec. 8, T-26-N, R-9-W
N.M.P.M.**

12. COUNTY OR PARISH
San Juan

13. STATE
New Mexico

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

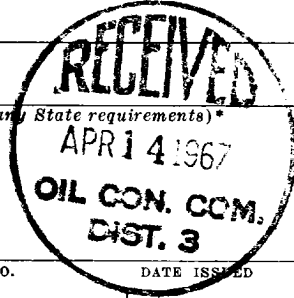
1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESVR. Other _____

2. NAME OF OPERATOR
El Paso Natural Gas Company

3. ADDRESS OF OPERATOR
Box 990, Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface **1090'S, 1805'E**
At top prod. interval reported below
At total depth



14. PERMIT NO. _____ DATE ISSUED _____

15. DATE SPUDDED **2-9-67** 16. DATE T.D. REACHED **2-20-67** 17. DATE COMPL. (Ready to prod.) **4-6-67** 18. ELEVATIONS (DF, REB, RT, GR, ETC.)* **6539' GL** 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD **6891'** 21. PLUG, BACK T.D., MD & TVD **6825'** 22. IF MULTIPLE COMPL., HOW MANY* **→** 23. INTERVALS DRILLED BY **→** ROTARY TOOLS **0-6891'** CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
6642-6772' (Dakota)

25. WAS DIRECTIONAL SURVEY MADE
Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN
IES, FDC-CR, SC, FDC, Temp. Survey

27. WAS WELL CORED
No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	210'	12 1/4"	170 Sks.	
4 1/2"	10.5#	6891'	7 7/8"	605 Sks.	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	6615'	

31. PERFORATION RECORD (Interval, size and number)
**6642-50, 6668-76, 6720-36, 6756-72'
w/24 SPZ**

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6642-6772	1420 bbls. water, 60,000# sand, 250 gal. acid.

33.* PRODUCTION

DATE FIRST PRODUCTION _____ PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)
Flowing WELL STATUS (Producing or shut-in)
Shut In

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
4-6-67	3	3/4"	→	50.36			

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
SI 1970	SI 2903	→		3255 MCF/D		

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) _____ TEST WITNESSED BY
J. B. Goodwin

35. LIST OF ATTACHMENTS _____

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Original Signed F. H. WOOD TITLE Petroleum Engineer DATE 4-11-67

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	GEOLOGIC MARKERS		
				NAME	MEAS. DEPTH	
					TOP	
					TRUE VERT. DEPTH	
				Pictured Cliffs	2240	
				Mesa Verde	3815	
				Point Lookout	4710	
				Callup	5710	
				Greenhorn	6581	
				Graneros	6633	
				Dakota	6757	