

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATADATE May 29, 1975

Operator <u>El Paso Natural Gas Company</u>		Lease <u>Howell E #3</u>	
Location <u>SW Sec. 29, T30N, R8W</u>		County <u>San Juan</u>	State <u>New Mexico</u>
Formation <u>Pictured Cliffs</u>		Pool <u>Blanco</u>	
Casing: Diameter <u>2.875</u>	Set At: Feet <u>2693'</u>	Tubing: Diameter <u>Tubingless Completion</u>	Set At: Feet
Pay Zone: From <u>2575'</u>	To <u>2644'</u>	Total Depth: <u>PBTD</u> <u>2693'</u> <u>2683'</u>	Shut In <u>5-15-75</u>
Stimulation Method <u>Sandwater Frac</u>		Flow Through Casing <u>XX</u>	Flow Through Tubing

Choke Size, Inches <u>0.75</u>	Choke Constant: C <u>12.365</u>		Tubingless Completion	
Shut-In Pressure, Casing, PSIG <u>1077</u>	+ 12 = PSIA <u>1089</u>	Days Shut-In <u>7</u>	Shut-In Pressure, Tubing PSIG <u>--</u>	+ 12 = PSIA <u>--</u>
Flowing Pressure: P PSIG <u>56</u>	+ 12 = PSIA <u>68</u>		Working Pressure: P _w PSIG <u>Calculated</u>	+ 12 = PSIA <u>83</u>
Temperature: T = <u>58</u> °F F _t = <u>1.002</u>	n = <u>.85</u>		F _{pv} (From Tables) <u>1.009</u>	Gravity <u>.665</u> F _g = <u>.9498</u>

$$\text{CHOKE VOLUME} = Q = C \times P_1 \times F_t \times F_g \times F_{pv}$$

$$Q = 12.365(68)(1.002)(0.9498)(1.009) = \underline{807} \text{ MCF/D}$$

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

$$Aof = Q \left(\frac{1185921}{1179032} \right)^n = 807(1.0058)^{.85} = 807(1.0049)$$

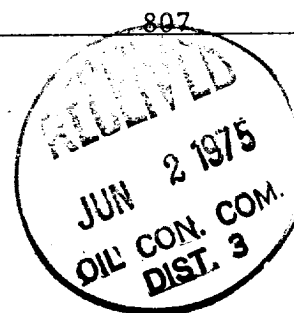
$$Aof = \underline{811} \text{ MCF/D}$$

Note: Well blew light spray of water and oil throughout test. Gas vented to atmosphere was 121.74 MCF.

TESTED BY R. Hardy

WITNESSED BY _____

Larry W. Drink
Well Test Engineer



EL PASO NATURAL GAS COMPANY

DEVIATION REPORT

Name Of Company El Paso Natural Gas Company		Address P. O. Box 990, Farmington, NM 87401			
Lease Howell E	Well No. 3	Unit Letter L	Section 29	Township 30N	Range 8W
Pool Blanco PC Ext			County San Juan		

DEPTH

130'
630'
1115'
1529'
2000'
2290'
2693'

DEVIATION

1/4°
1/4°
1/4°
1/4°
1/4°
1/4°
1/4°



I, the undersigned, certify that I, acting in my capacity as Petroleum Engineer of El Paso Natural Gas Company, am authorized by said Company to make this report; and that this report was prepared by me or under my supervision and directions and that the facts stated therein are true to the best of my knowledge and belief.

[Signature]

Subscribed and sworn to before me this 4th day of June, 1975.

[Signature]
Notary Public in and for San Juan County, New Mexico

My commission expires October 5, 1976.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other In-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5

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						5. LEASE DESIGNATION AND SERIAL NO. NM012708	
3. ADDRESS OF OPERATOR P. O. Box 990, Farmington, NM 87401						6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) At surface 1800'S, 1050'W At top prod. interval reported below At total depth						7. UNIT AGREEMENT NAME	
14. PERMIT NO.						DATE ISSUED JUN 9 1975	
15. DATE SPUDDED 12-16-74						16. DATE T.D. REACHED 12-21-74	
17. DATE COMPL. (Ready to prod.) 05-29-75						18. ELEVATIONS (DF, REB, RT, GR, ETC.) * 5865'	
20. TOTAL DEPTH, MD & TVD 2693'		21. PLUG, BACK T.D., MD & TVD 2683'		22. IF MULTIPLE COMPL., HOW MANY *		23. INTERVALS DRILLED BY 0-2693	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD) * 2575-2644' (PC)						25. WAS DIRECTIONAL SURVEY MADE No	
26. TYPE ELECTRIC AND OTHER LOGS RUN IEL; FDC-GR; 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#	126'	12 1/4"	142 cu. ft.			
2 7/8"	6.4#	2693'	7 7/8" and 6 3/4"	1100 cu. ft.			
29. LINER RECORD							
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)			
30. TUBING RECORD							
SIZE	DEPTH SET (MD)	PACKER SET (MD)					
Tubingless							
31. PERFORATION RECORD (Interval, size and number) 2575', 2576', 2592', 2593', 2619', 2620', 2643', 2644' with 2 shots per zone.							
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.							
DEPTH INTERVAL (MD)				AMOUNT AND KIND OF MATERIAL USED			
2575-2644'				50,000# sand, 50,500 gal wtr			
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
05-29-75	3 hours	3/4"					
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
	SI 1089			811 MCF/D-AOF			
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						TEST WITNESSED BY R. Hardy	
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 <u>A. P. Brisco</u>		TITLE <u>Drilling Clerk</u>			DATE <u>June 04, 1975</u>		

*(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.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES			38. GEOLOGIC MARKERS			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
				Pictured Cliffs	2550'	