

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATADATE December 12, 1973

Operator El Paso Natural Gas Company		Lease San Juan 29-5 Unit #68	
Location 1180/N, 1180/E, Sec. 18, T29N, R5W		County Rio Arriba	State New Mexico
Formation Dakota		Pool Basin	
Casing: Diameter 4.500	Set At: Feet 7959'	Tubing: Diameter 1 1/2"	Set At: Feet 7873'
Pay Zone: From 7801	To 7885	Total Depth: 7959	Shut In 12-4-73
Stimulation Method Sandwater Frac		Flow Through Casing X	Flow Through Tubing

Choke Size, Inches .750		Choke Constant: C 12.365			
Shut-In Pressure, Casing, PSIG 2504	+ 12 = PSIA 2516	Days Shut-In 8	Shut-In Pressure, Tubing PSIG 2023	+ 12 = PSIA 2035	
Flowing Pressure: P PSIG 214	+ 12 = PSIA 226		Working Pressure: P _w PSIG 322	+ 12 = PSIA 334	
Temperature: T = 65 °F	F _t = .9952	n = .75	F _{pv} (From Tables) 1.017	Gravity .595	F _g = 1.0041

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

$$Q = (12.365)(226)(.9952)(1.004)(1.017) = \underline{\quad 2840 \quad} \text{ MCF/D}$$

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

$$Aof = Q \left(\frac{6330256}{6218700} \right)^n = 2840(1.0179)^{.75} = 2840(1.0134)$$

$$Aof = \underline{\quad 2878 \quad} \text{ MCF/D}$$

Note: Blew light fog of distillate and water.

TESTED BY Jesse B. Goodwin

WITNESSED BY _____

William D. Welch
 William D. Welch
 Well Test Engineer



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1474.

5. LEASE DESIGNATION AND SERIAL NO.

SF 078281

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT--" for such proposals.)

1.

OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

El Paso Natural Gas Company

3. ADDRESS OF OPERATOR

PO Box 990, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*

See also space 17 below.)
At surface

1180'N, 1180'E

7. UNIT AGREEMENT NAME

San Juan 29-5 Unit

8. FARM OR LEASE NAME

San Juan 29-5 Unit

9. WELL NO.

68

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 18, T-29-N, R-5-W
NMPM

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6500'GL

12. COUNTY OR PARISH

Rio Arriba

13. STATE

NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

☐
☐
☐
☐

PULL OR ALTER CASING

☐
☐
☐
☐

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

☒
☒
☐

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

☐
☐
☐
☐

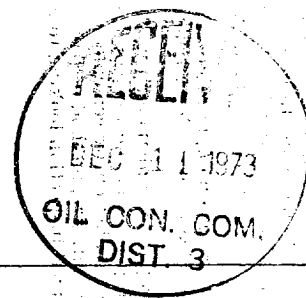
(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

11-5-73 TD 3782'. Ran 93 joints 7", 20#, J-55 intermediate casing, 3769' set at 3782'. Cemented with 273 cu. ft. cement. WOC 12 hours, held 1200#/30 min. Top of cement at 2400'.

11-11-73 TD 7959'. Ran 244 joints 4 1/2", 11.6 and 10.5#, J-55 production casing, 7948' set at 7959'. Float collar set at 7953'. Cemented with 644 cu. ft. cement. WOC 18 hours. Top of cement at 3335'.

12-2-73 PBTD 7953'. Tested casing, held 4000#. Perf'd 7801, 7806', 7861', 7864', 7883', 7885' with one shot per zone. Frac'd with 40,000# 40/60 sand and 60,000 gallons treated water. No ball drops. Flushed with 5300 gallons water.



18. I hereby certify that the foregoing is true and correct

SIGNED

A. H. Stinson

TITLE

Drilling Clerk

DATE

December 6, 1973

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

SF 078281

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT--" for such proposals.)

1.

OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

El Paso Natural Gas Company

3. ADDRESS OF OPERATOR

PO Box 990, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*

See also space 17 below.)

At surface

1180'N, 1180'E

7. UNIT AGREEMENT NAME

San Juan 29-5 Unit

8. FARM OR LEASE NAME

San Juan 29-5 Unit

9. WELL NO.

68

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 18, T-29-N, R-5-W
NMPM

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6500'GL

12. COUNTY OR PARISH

Rio Arriba

13. STATE

NM

10. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

(Other)

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

ABANDON* ☐

CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☒

FRACTURE TREATMENT ☐

SHOOTING OR ACIDIZING ☐

(Other)

REPAIRING WELL ☐

ALTERING CASING ☐

ABANDONMENT* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

11-1-73 Recemented surface casing with 236 cu.ft. cement. WOC 12 hours.
Held 600#/30 minutes.



DEC 27 1973

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE

Drilling Clerk

DATE

12-20-73

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.6.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____		5. LEASE DESIGNATION AND SERIAL NO. SF 078281	
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR El Paso Natural Gas Company		7. UNIT AGREEMENT NAME San Juan 29-5 Unit	
3. ADDRESS OF OPERATOR PO Box 990, Farmington, NM 87401		8. FARM OR LEASE NAME San Juan 29-5 Unit	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1180'N, 1180'E At top prod. interval reported below At total depth		9. WELL NO. 68	
14. PERMIT NO.		DATE ISSUED	
15. DATE SPUDDED 10-28-73		16. DATE T.D. REACHED 11-10-73	
17. DATE COMPL. (Ready to prod.) 12-12-73		18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6500'GL	
19. ELEV. CASINGHEAD		10. FIELD AND POOL, OR WILDCAT Basin Dakota	
20. TOTAL DEPTH, MD & TVD 7959'		11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 18, T-29-N, R-5-W NMPM	
21. PLUG, BACK T.D., MD & TVD 7953'		12. COUNTY OR PARISH Rio Arriba	
22. IF MULTIPLE COMPLETIONS, HOW MANY? 3		13. STATE NM	
23. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND T.D.) 7801-7885'(Dakota)		24. WAS DIRECTIONAL SURVEY MADE no	
25. TYPE ELECTRIC AND OTHER LOGS RUN IGR; FDC-GR; Temp. Survey		26. WAS WELL CORED no	
27. CASING RECORD (Report all strings in well)			
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE
9 5/8"	32.3#	220'	13 3/4"
7"	20#	3782'	8 3/4"
4 1/2"	11.6&10.5#	7959'	6 1/4"
CEMENTING RECORD			
AMOUNT PULLED			
461 cu. ft.			
273 cu. ft.			
644 cu. ft.			
28. LINER RECORD			
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*
29. TUBING RECORD			
SIZE	DEPTH SET (MD)	PACKER SET (MD)	
1 1/2"	7883'		
30. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.			
DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED		
7801-7885'	40,000#sand; 60,000gal. water		
31. PERFORATION RECORD (Interval, size and number) 7801', 7806', 7861', 7864', 7883' and 7885' with one shot per zone.			
32. PRODUCTION			
DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) flowing		
DATE OF TEST 12-12-73	HOURS TESTED 3	CHOKE SIZE 3/4"	PROD'N. FOR TEST PERIOD →
FLOW. TUBING PRESS. SI 2035	CASING PRESSURE SI 2516	CALCULATED 24-HOUR RATE →	OIL—BBL. 2878 AOF
33. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)			
TEST WITNESSED BY J.B. Goodwin			
34. LIST OF ATTACHMENTS			
35. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records			
SIGNED <u>A. G. [Signature]</u> TITLE <u>Drilling Clerk</u> DATE <u>January 3, 1974</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	no	
				Mesa Verde	5308	
				Point Lookout	5636	
				Gallup	6676'	
				Greenhorn	7606	
				Graneros	7658	
				Dakota	7792	