

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

C/SF

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL
OIL WELL ☐ GAS WELL ☒ OTHER ☐

2. NAME OF OPERATOR
CITIES SERVICE COMPANY ✓

3. ADDRESS OF OPERATOR
P. O. Box 1919 Midland, Texas 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface 660' FNL & 1980' FWL of Sec. 3-T20S-R28E,
Eddy County, New Mexico
At proposed prod. zone
Same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
Approx. 11½ miles NE of Carlsbad, NM

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 660' N

16. NO. OF ACRES IN LEASE
317.20

17. NO. OF ACRES ASSIGNED
TO THIS WELL
317.20

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT. ----

19. PROPOSED DEPTH
11325'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
3284.2' GR

22. APPROX. DATE WORK WILL START*
December 1, 1980

5. LEASE DESIGNATION AND SERIAL
NM 13232

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
JUN 29 1981

7. UNIT AGREEMENT NAME
O. C. D.

8. FARM OR LEASE NAME
Government "ANCOM"

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Winchester
Under Morrow

11. SEC., T., R., M., OR BLK.
AND SURVEY OR AREA
Sec. 3-T20S-R28E

12. COUNTY OR PARISH
Eddy

13. STATE
NM

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17½"	13 3/8"	48#	400'	400 sx (circulated)
12¼"	8 5/8"	24# & 32#	3000'	1650 sx (circulated)
7 7/8"	5 ½"	17# & 26#	11325'	700 sx

This record being filed for changing of depth of 13 3/8" casing program.

It is proposed to drill this well to a depth of 11325' to test the
Morrow Foundation. The blowout prevention program is as follows:

1. one set of blind rams
2. one set of drill pipe rams
3. one Hydril.
4. one rotating head.

The acreage allocated to this well is not dedicated to any gas purchaser.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED [Signature] TITLE Reg. Oper. Mgr. - Prod. DATE June 22, 1981

(This space for Federal or State office use)

PERMIT NO. APPROVED

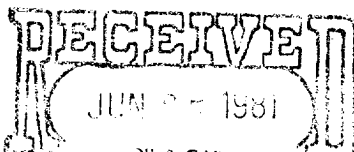
APPROVAL DATE

APPROVED BY JUN 25 1981

CONDITIONS OF APPROVAL, IF ANY

JAMES A. GILLHAM
DISTRICT SUPERVISOR

TITLE DATE



Instructions

General: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal 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.

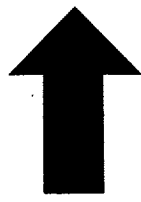
Item 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

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 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

Items 15 and 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

Item 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.



LTR



Job separation sheet

C/SF

C-122

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 10-26-81	RECEIVED								
Company CITIES SERVICE COMPANY		Connection TO ATMOSPHERE		NOV 12 1981							
Pool Undesignated <i>Wendover atoka</i>		Formation ATOKA									
Completion Date 10-26-81		Total Length 11,275	Plug Back TD 10,865	Elevation 3284 G.L.	Farm or Lease Name GOVERNMENT LAND						
Csg. Size 5 1/2	Wt. 17#	d 4.892	Set At 11,275	Perforations: From 10,579 To 10,594	Well No. 1						
Tbg. Size 2 7/8	Wt. 6.5#	d 2.441	Set At 10,481	Perforations: From OPENENDED	Unit Sec. Twp. Rge. C 3 20S 28E						
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE				Packer Set At 10,475	County EDDY						
Producing Thru TUBING		Reservoir Temp. °F 184 @ 10587	Mean Annual Temp. °F 60°	Baro. Press. - P _a 13.2	State NEW MEXICO						
L 10.587	H 10.587	G _g .6412	% CO ₂ .884	% N ₂ 1.293	% H ₂ S -0-	Prover Meter Run 4"	Taps Flange				
FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							3860		PKR.	CHOKE	24 Hrs.
1.	4"	x	1.5"	550	15	63	3702	66		9/64	1 Hr.
2.	4"	x	1.5"	560	34	60	3564	68		10.5/64	1 Hr.
3.	4"	x	1.5"	570	60	51	3417	71		11.5/64	1 Hr.
4.	4"	x	1.5"	570	83	45	3278	71		12.5/64	1 Hr.
5.											
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd				
1	11.82	91.91	563.2	.9971	1.249	1.054	1426				
2.	11.82	139.60	573.2	1.000	1.249	1.055	2174				
3.	11.82	187.06	583.2	1.009	1.249	1.061	2956				
4.	11.82	220.01	583.2	1.015	1.249	1.064	3508				
5.											
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 170 Mcf/bbl.						
1.	.838	523	1.43	.901	A.P.I. Gravity of Liquid Hydrocarbons 59.1 @ 60 Deg.						
2.	.853	520	1.42	.898	Specific Gravity Separator Gas XXXXXXXXXX						
3.	.868	511	1.39	.888	Specific Gravity Flowing Fluid XXXXXX .6582						
4.	.868	505	1.38	.884	Critical Pressure 672 P.S.I.A. 672 P.S.I.A.						
5.					Critical Temperature 367 R 373 R						
P _c 3843.2 P _c ² 14.770											
NO.	P _r ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.0959$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.09595$						
1		3713.5	13790	980	ADP = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 14,368$						
2		3667.01	13447	1323							
3		3618.2	13091	1679							
4		3341.3	11164	3606							
5											
Absolute Open Flow 14,368 Mcfd @ 15.025					Angle of Slope θ 45°			Slope, n 1.000			
Remarks: use 45° Through High Rate											
Approved By Commission:			Conducted By: T.B.			Calculated By: M.K.			Checked By: M.K.		