



OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-101
Revised 10-1-78

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FILE	
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LAND OFFICE	
OPERATOR	

5A. Indicate Type of Lease STATE ☐ FEE ☒
5. State Oil & Gas Lease No. N/A
7. Unit Agreement Name N/A
8. Farm or Lease Name Exxon Mineral Fee
9. Well No. 1
10. Field and Pool, or Wildcat Wildcat
12. County Cibola
19. Proposed Depth 7000'
19A. Formation Pennsylvanian
20. Rotary or C.T. Rotary
21. Elevations (Show whether DF, RT, etc.) 6645 Gr.
21A. Kind & Status Plug. Bond Cash Bond
21B. Drilling Contractor Aztec Well Servicing
22. Approx. Date Work will start May 1, 1987

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
b. Type of Well DRILL ☒ DEEPEN ☐ PLUG BACK ☐ OIL WELL ☒ GAS WELL ☐ OTHER ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐
2. Name of Operator Austra-Tex Oil Company
3. Address of Operator 909 N.E. Loop 410, Suite 600, San Antonio, Texas 78209
4. Location of Well UNIT LETTER <u>F</u> LOCATED <u>1650</u> FEET FROM THE <u>North</u> LINE AND <u>1980</u> FEET FROM THE <u>West</u> LINE OF SEC. <u>23</u> TWP. <u>12N</u> RGE. <u>4W</u> NMPM
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PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	9-5/8"	36#	600'	325	Surface
7-7/8"	5-1/2"	15.5#	7000'	1,135	Surface

See Attached Drilling and Completion Prognosis
See Attached Proposed Casing and Cement Program
See Attached Blowout Preventer Program

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. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed [Signature] Title Chief Engineer Date March 16, 1987
(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY: _____

Well Drilling and Completion Prognosis

PRELIMINARY DRILLING AND COMPLETION PROGNOSIS 8 MILE PROSPECT CIBOLA COUNTY, NEW MEXICO

LOCATION: CIBOLA COUNTY, NEW MEXICO, C, E/2, NW/4
SEC. 23, T12N, R4W

ELEVATION: 6570 FT. (APPROX)

RESERVOIR
OBJECTIVE: PRIMARY: ENTRADA SAND
GLORIETA SAND
YESO CARBONATE
SECONDARY: YESO ARKOSE
PENNSYLVANIAN CARBONATES

ESTIMATED FORMATION TOPS:

MANCOS SHALE	-	SURFACE
DAKOTA S.S.	-	140' (KB)
MORRISON F.M.	-	180' (KB)
TODILTO F.M.	-	1030' (KB)
ENTRADA S.S.	-	1140' (KB)
CHINLE F.M.	-	1210' (KB)
GLORIETA	-	2710' (KB)
YESO	-	2910' (KB)
ABO	-	4200' (KB)
PENN.	-	4870' (KB)
PRE C SCHIST	-	6070' (KB)

TOTAL DEPTH: 6070 FT (KB)

PROCEDURE:

1. BUILD ROADS, MUD RESERVE PITS, GAPS AND LOCATION.
2. MOBILIZE AND RIG UP DRILLING RIG AND ALL ACCESSORIES SUCH AS MUD LINES, DESANDER, SHALE SHAKER, DEGASSER, BOP'S, PIPE, ETC.
3. DRILL RAT HOLE AND MOUSE HOLE.
4. SET 1 JOINT 13-3/8" CONDUCTOR.
5. DRILL 12-1/4" HOLE TO CIRCA 600 FT WITH FW SPUD MUD CONTAINING BENTONITE AND CAUSTIC. MUD PROPERTIES ARE AS FOLLOWS:
VISCOSITY - 35-50 SEC/QT
DENSITY - 8.5-9.0 PPG
FLUID LOSS - NO CONTROL
USE VISCOUS SWEEPS TO ENSURE PROPER HOLE CLEANING. LCM ON LOCATION IN CASE NEEDED.
WATCH MUD PIT FOR WATER FLOWS.
6. MAKE WIPER TRIP AND CONDITION HOLE TO RUN CASING. POOH.

7. RUN 9-5/8", J55, ERW, 36# ST&C CASING WITH FLAPPER SHOE. SET 2' OFF BOTTOM. RIG UP CEMENTERS AND CEMENT WITH CLASS B CEMENT WITH 2% CACL TO SURFACE. WOC 6 HOURS. INSURE SOME CEMENT IS PUMPED ON TOP OF PLUG FOR DRILLING OUT. WOC 6 HOURS.
8. INSTALL BRADENHEAD.
9. CONDITION MUD WITH BICARB OR SODA ASH FOR CA CONTROL WITH PROPERTIES AS FOLLOWS:
VISCOSITY - 32-36 SEC/QT
DENSITY - 8.9-9.0 PPG
FLUID LOSS - 8 CC'S OR LESS
NIPPLE UP BOP'S. PICK UP 7-7/8" BUTTON BIT AND DRILLING ASSEMBLY AND RIH.
10. DRILL OUT CEMENT AND PLUG. TEST CASING TO 1000 PSI BEFORE DRILLOUT SHOE.
11. DRILL TO CIRCA 6000 FT. REFER TO EVALUATION PROGRAM FOR MUD LOGGING PROCEDURES. TAKE SURVEYS EVERY 300'. MAXIMUM HOLE DEVIATION TO BE 5 DEGREES WITH A MAXIMUM CHANGE OF 1 DEGREE PER 100 FEET.
12. RU LOGGERS. RUN LOGS AS SPECIFIED IN EVALUATION PROGRAM.
13. IF WELL IS DRY, PLUG AND ABANDON AS SPECIFIED BY STATE COMMISSION. IF PRODUCER, CONTINUE TO STEP 14.
14. RIH WITH 7-7/8" BIT TO CONDITION HOLE FOR RUNNING CASING. POOH.
15. RUN 5-1/2", J55, ERW, 15.5# ST&C CASING AS FOLLOWS:
5-1/2" GUIDE SHOE, 1 JOINT 5-1/2" CASING WITH CENTRALIZER, 5-1/2" FLOAT COLLAR, AUTOMATIC FILL-UP ASSEMBLY, 5-1/2" CASING TO SURFACE WITH CENTRALIZERS ACROSS PAY ZONE PLUS CENTRALIZERS EVERY 500 FEET TO SURFACE.
16. RU CEMENTERS. CEMENT WITH LEAD CEMENT OF LIGHT WEIGHT CEMENT AND TAIL IN WITH CLASS B CEMENT (TAIL CEMENT TO HAVE FLUID LOSS LESS THAN 250 CC AND HAVE SUFFICIENT RHEOLOGY TO OBTAIN TURBULENT FLOW IN ANNULUS AT 8 BPM). CIRCULATE CEMENT TO SURFACE. RECIPROCATATE PIPE WHILE PUMPING CEMENT. DISPLACE CEMENT WITH FW AT 8 BPM. WOC 24 HOURS. RD DRILLING RIG.
17. INSTALL WELL HEAD AND BOP'S.
18. RUPU. RIH WITH 4-3/4" BIT AND SCRAPER. CO TO PBTD. CIRC HOLE CLEAN WITH 2% KCL WATER. TEST CASING TO 1000 PSI. POOH.

19. RU PERFORATORS. INSTALL LUBRICATOR. RUN GR/CCL/CBL AND TIE INTO OPEN HOLE LOGS. RUN 3-1/8" CASING GUN AND SHOOT PAY INTERVAL WITH 2 JSPF. RD PERFORATORS.
20. RIH WITH X-NIPPLES AND PRODUCTION PACKER ON 2-3/8", J55, EUE, 4.7# SEAMLESS TUBING. INSTALL X-MAS TREE.
21. SET UP TEMPORARY TEST FACILITIES.
22. SWAB WELL IN. IF NEEDED, USE APPROPRIATE STIMULATION METHODS DETERMINED BY ENGINEER ON LOCATION. TEST WELL FOR PERIOD DETERMINED BY ENGINEER.
23. INSTALL GUNBARREL, TANK BATTERY, FLOWLINES, ETC. HOOK UP WELL.
24. RECORD FTP AND PRODUCTION OF OIL, GAS AND WATER AND SEND DAILY TO OFFICE.

NOTE: ALL EQUIPMENT TO BE NEW AND API APPROVED.

EVALUATION PROGRAM

LOGGING PROGRAM

LOG TYPE

CNL/CDL

DIL/SFL/SP/GR

MUD LOGGING PROGRAM

PREFERRED SCALES AND PRESENTATION

ON POROSITY MEASUREMENTS: (-10 TO 30)
ON APPARENT LIMESTONE POROSITY: NOTE
ALSO $\Delta \rho$ ON -.05 TO +.45 IN TRACK 2.

PRESENT ϕ_N ON ρ_b PRESENTATION WITH NO
OTHER CALCULATED CURVES SUCH AS
F-CURVE PRESENTATION. PRESENT TENSION
CURVE AND $\Delta \rho$ IN TRACK 3.

.2-2000 OHMETERS LOGRITHMIC SCALE ON
5" SCALE AND LINEAR ON 2" SCALE. GR
ON 0-150 SPI.

CATCH 10 FT. SAMPLES FROM 9-5/8"
CASING SHOT TO TD AND MONITOR GAS
SHOWS.

ANALYZE CUTTING UNDER MICROSCOPE AND
UV LIGHT. CHECK CUT WHERE HYDRO-
CARBON SUSPECTED.

PROPOSED CASING AND CEMENT PROGRAM

Surface

Cement 9 5/8" casing in 12 1/4" hole with 325 sacks of Class "B" Cement, containing 2% Calcium Chloride mixed at 15.6 lb/gal. Precede cement with 20 bbls of Flochek 21.

Floating equipment:	9 5/8" Guide Shoe	1 ea
	9 5/8" Float Collar	1 ea
	S-3 Centralizer	6 ea
	Fast-Lok Clamp	1 ea
	Bottom 5W Plug	1 ea
	Top 5W Plug	1 ea

Production

Cement 5 1/2" casing in 7 7/8" hole in 2 stages as follows:

1st Stage:

lead cement - 300 sacks of Halliburton Light, mixed at 13.0 lb/gal with a yield of 1.55 ft³/sack

tail cement - 280 sacks of Class "B" Cement, containing .75% CFR-2 and .6% Halad-9 mixed at 15.6 lb/gal with a yield of 1.18 ft³/sack

Precede cement with 20 bbls of Flochek 21

2nd Stage: (minimum of 4 hours between stages)

lead cement - 335 sacks of Halliburton Light, mixed at 13.0 lb/gal with a yield of 1.55 ft³/sack

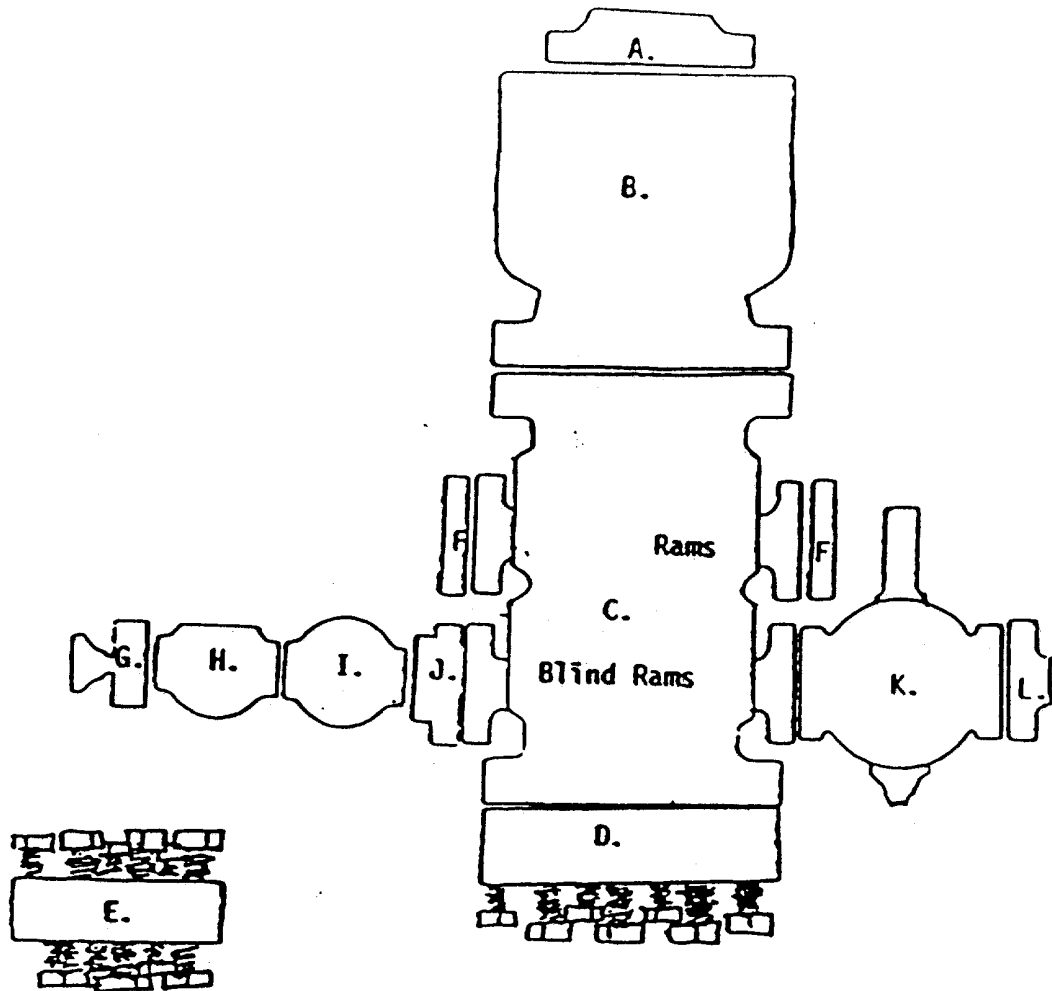
tail cement - 220 sacks of Class "B" Cement, containing .75% CFR-2 and .6% Halad-9 mixed at 15.6 lb/gal with a yield of 1.18 ft³/sack

Precede cement with 20 bbls of Flochek 21

Floating equipment:	5 1/2" Multiple Stage Cementer w/Plug set
	5 1/2" Guide Shoe
	5 1/2" Float Collar
	5 1/2" Bypass Plug and Baffle
	S-3 Centralizer (20 ea)
	5 1/2" Cement Basket
	Fast-Lok Clamp (3 ea)

Discussion: Run Multiple Stage Cementer at ± 3000 ft. below the Yeso formation with the cement basket 1 joint below the collar.

BLOWOUT PREVENTER PROGRAM



- A) 13-5/8 SM Weld Neck Flange
- B) 13-5/8 SM Hydril Type "GK" Annular Blow Out Preventer
- C) 13-5/8 SM Cameron Type "U" Double Blow Out Preventor With 4=4" S/1500 Outlets
- D) 9-5/8 SM X 10" S/900 Double Studded Adapter
- E) 9-5/8 SM X 6" S/900 Double Studded Adapter
- F) 4" S/1500 Blind Flange
- G) 2" S/1500 Companion Flange W/2" 1502 Weco 1/2 Union
- H) 2" S/1500 Cameron Type "R" Check Valve
- I) 2" S/1500 Cameron Type "F" Manual Gate Valve
- J) 4" S/1500 X 2" S/1500 Double Studded Adapter
- K) 4" S/1500 Cameron Type "F" Hydraulic Valve
- L) 4" S/1500 Companion Flange With 2" LP Threads