Form 9-331 C
(May 1963)

NMOCC COPY SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Copy to OCC

Form approved.
Budget Bureau No. 42-R1425.

30-015-22406

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM - 15670

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Cardenas Federal Com.

2. NAME OF OPERATOR: Gulf Oil Corporation

9. WELL NO.: 1

3. ADDRESS OF OPERATOR: P. O. Box 670, Hobbs, NM 88240

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10. FIELD AND POOL, OR WILDCAT: X Burton Flat Undes ~~Austin~~ Morrow

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1680' FNL & 1980' FWL, Section 29, T-20-S, R-28-E

JAN 24 1978

O. C. C.
ARTESIA, OFFICE

At proposed prod. zone

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 29, T-20-S, R-28-E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approx 11 miles

12. COUNTY OR PARISH: Eddy

13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
		320
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
	11,400'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3228' GL

22. APPROX. DATE WORK WILL START*:

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48#	600'	Circ
12 1/4"	9 5/8"	40#	2900'	Circ
8 3/4"	5 1/2"	17#	11,400'	Approx TOC 9800'

Note: See Attached BOP Drawings #2 and #4

Mud Program:
0-2900' Spud Mud and Fresh water
2900-10,000' Brackish water 9-10 ppg
10000-TD Salt water Polymer

Gas is not dedicated.

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ARTESIA, NEW MEXICO

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 C. E. Borland TITLE Area Production Manager DATE 1-11-78

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE JAN 20 1978

APPROVED BY Joe G. Lara TITLE ACTING DISTRICT ENGINEER DATE JAN 20 1978

CONDITIONS OF APPROVAL, IF ANY:

DECLARED WATER BASIN

THIS APPROVAL IS RESCINDED IF OPERATIONS ARE NOT COMMENCED WITHIN 3 MONTHS.

EXPIRES APR 20 1978

*See Instructions On Reverse Side

CEMENT BEHIND THE 13 3/8" CASING MUST BE CIRCULATED

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.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1963—O-711-396

N MEXICO OIL CONSERVATION COMMISS N

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Gulf Oil Corp.	Cardenas Fed. Com	1

Unit Letter	Section	Township	Range	County
F	29	20 South	28 East	Eddy

Actual Footage Location of Well:
1680 feet from the North line and 1980 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3228.2	Morrow	~~Undes~~ Burton Flat Morrow	320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

[XX] Yes [ ] No If answer is "yes," type of consolidation Communization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

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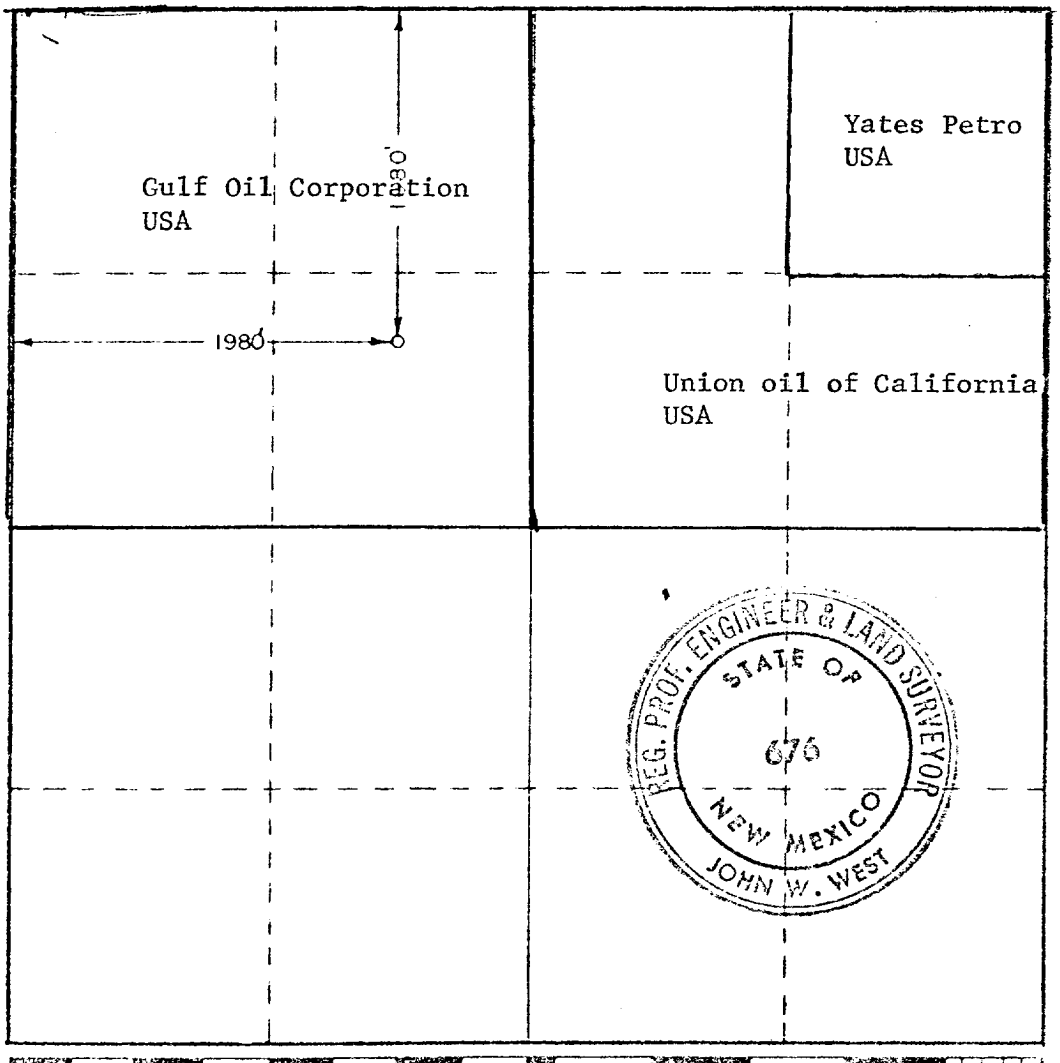
ARTESIA, NEW MEXICO



CERTIFICATION

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

C D Borland

Name: C. D. Borland

Position: Area Production Manager

Company: Gulf Oil Corporation

Date: 1-11-78

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: 1/10/78

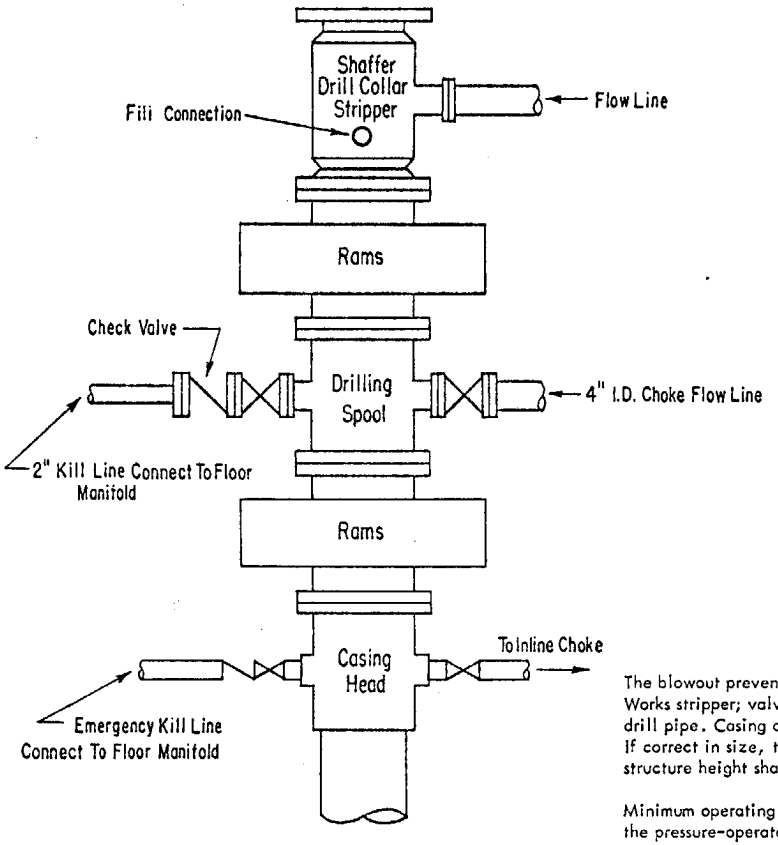
Registered Professional Engineer and/or Land Surveyor

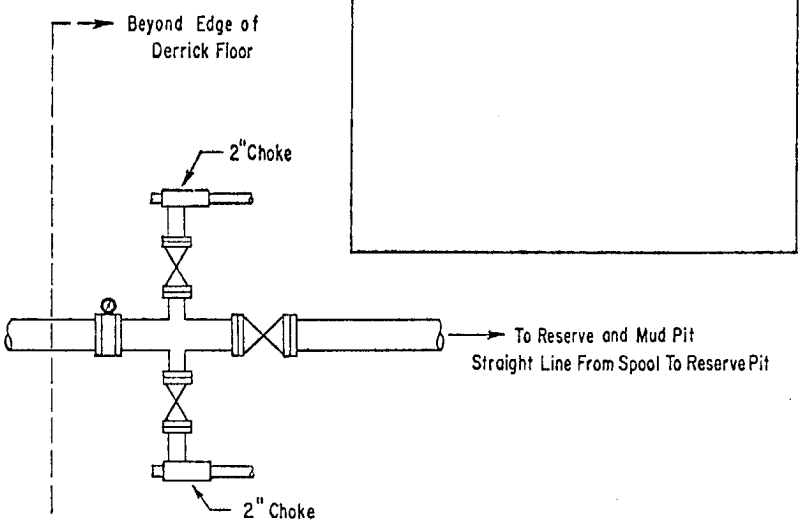
John W West

Certificate No. John W. West 676
Ronald J. Eidson 3239

DRAWING NO. 2
Revised April, 1970

ADDITIONS – DELETIONS – CHANGES
SPECIFY





3000 PSI WORKING PRESSURE BLOWOUT PREVENTER HOOK-UP

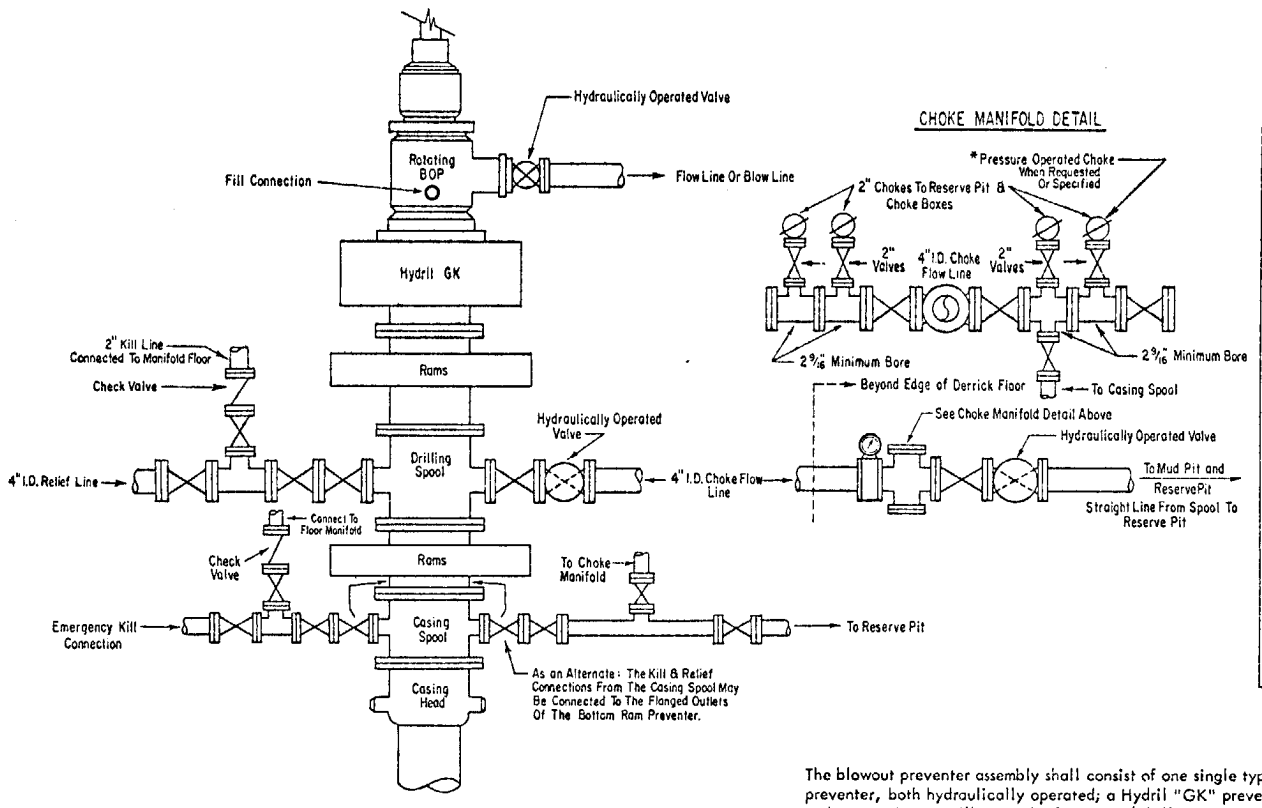
The blowout preventer assembly shall consist of one blind ram preventer and one pipe ram preventer, both hydraulically operated; a Shaffer Tool Works stripper; valves ; chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. The ram preventers may be two singles or a double type. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch I.D. choke flow line and kill line. The substructure height shall be sufficient to install a rotating blowout preventer.

Minimum operating equipment for the preventers shall be as follows: (1) Pump (s), driven by a continuous source of power, capable of closing all the pressure-operated devices simultaneously within____seconds. The pump (s) is to be connected to a closed type hydraulic operating system. (2) When requested, accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive a fluid charge from the above pump (s). With the charging pump (s) shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within____ seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at least_____percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pump (s); or there shall be an additional pump (s) operated by separate power and equal in performance capabilities.

The closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided if a Hydril preventer is used. Gulf Legion No. 38 hydraulic oil, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

The choke manifold, choke flow line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line and choke lines shall be constructed as straight as possible and without sharp bends. Easy and safe access is to be maintained to the choke manifold. All valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valve connected to the drilling spool and all ram type preventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped with handles.

DRAWING NO. 4
Revised April, 1971



CHOKE MANIFOLD DETAIL

ADDITIONS - DELETIONS - CHANGES SPECIFY

5000# PSI WORKING PRESSURE BLOWOUT PREVENTER HOOK-UP

The blowout preventer assembly shall consist of one single type blind ram preventer and one single type pipe ram preventer, both hydraulically operated; a Hydril "GK" preventer; a rotating blowout preventer; valves; chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch I.D. choke flow line and 4-inch I.D. relief line, except when air or gas drilling. All preventer connections are to be open-face flanged.

Minimum operating equipment for the preventers and hydraulically operated valves shall be as follows: (1)Multiple pumps, driven by a continuous source of power, capable of fluid charging the total accumulator volume from the nitrogen precharge pressure to its rated pressure within_____ minutes. Also, the pumps are to be connected to the hydraulic operating system which is to be a closed system. (2) Accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive the aforementioned fluid charge. With the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within_____ seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at least_____ percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities.

The closing manifold and remote closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided for operating the Hydril preventer. When requested, a second pressure reducer shall be available to limit operating fluid pressures to ram preventers. Gulf Legion No. 38 hydraulic oil, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

The choke manifold, choke flow line, relief line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line, relief line, and choke lines shall be constructed as straight as possible and without sharp bends. Easy and safe access is to be maintained to the choke manifold. If deemed necessary, walkways and stairways shall be erected in and around the choke manifold. All valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ram type preventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped with handles.

* To include derrick floor mounted controls.

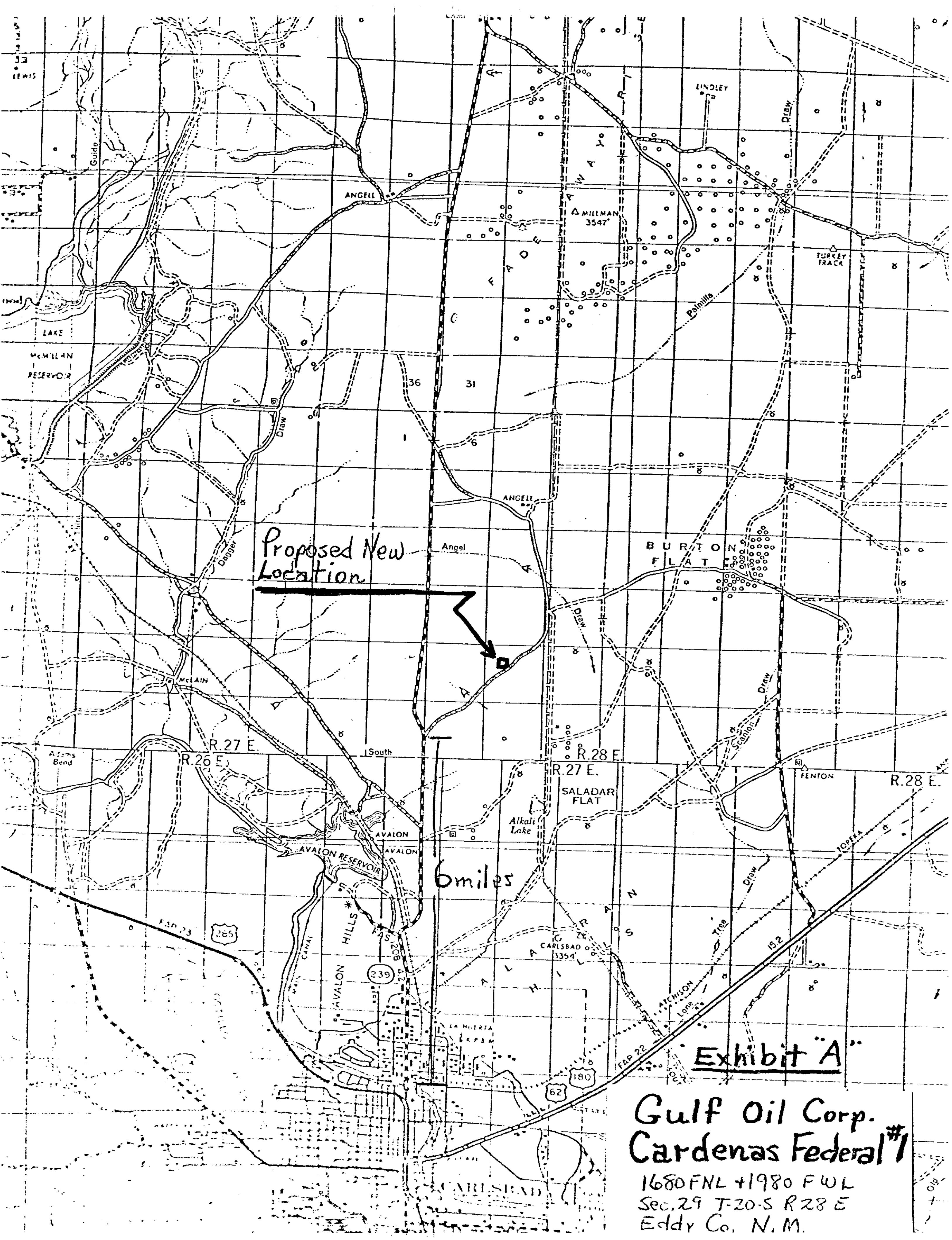


Exhibit "A"

Gulf Oil Corp.
Cardenas Federal #1
1680 FNL + 1980 FWL
Sec. 29 T-20-S R 28 E
Eddy Co. N. M.

Gulf Energy and Minerals Company-U.S.

SOUTHWEST DIVISION
HOBBS AREA

C. D. Borland
AREA PRODUCTION MANAGER

P. O. Box 670
Hobbs, NM 88240

January 11, 1978

Re: Application for Permit to Drill
Proposed Cardenas Federal No. 1,
Eddy County, New Mexico

U. S. Geological Survey
P. O. Drawer "U"
Artesia, New Mexico 88210

Gentlemen:

We are submitting the information requested in NTL-6 which should accompany application for permit to drill.

Well: Cardenas Federal Well No. 1

1. Location: 1680' FNL and 1980' FWL of Section 29, T20S, R28E, Eddy County, NM

2. Elevation of Unprepared Ground: 3228' GL.

3. Geologic Name of Surface Formation: Quarternary alluvium.

4. Type Drilling Tools: Rotary.

5. Proposed Drilling Depth: 11,400'.

6. Estimated Top of Geologic Markers: Yates, 580'; Delaware Sand, 2680'; Bone Springs, 4765'; Wolfcamp, 8675'; Atoka, 10420'; Morrow, 10880'; Barnett, 11400'.

7. Estimated Depths at which Anticipated Gas or Oil-Bearing Formations Expected:

   a. 10,420' - 10,570' in Atoka
   b. 10,900' - 11,400' in Morrow

8. Casing Program and Setting Depths:

	SIZE	WEIGHT	GRADE	SETTING DEPTH
Surface	13-3/8"	48#	H-40	600'
Intermediate	8-5/8"	24#	K-55	2,900'
Production	5-1/2"	17#	K-55 & N-80	11,400'

9. Casing Setting Depth and Cementing Program:

   a. Surface casing will be 13-3/8" set at 600' and cemented with 300 sacks of Class "C" with 6% gel, 1/4#/sack Flocele, 2% $CaCl_2$ and 200 sacks of Class "C" with 2% $CaCl_2$.

b. Intermediate casing will be 8-5/8" set at 2900' and cemented with 300 sacks of Halliburton thickset with 12#/sack gilsonite, 1/4# per sack Flocele, 2% $CaCl_2$ followed by 700 sacks of Class "C" with 16% gel Gulfmix and 200 sacks of Class "C" with 2% $CaCl_2$.

c. Production casing will be 5-1/2" set approximately 11,400' and cemented with Class "H" with 0.75% CFR-2, 5#/sack KCL with volume necessary to bring cement top to 8500' using caliper survey for volumes.

10. Pressure Control Equipment: The minimum specifications for pressure control equipment can be seen on the attached Drawing No. 2 of Gulf's blowout preventer hook-up for 3000 psi working pressure and Drawing No. 4 of Gulf's blowout preventer hook-up for 5000 psi working pressure.

11. Circulating Media: 0' - 600', fresh water spud mud; 600' - 2900', fresh water; 2900' - 8500', brackish water; 8500' - 11400', salt water polymer with the following properties: Viscosity, 34-38 sec.; Water loss, 5 cc's or less; Weight, 9.6-10.6 ppg. Heavier weight mud will be used if required by well conditions.

12. Testing, Logging and Coring Programs:

a. Formation testing may be done at any depth where samples, drilling rate, or log information indicate a possible show of oil or gas.

b. Open hole logs will be run at total depth.

13. Abnormal Pressure or Temperature and Hydrogen Sulfide Gas: We do not anticipate any abnormal pressure or temperature; however, BOP's with remote control and choke manifold as shown on Drawing No. 4 will be installed prior to drilling below intermediate casing.

The presence of hydrogen sulfide gas is not anticipated.

14. Anticipated Starting Date: Drilling operations should begin between February 1, 1978 and March 1, 1978.

15. Other Facets of the Proposed Operation: None.

C. D. BORLAND
Area Production Manager

Attachments