Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-045-23970

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: SF-077123

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 [ ] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Warren

2. NAME OF OPERATOR: Tenneco Oil Company

9. WELL NO.: 4

3. ADDRESS OF OPERATOR: 720 S. Colorado Blvd., Denver, CO 80222

10. FIELD AND POOL, OR WILDCAT: Basin Dakota

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
P 940' FSL, 1,120' FEL
At proposed prod. zone

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 13 T 28N, R 9W

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 6.9 miles SE of Blanco

12. COUNTY OR PARISH: San Juan | 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: 1,349.88

17. NO. OF ACRES ASSIGNED TO THIS WELL: E/320

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

19. PROPOSED DEPTH: 7,093

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5,931 G.R.

22. APPROX. DATE WORK WILL START*: ASAP

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 3/4"	9 5/8" new	36# K-55	250'	Circulate to surface
8 3/4"	7" new	23# K-55	3,500'	Circulate to Surface
6¼"	4½" new	10.5#-11.6#	7,093'	Circulate through liner hanger

SEE ATTACHED

Grant Submitted

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 J. D. Traywick TITLE Administration Supervisor DATE October 23, 1979

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

NMOCC

A Smith

*See Instructions On Reverse Side

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-78

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
TENNECO OIL COMPANY	WARREN	4

Unit Letter	Section	Township	Range	County
P	13	28N	9W	San Juan

Actual Footage Location of Well:
940 feet from the South line and 1120 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
5931	Dakota	Basin Dakota	320 Acres

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

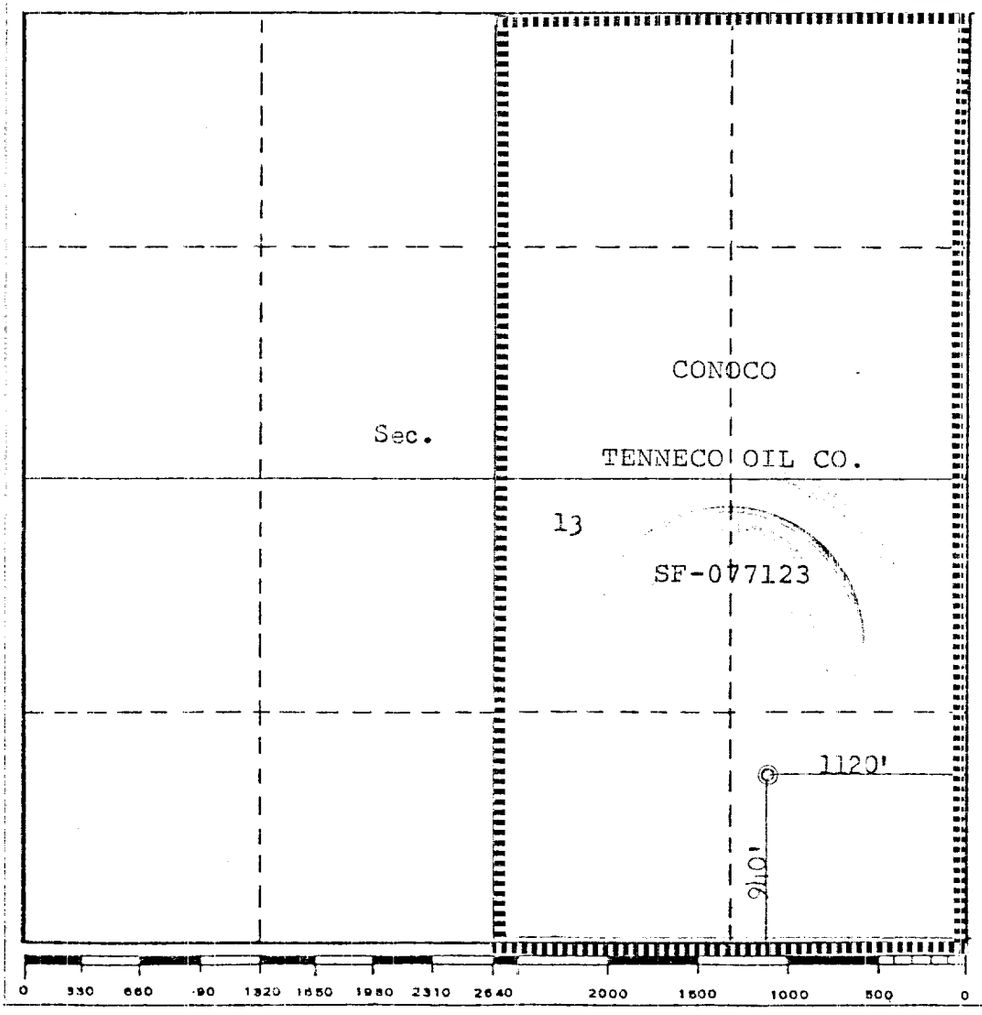
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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?

☐ Yes [X] No If answer is "yes," type of consolidation _____

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.



CERTIFICATION

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

J. D. Traywick

Name J. D. Traywick
Administration Supervisor
Position
Tenneco Oil Company
Company
October 23, 1979
Date

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
September 28, 1979
Registered Professional Engineer and/or Land Surveyor
Fred B. Kerr Jr.
Certificate No.
3950

REGISTERED LAND SURVEYOR STATE OF NEW MEXICO 3950 FRED B. KERR, JR.

TENNECO OIL COMPANY

PROGNOSIS TO DRILL AND COMPLETE

DIVISION: Rocky Mountain

DATE: August 10, 1979

LEASE: Warren

WELL NO.: 4

LOCATION: 940' FSL, 1120' FEL
Sec. 13, T 28N, R 9W
San Juan County, NM

FIELD: Basin Dakota

ESTIMATED ELEVATION: 6,150'

ESTIMATED TOTAL DEPTH: 7,093'

PROJECTED HORIZON: Basin Dakota

DRILLING, CASING AND CEMENT PROGRAM:

1) MIRU Rotary tolls.

2) Drill 13 3/4" surface hole to ± 250'.

3) Run 9 5/8", 36#, K-55, ST & C casing. Set at 250'. Cement with sufficient volume to circulate to surface.

4) Nipple up well head and blow out equipment. Test prior to drilling out to 600 psi 1/2 hour.

5) Reduce hole to 8 3/4". Drill to 3,500' with water and Benex.

6) Run 7", 23#, K-55, casing. Set at 3500'. Cement with sufficient volume to circulate to surface. Nipple up well head and rig to drill 16 1/4" hole with air or gas mist to 7093'.

7) Run 4½" liner consisting of 200' of 4½" O.D. 11.6#, 3650' of 4½" O.D. K-55 ST & C 10.5# casing.

8) cement with sufficient volume through liner hanger.

9) MORT.

ESTIMATED FORMATION TOPS:

SURFACE - San Jose Formation

OJO Alamo	1533'	(water)	Mancos	4963'	
Pictured Cliffs	2523'	(gas)	Gallup	5963'	(oil/gas)
Cliffhouse	4203'	(gas)	Greenhorn	6723'	
Menefee	4313'	(gas)	Dakota	6863'	(gas)
Point Look Out	4783'	(gas)	T.D.	7093'	

DRILLING MUD PROGRAM:

0 - 250' Native solids. Use sufficient viscosity to clean hole and run surface casing.

250' - 3,000' Low Solids. Use sufficient viscosity to clean hole and run intermediate casing.

3,000' - TD Gas or air/air mist.

CORING AND TESTING PROGRAM:

No cores or DST's are anticipated.

DEVIATION SURVEYS: 0 - 250' - 2° Max.
250' - 3,500' - 3° Max.
3,500' - TD - 5° Max.

1. Survey surface hole at 100' intervals. Maximum allowable deviation at(1° per 100')
2. FROM SURFACE TO TOTAL DEPTH DEVIATION SURVEYS MUST BE TAKEN EVERY 500' OR EACH TRIP WHICHEVER IS FIRST. This may entail running the TOTCO on wireline. Record each survey on the AAODC Drilling Report Sheet. Maximum allowable change in deviation is 1° per 100'.

SAMPLES:

30' - 2,500' - 3,000'. Insure 300 into Lewis shale.

WELL SURVEYS:

Induction - Gamma Ray
Density - Gamma Ray - Caliper

BOP: 10" x 900 series Double Ram Preventor w/closing unit.

PREVENTORS MUST BE CHECKED FOR OPERATION EVERY 24 HOURS, AND THE CHECK MUST BE RECORDED ON THE AAODC DRILLING REPORT SHEET.

WARREN 4

1. Existing Roads

A. Proposed Well Site Location: As surveyed is located at 940' FSL, 1120' FEL Sec. 13 T 28N, R 9W, San Juan County, NM. (See Exhibit I, Form C-102.)

B. Planned Access Route: The planned access route begins at the intersection of Canyon Largo and NM Hwy. 64. Proceed down the North side of Canyon Largo 5 miles, go for a distance of 2.5 miles, turn South for .8 mile to flagged access.

C. Access Road Labelled:

Color Code: Red - Improved Surface
Blue - New Access Road

D. Not applicable - the proposed well is a development well.

E. The proposed well is a development well. See Exhibit II for existing roads within a one mile radius.

F. Existing Road Maintenance or Improvement Plan:
The existing roads will require minimal maintenance.

2. Planned Access Roads

(400' of new road)

A. Width:
The average width of the road is twenty feet.

B. Maximum Grades: Less than 8%.

C. Turnouts:
There are no turnouts planned as sight distance is sufficient.

D. Drainage Design:
The road is center crowned to allow drainage. The road is flat primarily.

E. Culverts Use Major Cuts and Fills: None required.

F. Surfacing Material:
Native soil has been wetted, bladed and compacted to make the road surface, which is existing.

2. Planned Access Roads (Cont'd)

G. Gates, Cattleguards, Fence Cuts:
No gates, cattleguards or fences will be needed.

H. New Roads Centerlined Flagged:
Existing Roads.

3. Location of Existing Wells

The proposed well is a development well. Exhibit III shows existing wells within a one mile radius.

A.	Water Wells:	None
B.	Abandoned Wells:	None
C.	Temporarily Abandoned Wells:	None
D.	Disposal Wells:	None
E.	Drilling Wells:	None
F.	Producing Wells: See Exhibit	III
G.	Shut-In Wells:	None
H.	Injection Wells:	None
I.	Monitoring or Observation Wells:	None.

4. Location of Existing and/or Proposed Facilities

A. Existing facilities within one mile owned or controlled by Lessee/Operator:

(1)	Tank batteries -	None
(2)	Production facilities -	See Exhibit III
(3)	Oil Gathering Lines -	None
(4)	Gas Gathering Lines -	None
(5)	Injection Lines -	None
(6)	Disposal Lines -	None

B. New facilities in the event of production:
(1) New facilities will be within the dimensions of the drill pad.
(2) Dimensions are shown on Exhibit IV

(3) Construction Materials/Methods:
Construction materials will be native to the site.
Facilities will consist of a well pad.

(4) Protection of Wildlife/Livestock: Fenced as needed.

4. Location of Existing and/or Proposed Facilities (Cont'd)

B. New facilities in the event of production: (cont'd)

(5) New facilities will consist of a well head, tank & production unit.

C. Rehabilitation of Disturbed Areas:
Following the completion of construction, those areas required for continued production will be graded to provide drainage and minimize erosion. Those areas unnecessary for use will be graded to blend with surrounding topography per BLM recommendations.

5. Location and Type of Water Supply

A. Location and type of water supply:
Water will be hauled from a private source.

B. Water Transportation System:
Water trucks will be used.

C. Water wells:
N/A.

6. Source of Construction Materials

A. Materials:
Construction materials will consist of soil native to the site. Any topsoil, if present, will be stripped and stockpiled as needed.

B. Land Ownership;
The planned site and access road is on federal land administered by the Bureau of Land Management.

C. Materials Foreign to the Site:
N/A.

D. Access Roads:
No additional roads will be required.

7. Methods for Handling Waste Disposal

A. Cuttings:
Cuttings will be contained in the reserve pit.

B. Drilling Fluids:
Drilling fluids will be retained in the reserve pit.

C. Produced Fluids:
Produced fluids, including produced water will be collected in the reserve pit. Any small amount of hydrocarbon that may be produced during testing will be retained in the reserve pit. Prior to clean up operations, the hydrocarbon material will be skimmed.

7. Methods for Handling Waste Disposal (Cont'd)

D. Sewage:
Sanitary facilities for sewage disposal will consist of at least one pit toilet, during the driller operations. The pit will be backfilled immediately following completion of the drilling operation.

E. Garbage:
There probably will not be much putriscible garbage to dispose of. However, it will be disposed of along with the refuse in a constructed burn pit, which will be fenced. The small amount of refuse will be burned and the pit will be covered with a minimum 36 inch cover upon completion.

F. Clean-Up of Well Site:
Upon the release of the drilling rig, the surface of the drilling pad will be prepared to accommodate a completion rig, if testing indicates potential productive zones. In either case, the "mouse hole" and "rat hole" will be covered to eliminate a potential hazard to livestock. The reserve pit will be fenced to prevent entry of livestock until the pit is backfilled. Reasonable clean up will be performed prior to final restoration of the site.

8. Ancillary Facilities

None required.

9. Well Site Layout

A. See Exhibit IV

B. Location of pits, etc. See Exhibit IV.

C. Rig orientation etc. See Exhibit IV.

D. Lining of pits:
Pits will not be lined. They will be covered with a fine mesh netting, if necessary, for the protection of wildlife if fluids are found to be toxic.

10. Plans for Restoration of Surface

A. Reserve pit clean up:
The pit will be fenced prior to rig release and shall be maintained until clean up. Prior to backfilling any hydrocarbon material on the pit surface will be removed. The fluids and solids contained in the pit shall be backfilled with soil excavated from the site and with soil adjacent to the reserve pit. The restored surface of the reserve pit will be contoured as needed to minimize erosion. The reserve pit area will be seeded per BLM recommendations during the appropriate season following final restoration of the site.

10. Plans for Restoration of Surface (Cont'd)

B. Restoration Plans - Production Developed:
The reserve pit will be backfilled and restored as described under Item A. In addition, those disturbed areas not required for production will be graded to blend with the surrounding topography, and seeded, per BLM recommendations. The portion of the drill pad required for production and turning areas will be graded to minimize erosion and provide access to production facilities under inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those under Item C. below.

C. Restoration Plan - No Production Developed:
The reserve pit will be restored as described above. With no production developed, the entire surface disturbed by construction of the drilling pad will be restored. The site will be contoured to blend with the surrounding topography. The site will be seeded according to BLM recommendations. If the new access road is not required for other development plans, it will be obliterated and restored and seeded per BLM recommendations.

D. Rehabilitation Time Table:
Upon completion of operations the intial clean up of the well site will be performed. Final restoration of the site will be performed as soon as possible according to procedural guidelines published by the USGS and BLM. Seeding of the disturbed areas which are no longer required will be performed during the appropriate season, following final restoration.

11. Other Information

A. Surface Description: The surface is broken topography from errosicnal gullies above Canyon Largo. The principal vegetation is Pinon, Juniper, Mormon Tea, Bitterbrush, Saltbrush. The soil is sandy, clay loam.

B. Surface Use Activities:
The surface is federally owned and managed by the BLM. The predominant surface use is mineral exploration and production.

C. Proximity of Water, Dwellings and Historical Sites:

1. Water:
There are no reservoirs or streams in the immediate area.
2. Occupied Dwellings:
There are no occupied dwellings or buildings in the area.
3. Sites:
An archeological reconnissance has been performed for this location and clearance has been granted.

12. Operator's Field Representative

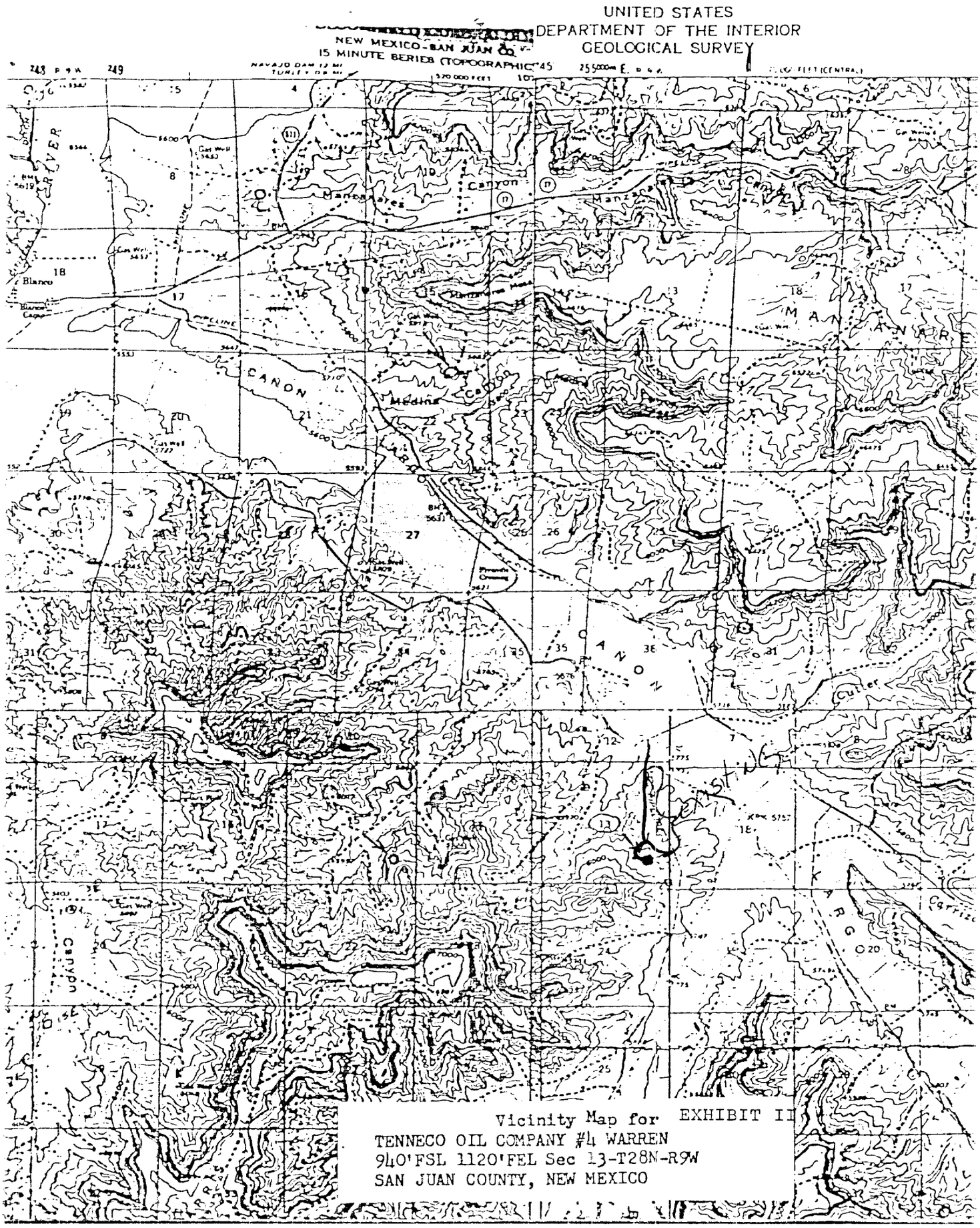
Donald S. Barnes
Division Drilling Engineer
Tenneco Oil Company
720 South Colorado Blvd.
Penthouse
Denver, CO 80222
(303) 758-7130 Ext. 212

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions as they actually exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the proposed work performed by Tenneco Oil Company and its contractors and subcontractos will conform to this plan.

Date: October 23, 1979

D. D. Traywick
Administration Supervisor



Vicinity Map for EXHIBIT II
TENNECO OIL COMPANY #4 WARREN
940'FSL 1120'FEL Sec 13-T28N-R9W
SAN JUAN COUNTY, NEW MEXICO

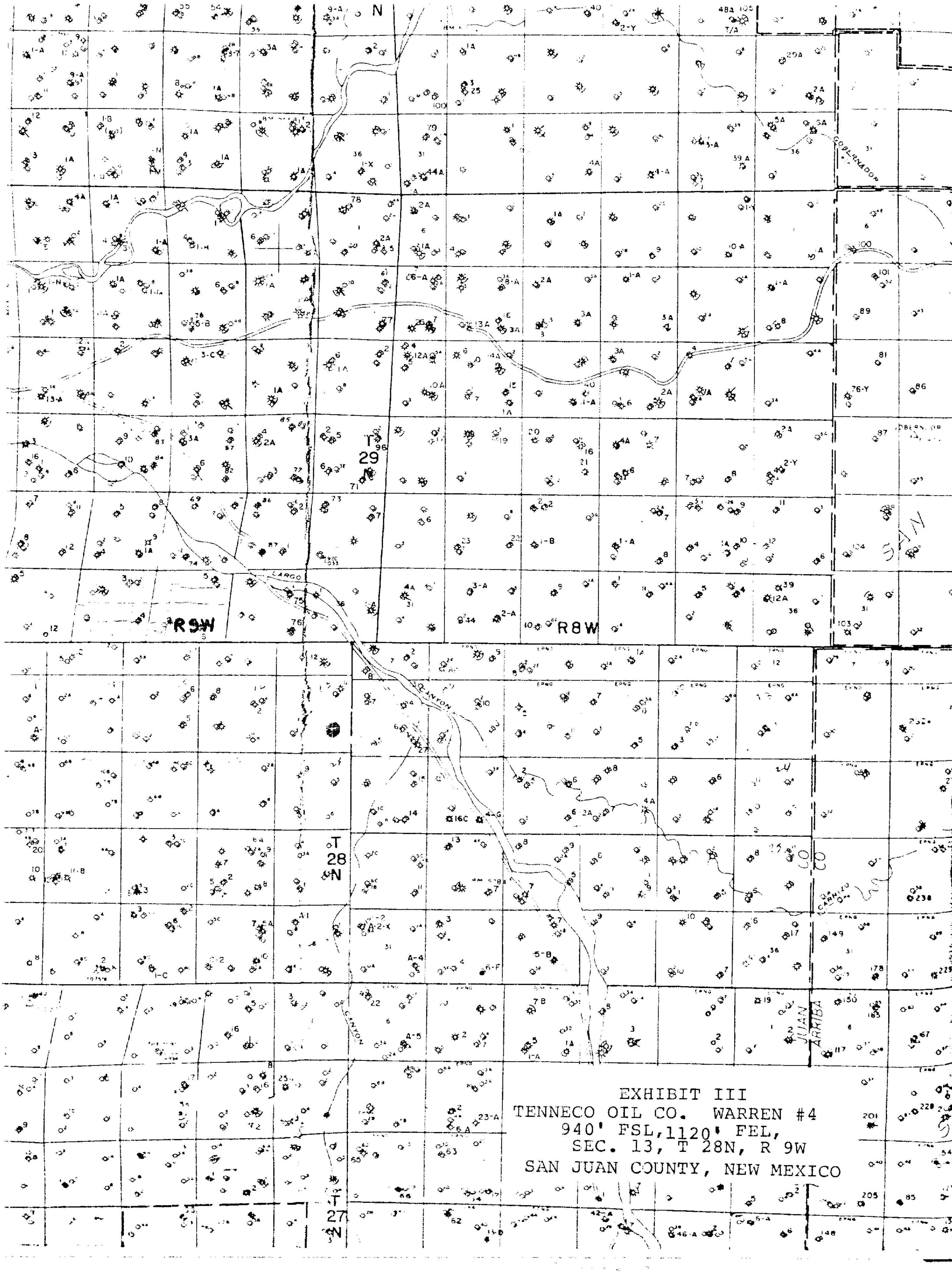


EXHIBIT III
TENNECO OIL CO. WARREN #4
940' FSL, 1120' FEL,
SEC. 13, T 28N, R 9W
SAN JUAN COUNTY, NEW MEXICO

TOC 541 - 7/61

TENNECO OIL COMPANY

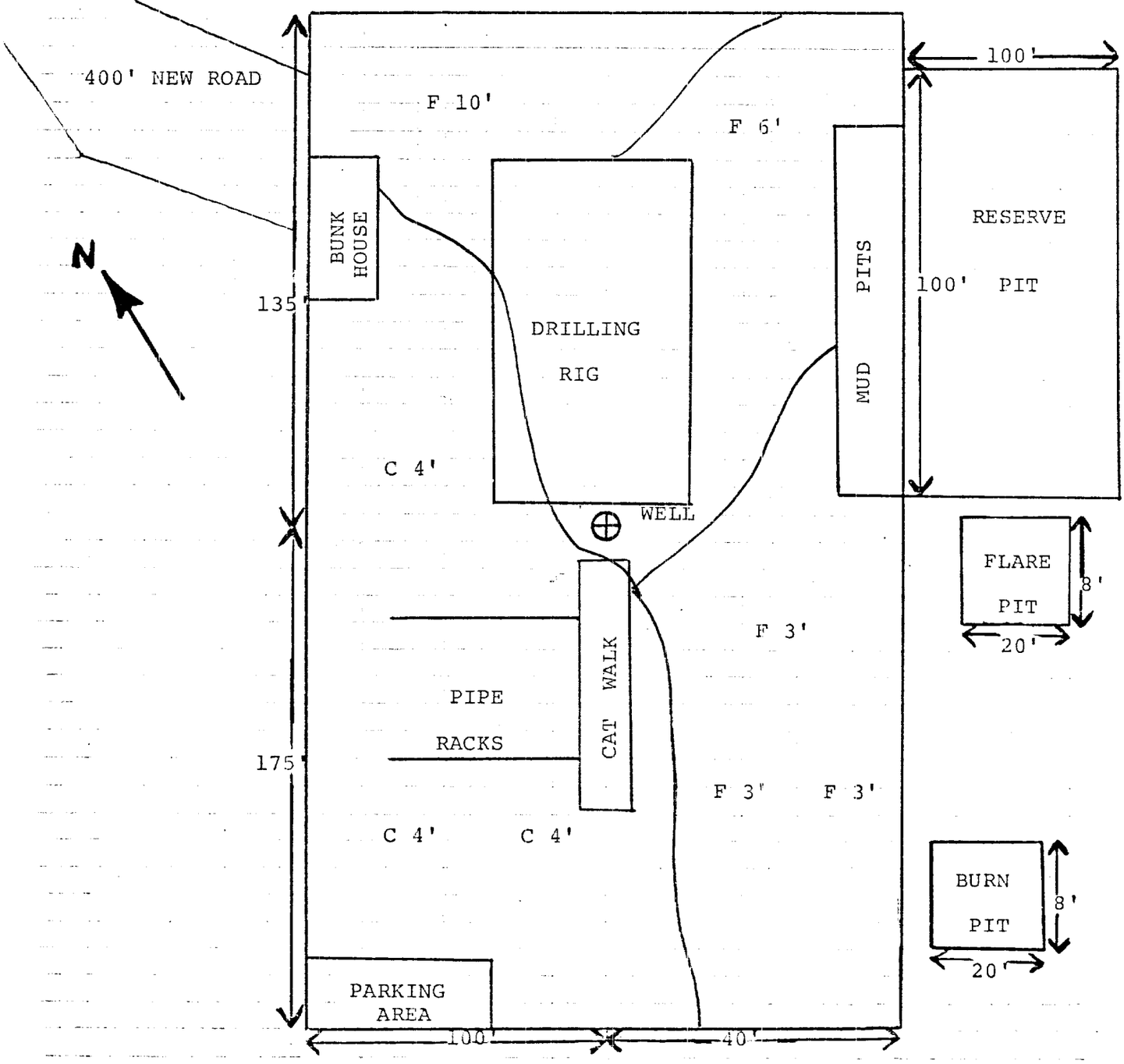
CALCULATION SHEET

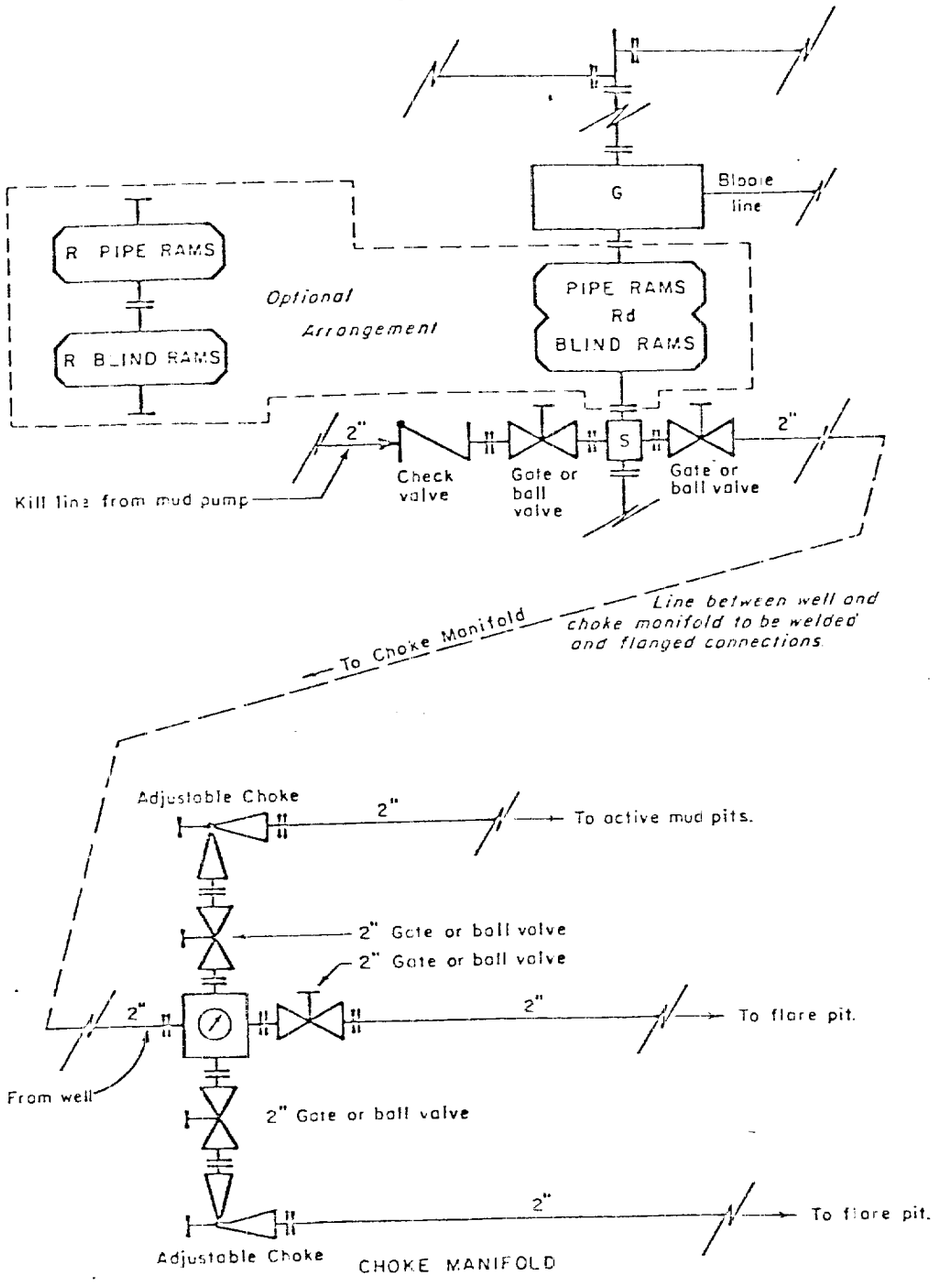
EXHIBIT IV

SUBJECT DRILLING WELL SITE LAYOUT WARREN #4

LOCATION 940' FSL, 1120' FEL, SEC. 13, T 28N, R 9W DATE: 11-79

SAN JUAN COUNTY, NEW MEXICO





All equipment to be 3,000 psi working pressure except as noted.

Rd Double ram type preventer with two sets of rams.

R Single ram type preventer with one set of rams.

S Drilling spool with side outlet connections for choke and kill lines.

G Rotating head 150 psi working pressure minimum

ARRANGEMENT C

TENNECO OIL COMPANY
ROCKY MOUNTAIN DIVISION

REQUIRED MINIMUM
BLOWOUT PREVENTER AN
CHOKE MANIFOLD

J. MAGILL 10-26-79 EVI