

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

(Other instructions on reverse side)

Budget Bureau No. 42-R1425.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. USA-SF-078046	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME 	
2. NAME OF OPERATOR TENNECO OIL COMPANY			7. UNIT AGREEMENT NAME 	
3. ADDRESS OF OPERATOR 720 S. Colorado Blvd., Denver, Colorado 80222			8. FARM OR LEASE NAME Hughes	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 1020' FNL, 810' FEL At proposed prod. zone			9. WELL NO. 4	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* See point 1B, Surface Use Plan			10. FIELD AND POOL, OR WILDCAT* Basin Dakota	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 29, T29N, R8W	
16. NO. OF ACRES IN LEASE			12. COUNTY OR PARISH San Juan	
17. NO. OF ACRES ASSIGNED TO THIS WELL E/320			13. STATE New Mexico	
18. DISTANCE FROM PROPOSED* LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.			19. PROPOSED DEPTH 7535	
20. ROTARY OR CABLE TOOL Rotary			21. APPROX. DATE WORK WILL START* October 15, 1979	
22. ELEVATIONS (Show whether DF, RT, GR, etc.) 6396 G.L.			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"	36#	250+	See 4 below
8 3/4"	7"	23#	3500+	See 4 below
6 1/4"	4 1/2"	10.5#, 11.6# (See 4 below)	7535	See 4 below

1. The geological name of the surface formation is Tertiary San Jose.
- 2&3. ESTIMATED FORMATION TOPS.

Pictured Cliffs	2950	Lewis Shale	3050
Cliffhouse	4563	Menefee	4712
Point Lookout	5197	Mancos	5366
Gallup	6398	Dakota A	7207
Greenhorn	7142	TOTAL DEPTH	7535
4. Drill 13 3/4" hole to 250+. Run 9 5/8", 36#, K-55, ST&C casing to 250+. Cement with sufficient volume to circulate cement to surface. Drill an 8 3/4" hole to 3500. Run 7", 23#, K-55 ST&C casing to 3500, cement with sufficient volume to circulate cement to surface. Drill a 6 1/4" hole with gas as circulating fluid to 7535. Run 4 1/2" casing (3650' of 10.5#, K-55 ST&C casing and 535' of 11.6#, K-55 ST&C casing). Cement with sufficient volume to circulate cement to liner top.
5. BLOWOUT PREVENTORS: Hydraulic, double ram, 10". One set of rams will be provided for each size drill pipe in the hole. One set of blind rams at all times. Fill line will be 2", kill line will be 2", choke relief line will be 2" with variable choke. BOP's will be installed, tested and in working order before drilling below surface casing and shall be maintained ready for use until drilling operations are completed. OBP's, drills and test will be recorded in the IADC Drilling Report. They shall be checked every 24 hours. All rig equipment will be tested to above BOE ratings.
6. 0-250 Mative solids
250-3500 Low solids
3500 0 TD Gas
7. AUXILIARY EQUIPMENT
 - a. Kelly cock will be in use at all times.
 - b. Stabbing valve to fit drill pipe will be present on floor at all times.
 - c. Mud monitoring will be visual, no abnormal pressures are anticipated in this area.
 - d. Floats at bits.
 - e. Drill string safety valve(s) to fit all pipe in the drill string will be maintained on the rig floor while drilling operations are in progress.
 - f. Rotating head will be used while drilling with gas.
8. No cores or DST's anticipated. 10' samples from 3000 - 3500. GR/Induction from TD to Intermediate casing. GR/FDC/Caliper from TD to base of Mesa Verde.
9. No abnormal pressures or temperatures are anticipated. See point #5 for blowout prevention equipment.
10. The drilling of this well will take approximately 10 days. The gas is not yet contracted.

NEW MEXICO OIL CONSERVATION COMMISSION
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 TENNECO OIL COMPANY		Lease HUGHES		Well No. 4	
Unit Letter A	Section 29	Township 29N	Range 8W	County San Juan	
Actual Footage Location of Well: 1020 feet from the North line and 810 feet from the East line					
Ground Level Elev. 6396	Producing Formation Dakota		Pool Basin Dakota		Dedicated Acreage: 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?

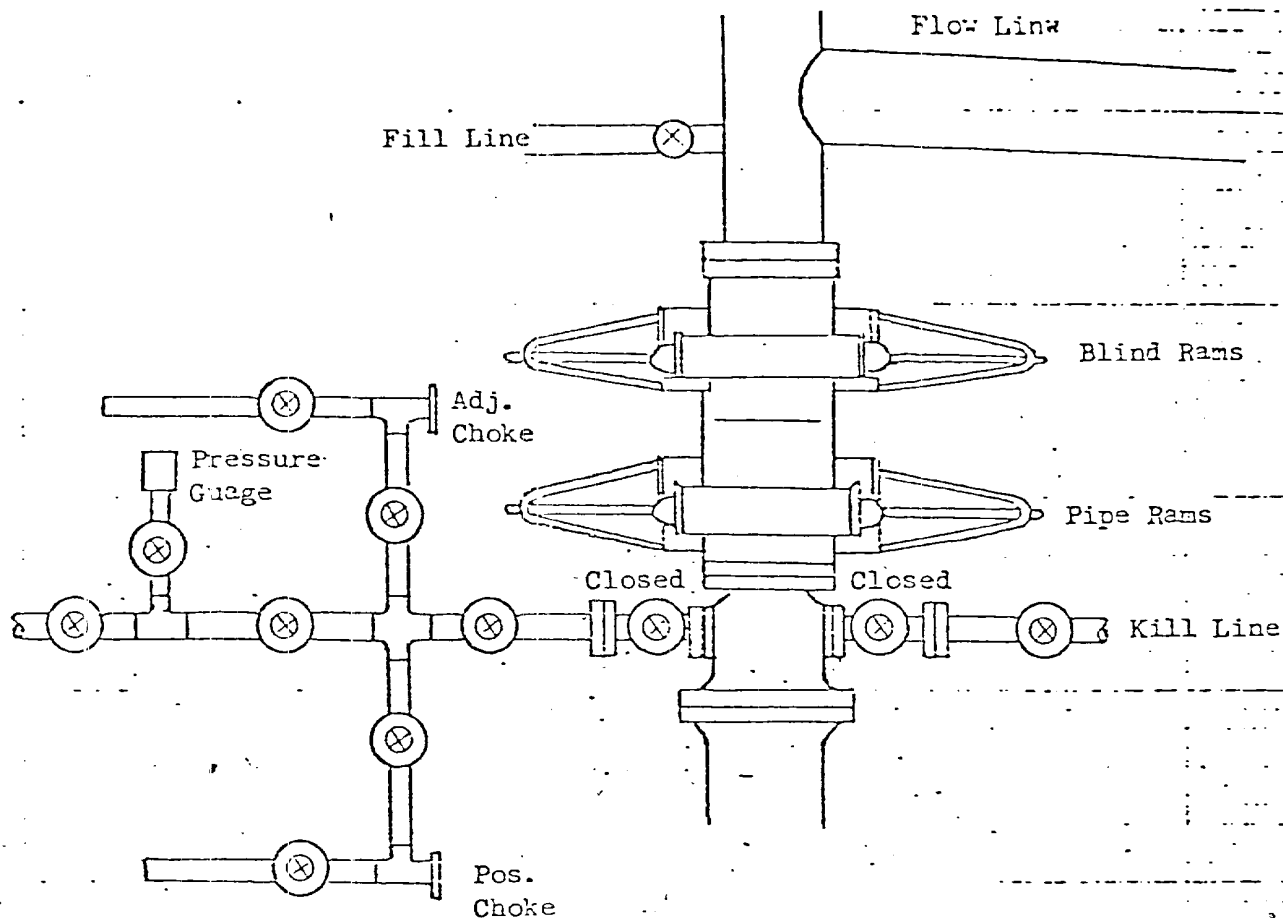
☐ Yes ☒ No If answer is "yes," type of consolidation _____

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.	
	Name <u>J. A. Rush</u>	
	Position <u>Environmental Coordinator</u>	
	Company <u>Tenneco Oil Company</u>	
	Date <u>April 11, 1979</u>	
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 <u>March 19, 1979</u>		
Registered Professional Engineer and/or Land Surveyor <u>Fred B. Kerr Jr.</u>		
Certificate No. <u>3950</u>		

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0



All valves 2"

All BOPs, flanges, spools, valves, & lines must be series 900 or 3000 psi working press.

Choke manifold must be at ground level and extended out from under substructure.

TENNECO OIL COMPANY

REQUIRED MINIMUM BLOWOUT PREVENTOR

HOOKUP

Denver, Colorado

1. Existing Roads

- A. Proposed Well Site Location: The proposed well site location was surveyed and staked by a registered land surveyor and is located 1020' FNL and 810' FEL, Section 29, T29N, R8W, San Juan County, New Mexico. (See Exhibit I, Surveyor's Plat.)
- B. Planned Access Route: The planned access route begins in Blanco, New Mexico, and goes east approximately 9 miles on Hiway 17 to the junction of a dirt road which goes to the south. Turn on this dirt road and continue for 1/4 mile to the junction of (See page 1-A attached hereto and made a part hereof.)
- 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

(All roads are existing roads.)

- A. Width:
The average width of the road is twenty feet.
- B. Maximum Grades:
The maximum grades will be 6%.
- 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:
No culverts or major cuts and fills will be needed to build this road.
- F. Surfacing Material:
Native soil has been wetted, bladed and compacted to make the road surface, which is existing.

1. EXISTING ROADS

B. PLANNED ACCESS ROUTE:

another dirt road. Turn to the left; continue on this dirt road for an estimated 2 miles to the junction of another dirt road which goes SW. Turn on this and continue SW for 1 1/4 miles to the junction which goes to the west. Turn on this and go 1/4 mile to begin the new proposed access route. (See Exhibit II.)

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 II 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: Exhibit II
- F. Producing Wells: See Exhibit II
- 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 - N/A
- (2) Production facilities - Exhibit III
- (3) Oil Gathering Lines - N/A
- (4) Gas Gathering Lines - N/A
- (5) Injection Lines - N/A
- (6) Disposal Lines - N/A

- 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:
Facilities will be fenced as needed to protect wildlife and livestock.

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 and 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 putrescible 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. 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 initial 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 description of the proposed well site location is relatively flat with numerous amounts of sagebrush throughout the location. Approximately a 10 foot cut will be required on the east side of the location.
- 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 reconnaissance 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 subcontractors will conform to this plan.

Date: 4-27-79


J. M. Lacey
Division Production Manager

(A. REC)

P B W 40

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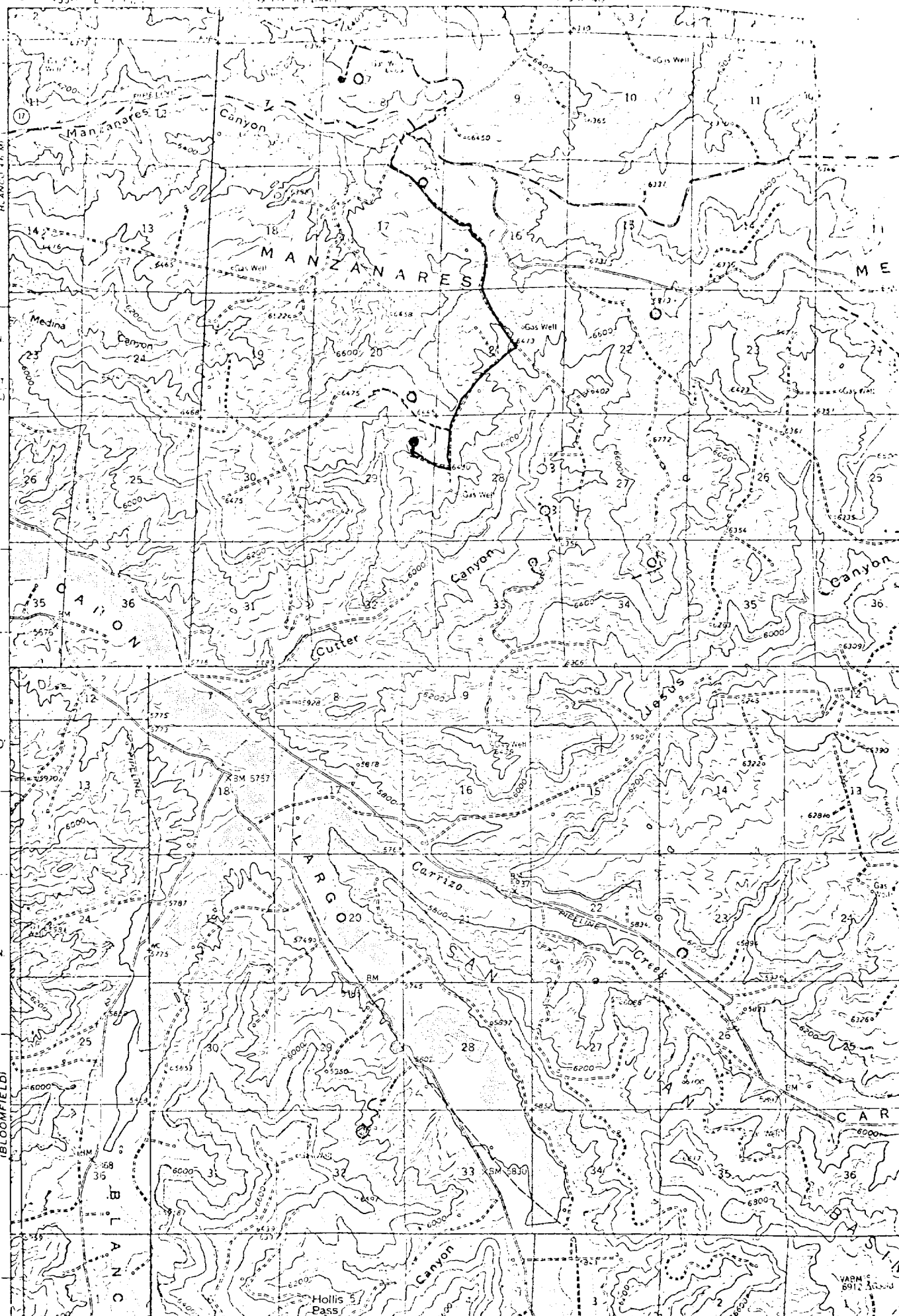
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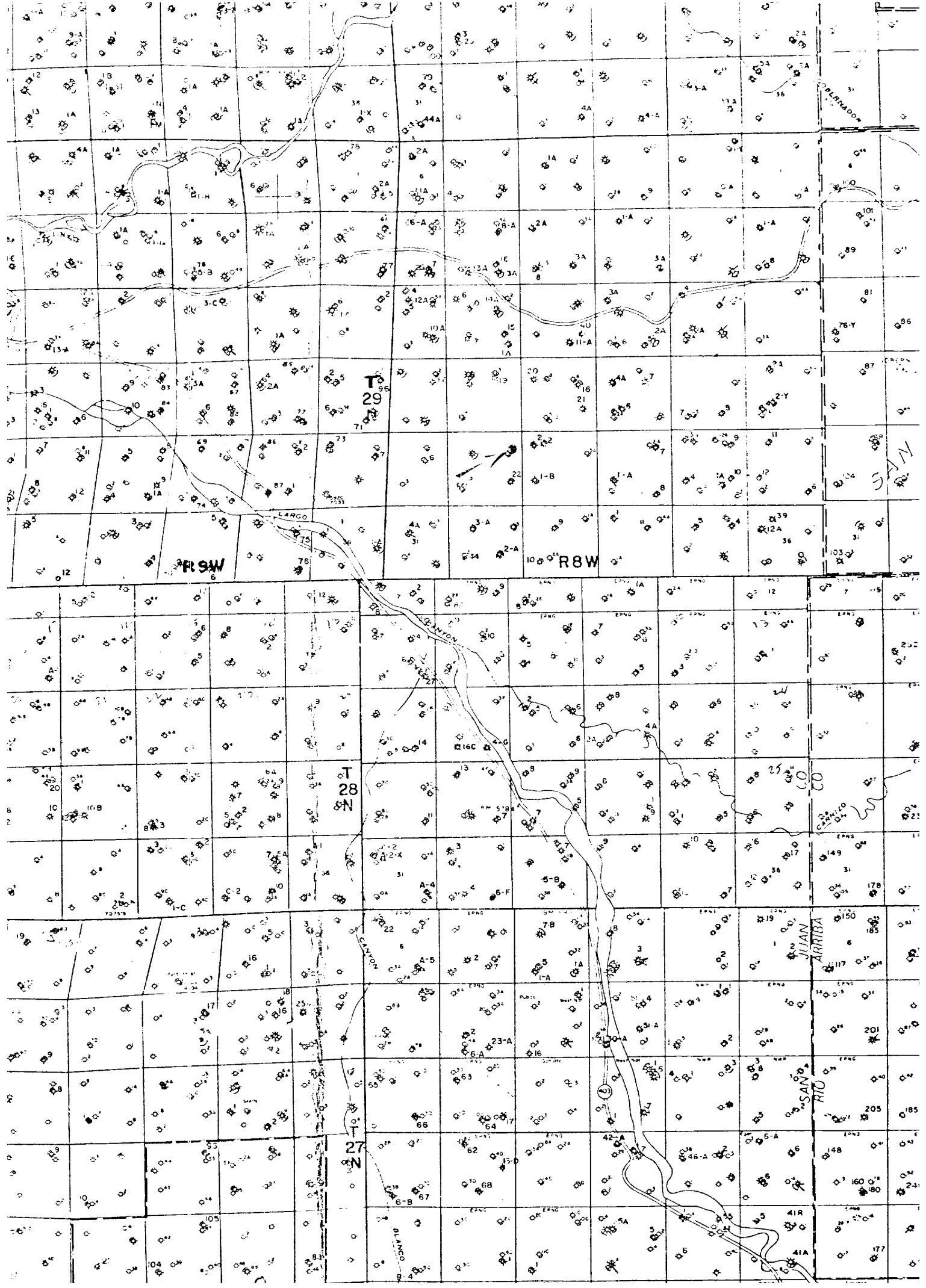
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(BLOOMFIELD)

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TENNECO OIL COMPANY

CALCULATION SHEET

COMPANY

EXHIBIT IV

SUBJECT DRILLING WELL SITE LAYOUT HUGHES #4

LOCATION SEC. 29, T 29N, R 8W, SAN JUAN COUNTY, N. MEXICO

DATE 4-79

