

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

30-039-22579

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 ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☒

2. NAME OF OPERATOR
Tenneco Oil Company

3. ADDRESS OF OPERATOR
P.O. Box 3249, Englewood, Colorado 80155

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface 1640 FSL, 1520 FEL
At proposed prod. zone same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
Approximately 22 miles NW of Lindrith.

10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1020'

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

21. ELEVATIONS (Show whether DF, ET, GR, etc.) 6609 GR

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8" new	36#	±250	Circulate to surface
8 3/4"	7" new	23#	±5730	Cement in two stages
6 1/4"	4 1/2" new	11.6#, 10.5#	±7600	Circulate to liner top

This action is subject to administrative
appeal pursuant to 30 CFR 290.

See attached.

The gas is dedicated.



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 R. A. Miskler TITLE Sr. Production Analyst DATE December 10, 1980

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY JAMES F. SIMS TITLE _____ DATE _____
DISTRICT ENGINEER

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

Operator TENNECO OIL COMPANY			Lease JICARILLA "B"		Well No. 2E
Unit Letter J	Section 16	Township 26N	Range 5W	County Rio Arriba	
Actual Footage Location of Well: 1640 feet from the South line and 1520 feet from the East line					
Ground Level Elev: 6609	Producing Formation Dakota / MESAVERDE		Pool Basin Dakota / Kerr Blanco	Dedicated Acreage: 320 Acres	

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

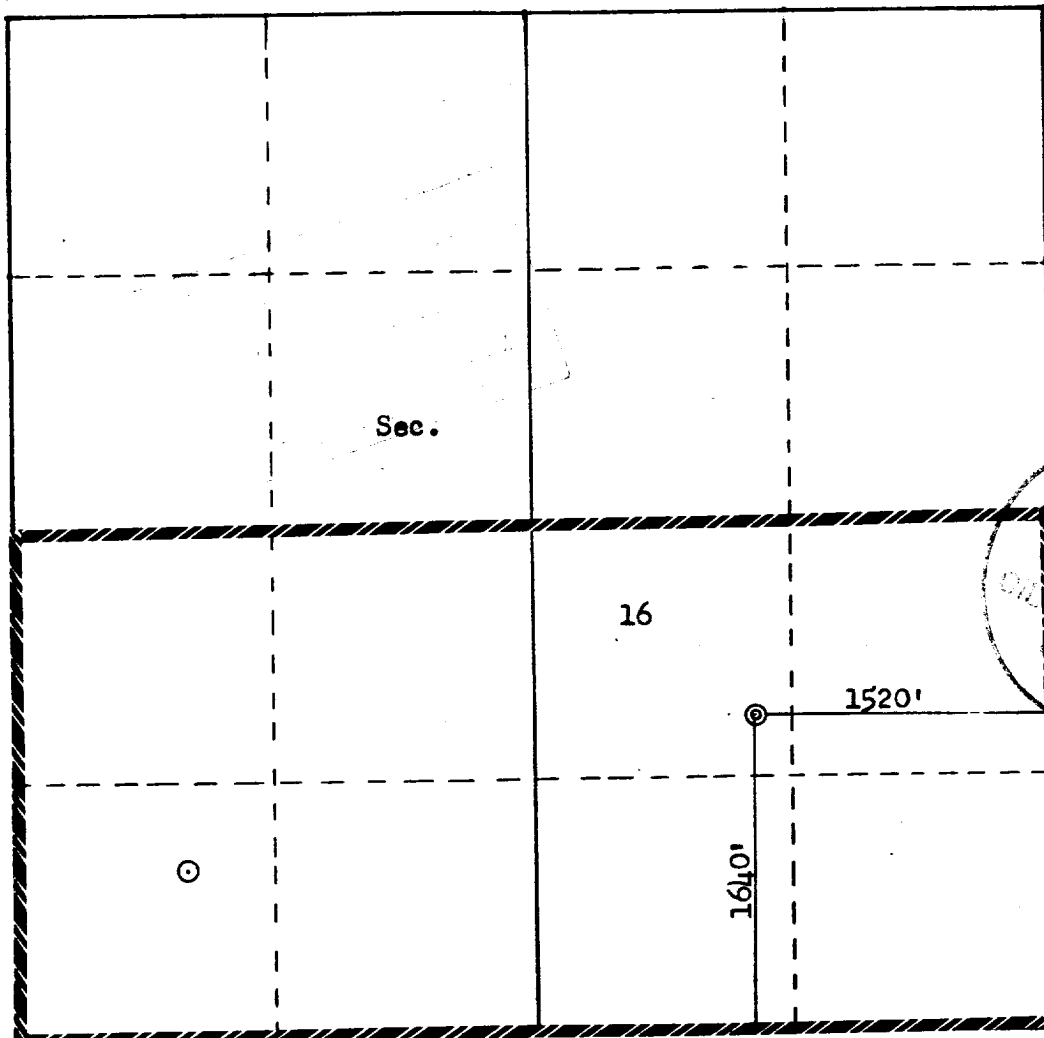
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



Scale: 1"=1000'

CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
<i>R. A. Mishler</i>	
Name	R. A. Mishler
Position	Sr. Production Analyst
Company	Tenneco Oil Company
Date	December 10, 1980
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	November 2, 1980
Registered Professional Engineer and Land Surveyor <i>Fred H. Kerr Jr.</i>	
Certificate No. 3950 NEW MEXICO FRED H. KERR, JR.	

TENNECO OIL COMPANY
ROCKY MOUNTAIN DIVISION
PENTHOUSE, 720 SOUTH COLORADO BOULEVARD
DENVER, COLORADO 80222

DRILLING PROCEDURE

DATE: November 11, 1980

LEASE: Jicarilla

WELL NO.: B 2E

LOCATION: 1640 FSL, 1520 FEL
Section 16, T26N, R5W
Rio Arriba County, New Mexico

FIELD: Basin Dakota

ELEVATION: 6609

TOTAL DEPTH: 7600

PROJECTED HORIZON: Dakota/Mesaverde

SUBMITTED BY: Bruce Ladd

DATE: November 11, 1980

APPROVED BY: Df. K. Ladd

DATE: November 12, 1980

CC: Administration
DSB Well File
Field File

ESTIMATED FORMATION TOPS

Ojo	1990	Water
Fruitland		
Pictured Cliffs	3145	Gas
Lewis	3210	
Cliff House	4820	Gas
Menefee		
Point Lookout		
Mancos	5480	
Gallup		
Greenhorn	7220	
Dakota	7300	Gas
T.D.	7600	

DRILLING, CASING, AND CEMENTING PROGRAM

1. MIRURT.
2. Drill a 12 1/4" hole to \pm 250'.
3. RU and run 9 5/8", 36#, K-55, STC casing.
4. Cement with sufficient volume to circ cement to surface using CaCl_2 as an accelerator.
5. WOC a minimum of 12 hours. Nipple up BOP's, manifold and lines. Pressure test blinds, lines and casing to 1000 PSI for 30 minutes. GIH with drill pipe and test pipe rams to 1000 PSI for 30 minutes. Record all tests on IADC Report Sheet. Drill out.
6. Drill an 8 3/4" hole to \pm 5730 or 250' into the Mancos Shale. Treat mud system for possible lost circulation in the Mesaverde.
7. Log open hole as directed by GE Department.
8. RU and run 7", 23#, K-55, STC to TD, with DV tool at \pm 4620'. Use cement baskets through out the MV.
9. Cement the first stage with "Lite" tailed by 150 sx Class B + 2% CaCl_2 in sufficient quantity to raise cement to stage tool. Circulate 4 hours through DV and WOC. Cement 2nd stage with "Lite" in sufficient volume to raise cement to surface.
10. WOC 18 hrs. Set slips and cut off casing. NU BOP's and pressure test. Record tests on IADC Report Sheet. PU 3 1/2" drilling assembly, 6 1/4" Bit.
11. Drill to within 5' of shoe. Displace water with nitrogen, nitrogen with gas. Drill a few feet of hole and blow hole until dusting. Drill with gas to TD.

DRILLING, CASING, AND CEMENTING PROGRAM

12. Log open hole as GE Department directs.
13. If productive, run 4 1/2, 10.5#, and 11.6# casing as a liner to TD. Have 150' of overlap in the 7" casing. Make sure this doesn't interfere with the Mesaverde bottom perforations.
14. Cement with sufficient quantity to circulate cement to the liner top.
15. Circulate cut excess cement and LDDP.
16. Install tree and fence reserve pit.
17. If non-productive, P and A as USGS requires.

CASING PROGRAM

<u>Interval</u>	<u>Footage</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>
0-250	250	9 5/8	36#	K-55 STC
0-5730	5730	7	23#	K-55 STC
5580-6750	1170	4 1/2	10.5#	K-55 STC
6750-7600	850	4 1/2	11.6#	K-55 STC

MUD PROGRAM

0-250 Native solids. Have sufficient viscosity to gel chemical to clean hole and run casing.

250-5980 Low solids. Gel chemical. 32 viscosity and 10-15 water loss down through the Mancos. Before reaching Gallup, add 6% LCM and run viscosity at 38-40 seconds. After penetrating Gallup, let LCM drop.

5980-TD Gas.

EVALUATION

Cores and DST's: None.

Deviation Surveys:

1. Survey surface hole at 100' intervals. Maximum allowable deviation at 500' is 1-1/2°.
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 IADC Drilling Report Sheet. Maximum allowable change in deviation is 1° per 100'. Maximum deviation allowable is 5°.

Samples: As requested by Wellsite Geological Engineer.

Logs: 1. GR/IND FDC-GR-Cal TD to MV

BLOWOUT EQUIPMENT

11" - 3000 BOP with rotating head to comply with TOC requirements as shown in BOE arrangement, Figure C. Preventers must be checked for operation every 24 hours with each check recorded on the IADC Drilling Report Sheet.

REPORTS

Drilling Reports for the past 24 hours will include depth, footage, time distribution, activity breakdown, mud properties, bit record, bottom hole assembly, daily and cumulative mud cost, deviation surveys, and other pertinent information to be called into Division Office by 7:30 A.M. Monday thru Friday.

TENNECO OIL COMPANY
P.O. BOX 3249
ENGLEWOOD, COLORADO 80155
PHONE: 303-740-4800

Office Directory

Don S. Barnes	740-4814
John W. Owen	740-4810
Tom Dunning	740-4813
Jack Magill	740-4802
Dale Kardash	740-4809

In case of emergency or after hours call the following in the preferred order.

- | | | | |
|-----|-----------------------------|----------|--------|
| (1) | Don S. Barnes | 740-4814 | Office |
| | Division Drilling Engineer | 936-0704 | Home |
| (2) | John W. Owen | 740-4810 | Office |
| | Project Drilling Engineer | 795-0221 | Home |
| (3) | Mike Lacey | 797-2651 | Home |
| | Division Production Manager | | |

TENNECO OIL COMPANY - 10 POINT PLAN

1. The geological name of the surface formation: *San Jose*
- 2 & 3. Estimated Formation Tops:

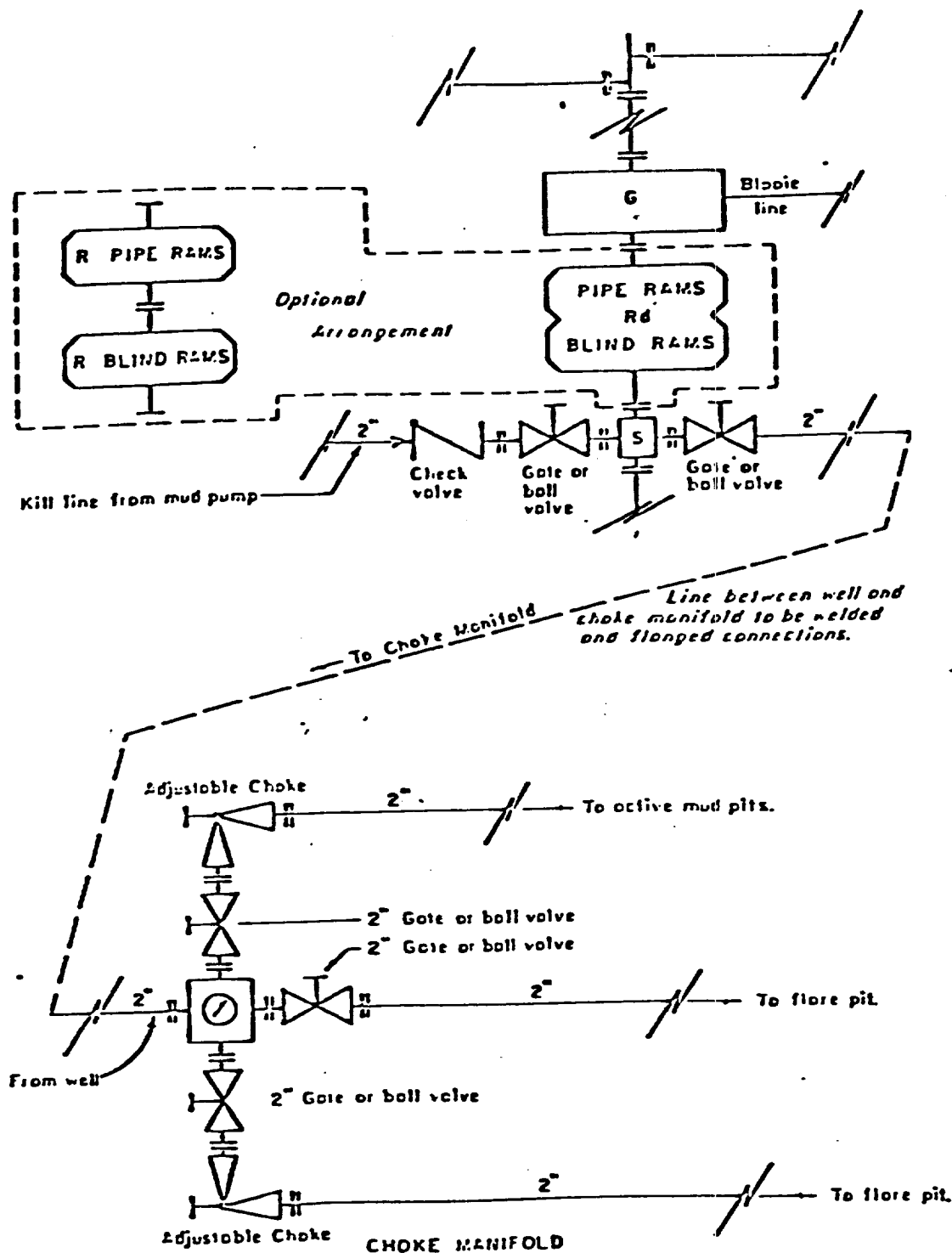
(See Attached Drilling Procedure)
4. Proposed Casing Program:

(See Attached Drilling Procedure)
5. Blowout Preventors:
Hydraulic double ram. One set of rams will be provided 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". BOP's, drills and tests will be recorded in the driller's log. BOP will be tested every 24 hours and recorded in IADC Log.
6. Mud Program: (Sufficient quantity of mud and weight material will be available on location).

(See Attached Drilling Procedure.)
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.
 - d. Floats at bits.
 - e. Drill string safety valve(s) to fit all pipe in drill string will be maintained on the rig floor while drilling operations are in progress.
8. Coring, Logging, and Testing Program:

(See Attached Drilling Procedure)
9. No abnormal pressures, temperatures or potential hazards such as H₂S are expected to be encountered.
10. The drilling of this well will start approximately *January '81* and continue for 10 to 12 days.

Your office will be notified of spudding in sufficient time to witness cementing operations. Immediate notice will be given on blowouts, fires, spills, and accidents involving life threatening injuries or loss of life. Prior approval will be obtained before appreciably changing drilling program or commencing plugging operations, plug back work, casing repair work or corrective cementing operations.



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

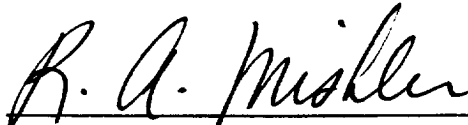
ARRANGEMENT C

TENNECO OIL COMPANY
ROCKY MOUNTAIN DIVISION
REQUIRED MINIMUM
BLOWOUT PREVENTER AND
CHOKE MANIFOLD

J. MAGILL 10-26-78 EVI

1. Existing Road - Please refer to Map No. 1 which shows the existing roads. New roads which will be required have been marked on this map. All existing and new roads will be properly maintained during the duration of this project.
2. Planned Access Roads - Please refer to Map No. 1. The grade of the access roads will be consistent with that of the local terrain. The road surface will not exceed twenty feet (20') in width. Upon completion of the project, the access road will be adequately drained to control soil erosion. Drainage facilities may include ditches, water bars, culverts or any other measure deemed necessary by trained Company personnel to insure proper drainage. Gates and/or cattleguards will be installed if necessary.
3. Location of Existing Wells - Please refer to Map No. 2.
4. Location of Tank Batteries, Production Facilities, and Production Gathering and Service Lines - Please refer to Maps No. 1 and No. 2. Map No. 2 shows the existing roads and new proposed access roads. All known production facilities are shown on these two maps.
5. Location and Type of Water Supply - Water for the proposed project will be obtained from a private source.
6. Source of Construction Materials - No additional materials will be required to build either the access road or the proposed location.
7. Methods of Handling Waste Materials - All garbage and trash materials will be put into a burn pit shown on the attached Location Plat No. 1. When clean-up operations are begun on the proposed project, the burn pit with its refuse will be buried to a depth of at least three feet (3'). A latrine, the location of which is also shown on Plat No. 1. will be provided for human waste. If large amounts of liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time as the reserve pit can be properly covered over to prevent run-off from carrying any of these materials into the watershed. No earthen pit will be located on natural drainage; all earthen pits will be so constructed as to prevent leakage from occurring.

8. Ancillary Facilities - No camps or airstrips will be associated with this project.
9. Wellsite Layout - Please refer to the attached Plat No. 1.
10. Plans for Restoration of the Surface - After completion of the proposed project the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeding operation will be performed during the time period set forth by the regulatory body. The location production equipment will be painted as designated by the responsible government agency.
11. Other Information - The location consists of a canyon bottom, draining to the NE. Soil is sandy clay. Vegetation includes sage, very sparse pinon & juniper, rabbitbrush, galleta and other native and introduced grasses.
12. Operator's Representative - See drilling prognosis.
13. Certification - I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Tenneco Oil Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

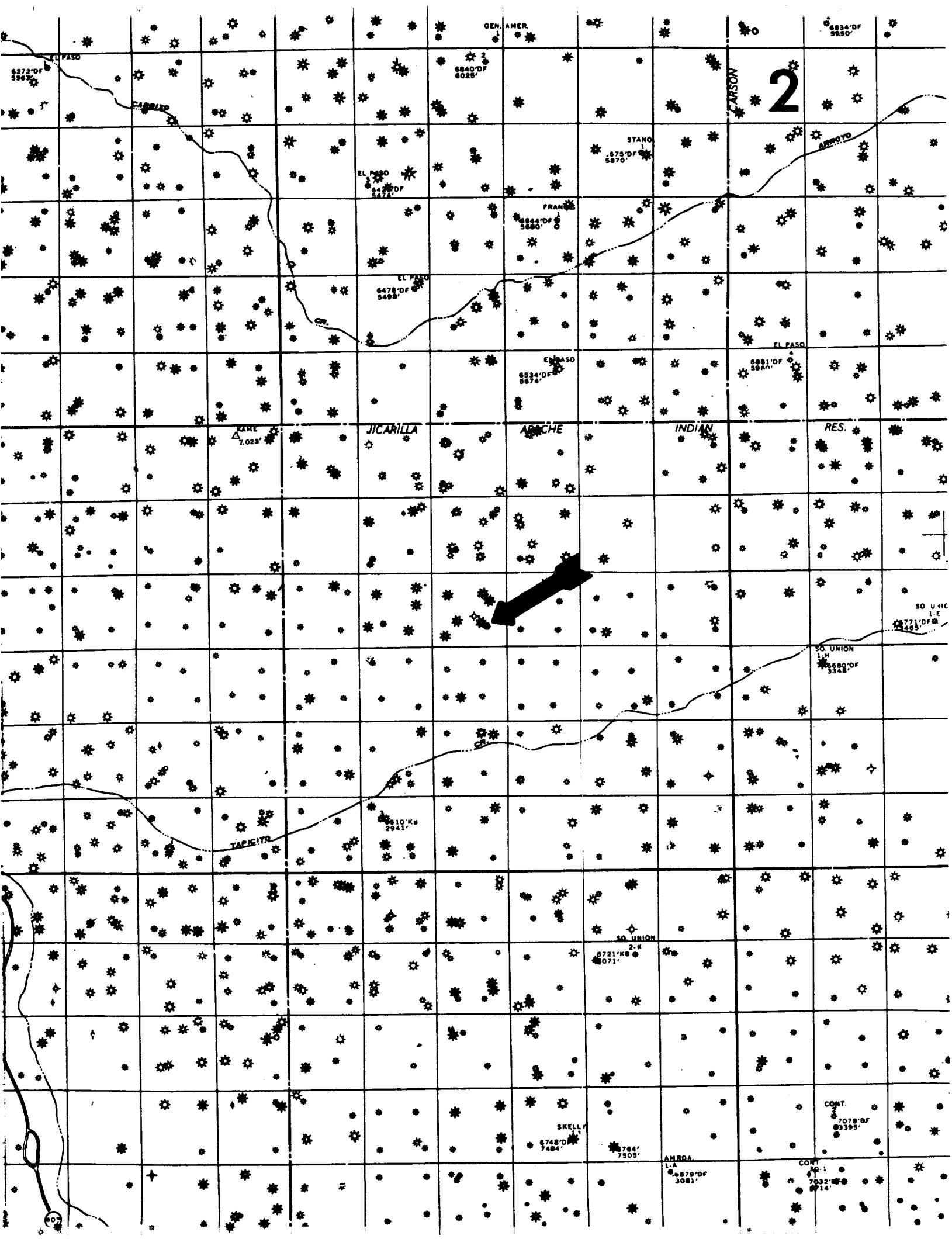


R. A. Mishler
Sr. Production Analyst

NEW MEXICO-RIO ARriba CO. DEPARTMENT OF THE INTERIOR
7.5 MINUTE SERIES (TOPOGRAPHIC) GEOLOGICAL SURVEY

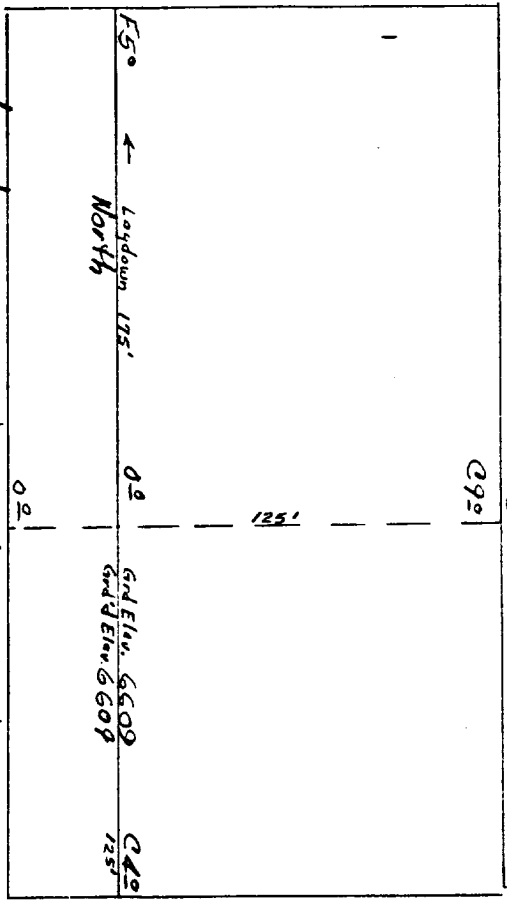


Vicinity Map for
TENNECO OIL CO. #2E JICARILLA "B"
1640' FSL 1520' FEL Sec. 16-T26N-R5W
RIO ARriba COUNTY, NEW MEXICO



Profile Map for
 TENNECO OIL COMPANY #2E JICARILLA "B"
 1640' FSL 1520' FEL Sec. 16-T26N-R5W
 RIO ARRIBA COUNTY, NEW MEXICO

Plat # 1

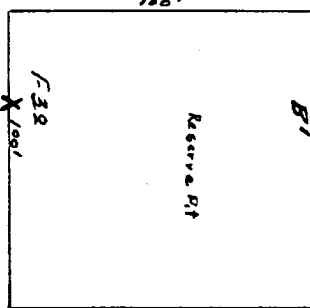


1"=50'

Vert. 1"=40' Horiz. 1"=100'

6680									
6610									
6600									

6680									
6610									
6600									



Date 11/2/80

Kerr Land Surveying, Inc.

1000' North Arrow