

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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. SF-078641	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input 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 P.O. Box 3249, Englewood, Colorado 80155			8. FARM OR LEASE NAME Berger	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 1560 FSL, 1710 FWL At proposed prod. zone same as above			9. WELL NO. 2E	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* Approximately 16 miles south of Bloomfield, N.M.			10. FIELD AND POOL, OR WILDCAT Basin Dakota	
10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 930'			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 23, T26N, R11W	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.			12. COUNTY OR PARISH San Juan	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6281 GR			13. STATE N.M.	
16. NO. OF ACRES IN LEASE 1600.00			17. NO. OF ACRES ASSIGNED TO THIS WELL 320	
19. PROPOSED DEPTH ±6570			20. ROTARY OR CABLE TOOLS Rotary	
22. APPROX. DATE WORK WILL START* January 1981				

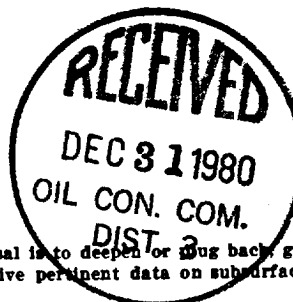
23. PROPOSED CASING AND CEMENTING PROGRAM

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
7 7/8"	5 1/2" new	15.5#	±6570	Circulate to surface

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

See attached.

The gas is dedicated.

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"

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. Mishler TITLE Sr. Production Analyst DATE December 1, 1980
R.A. Mishler
(This space for Federal or State office use)PERMIT NO. APPROVED APPROVAL DATE AS AMENDEDAPPROVED BY AS AMENDED TITLE NMOCC DATE

CONDITIONS OF APPROVAL, IF ANY:

DEC 30 1980
for James F. Sims
DISTRICT ENGINEER

*See Instructions On Reverse Side

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-78

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

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

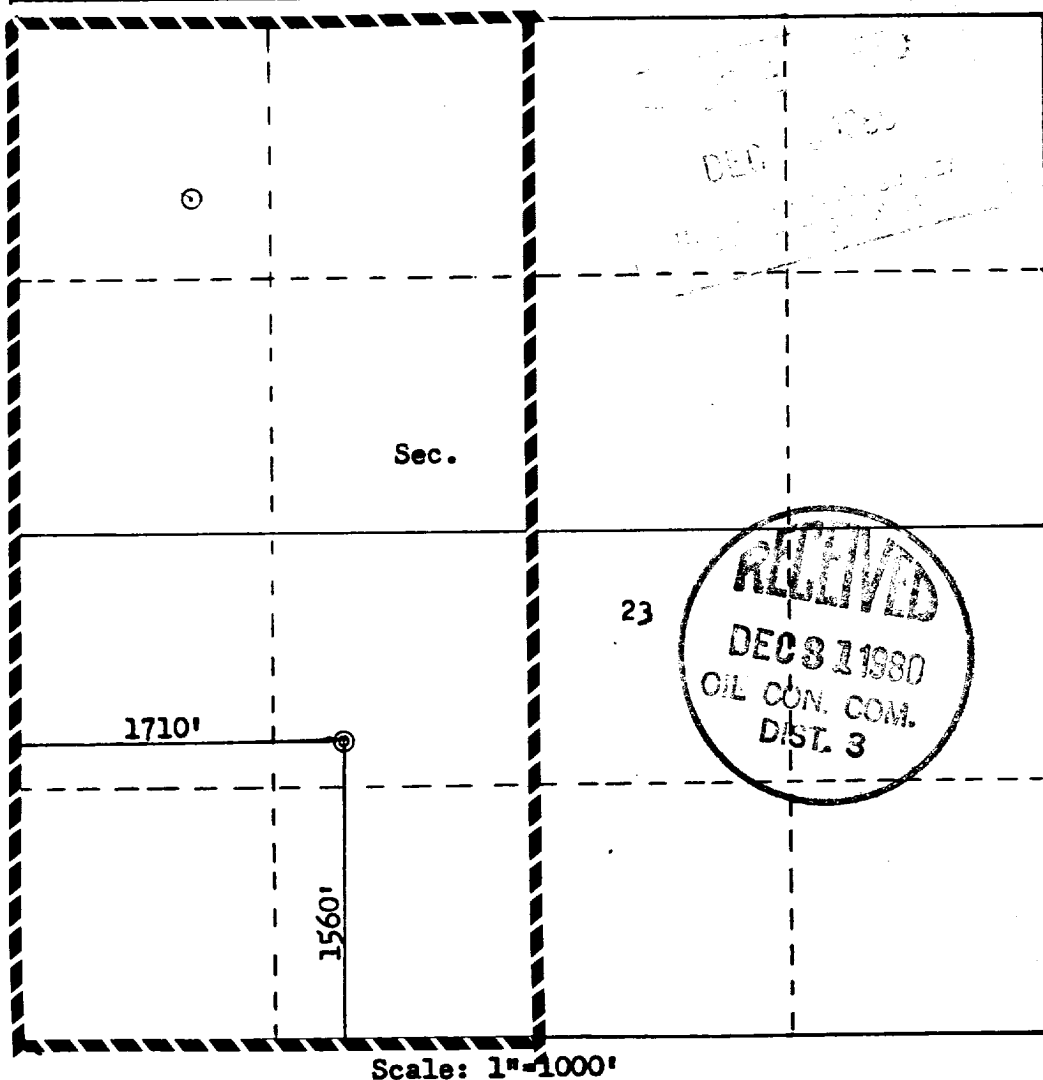
Operator TENNECO OIL COMPANY			Lease BERGER		Well No. 2E
Unit Letter K	Section 23	Township 26N	Range 11W	County San Juan	
Actual Footage Location of Well: 1560 feet from the South line and 1710 feet from the West line					
Ground Level Elev: 6281	Producing Formation Dakota		Pool Basin Dakota		Dedicated Acreage: 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.



CERTIFICATION

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

Robert A. Mishler

Name
R. A. Mishler

Position
Sr. Production Analyst

Company
Tenneco Oil Company

Date
December 1, 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
Fred R. Kest

Certificate No.
3950

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

DRILLING PROCEDURE

DATE: September 8, 1980

LEASE: Berger

WELL NO.: 2E

LOCATION: 1560 FSL, 1710 FWL
Sect 23, T 26N, R11W
San Juan County, New Mexico

FIELDgallegos Canyon Area

ELEVATION: 6281 Est. G.L.

TOTAL DEPTH: 6570

PROJECTED HORIZON: Dakota "B"

SUBMITTED BY: Dale Kardash

DATE: September 8, 1980

APPROVED BY: DJ. Kardash

DATE: 10-21-80

CC: Administration
DSB Well File
Field File

ESTIMATED FORMATION TOPS

Ojo

Fruitland

Pictured Cliffs	1785	(Gas)
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Lewis	1885	
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Cliff House	2715	(Gas)
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Menefee	2785	(Gas)
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Point Lookout	4310	(Gas)
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Mancos	4545	
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Gallup	5395	(Oil)
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Sandstee	5895	(Oil)
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Greenhorn	6245	
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Dakota	6360	(Gas)
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T.D.	6570	
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DRILLING, CASING AND CEMENTING PROGRAM

1. MIRURT
2. Drill a 12 $\frac{1}{4}$ " Hole to \pm 250 with Gel-Water Mud.
3. RU and run 9 5/8", 36#, K-55, ST&C casing to TD. Cement with Class B + 2% CaCl₂ in sufficient quantity to circulate cement to surface. WOC 12 hours.
4. Screw on 9 5/8 8rd x 11-3000 casing head, NU BOPS. Pressure test casing, lines and blinds 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.
5. Drill out using a 7 7/8" Bit to T.D. Log open hole as directed by G.E. Department.
6. Run 4 $\frac{1}{2}$ " 11.6 and 10.50# K-55 ST&C as designed.
7. Cement in two stages with sufficient volume to circulate cement to surface. Locate DV tool + 250' above Cliffhouse to prevent lost returns in Mesa Verde. Lead in first stage with light cement (pozmix, Halliburton lite, etc.). Tail in with sufficient volume of Class "B" cement to cover the Dakota. Circulate a minimum of four hours between stages. Lead in second stage with light cement.
8. MORT
9. Install tree and fence reserve pit.
10. If non-productive, P & A as required by the USGS.

Casing Program

<u>Interval</u>	<u>Length</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Coupling</u>
0-250	250	9 5/8	36#	K-55	STC
0-6570	6570	5 1/2	15.50#	K-55	STC

MUD PROGRAM

- 0-250 Native solids. Have sufficient viscosity to gel chemical to clean hole and run casing.
- 250-6560 Low solids. Gel chemical. 32 viscosity and 10-15 water loss down through the Mancos. Before reaching Pt. Lookout add LCM and run viscosity at 38-40 seconds. After penetrating Gallup, let LCM drop.

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. They 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: *Nacimiento*
- 2 & 3. Estimated Formation Tops:

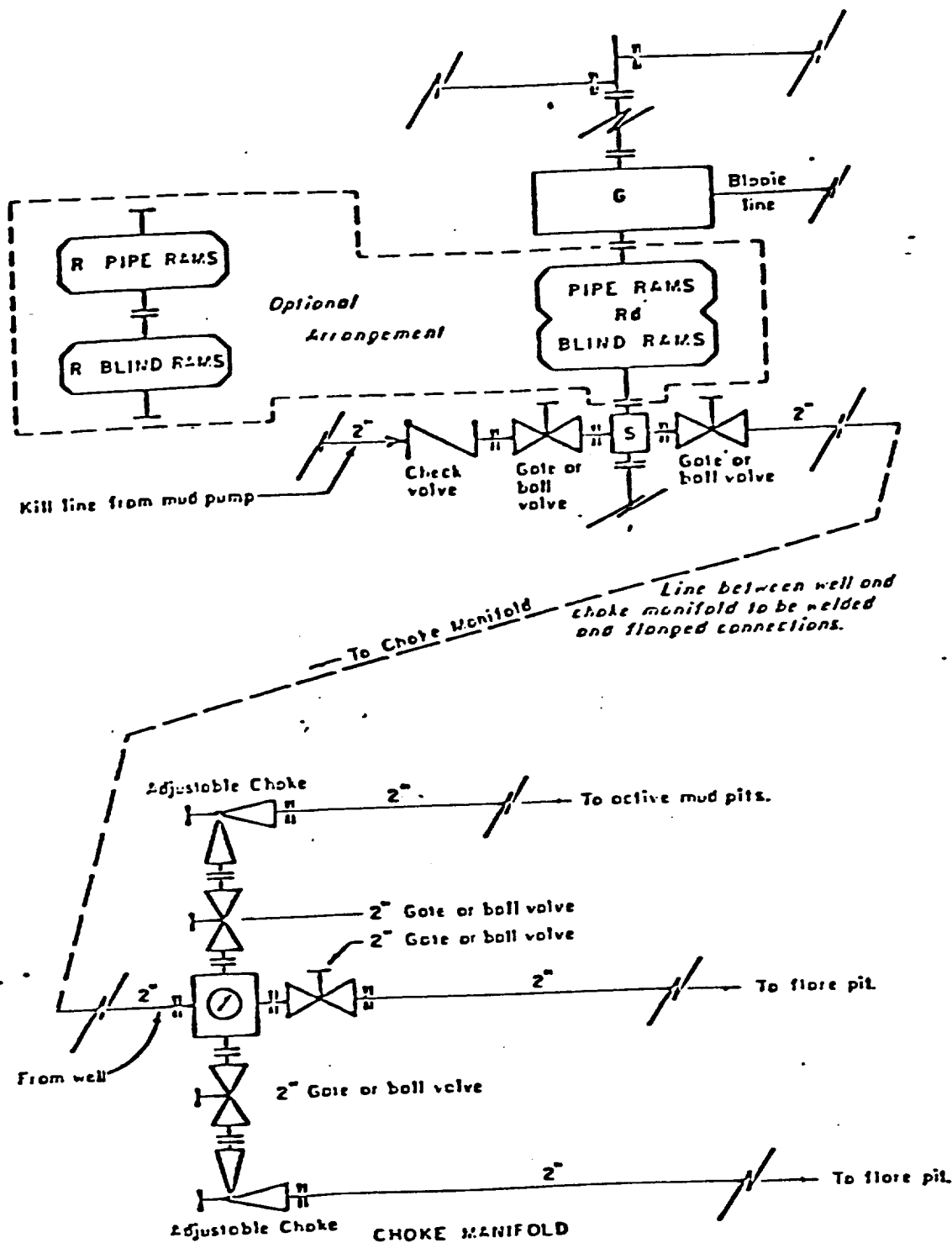
(See Attached Drilling Procedure)
4. Proposed Casing Program:

(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 H_2S are expected to be encountered.
10. The drilling of this well will start approximately (*January 8/1*) 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

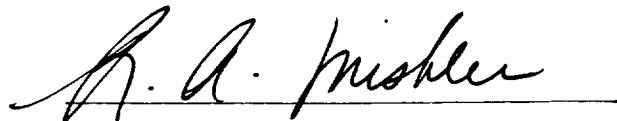
TENNECO OIL COMPANY
ROCKY MOUNTAIN DIVISION
REQUIRED MINIMUM
BLOWOUT PREVENTER AND
CHOKE MANIFOLD

J. MAGILL 10-26-70

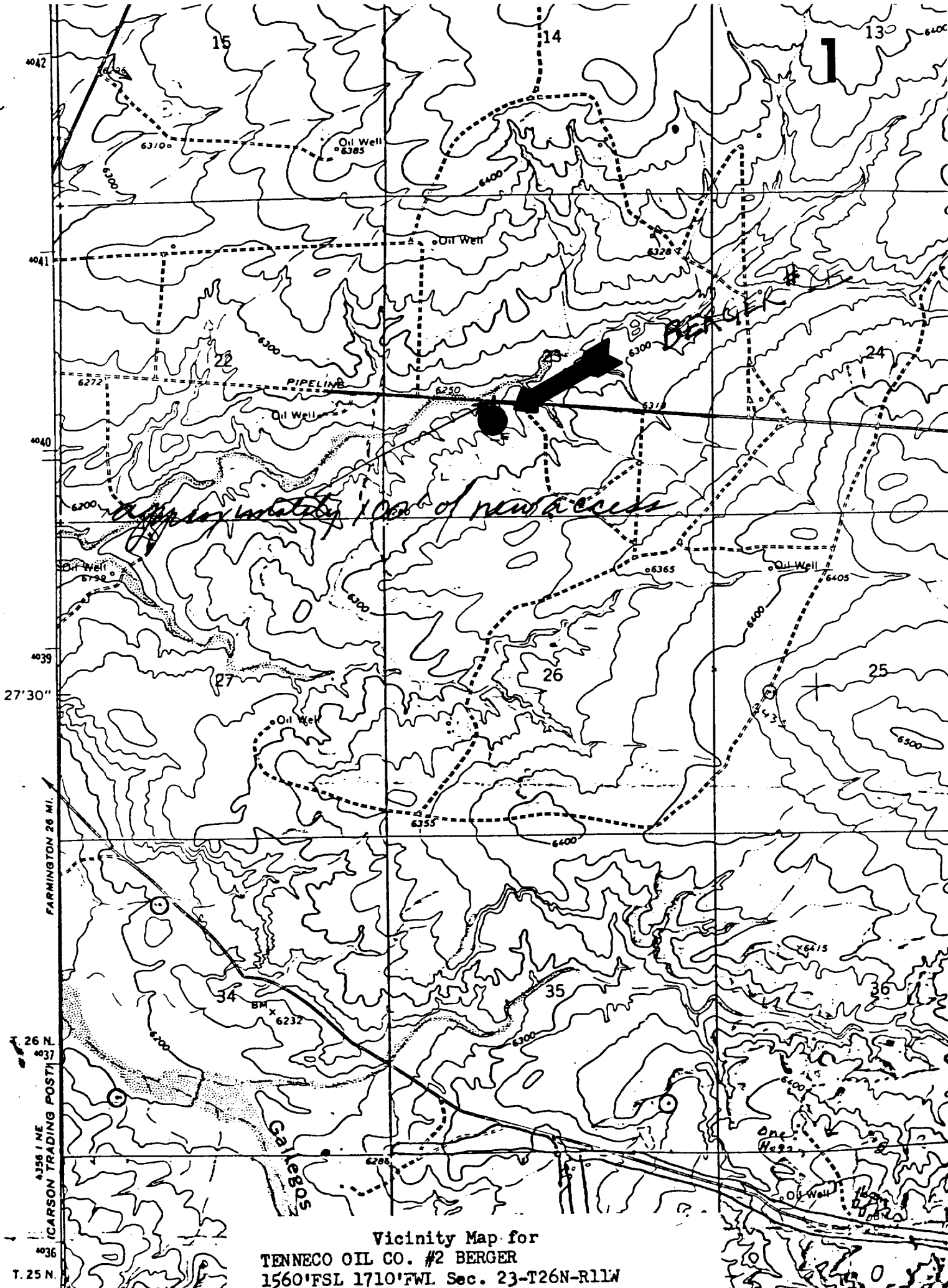
EVI

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.

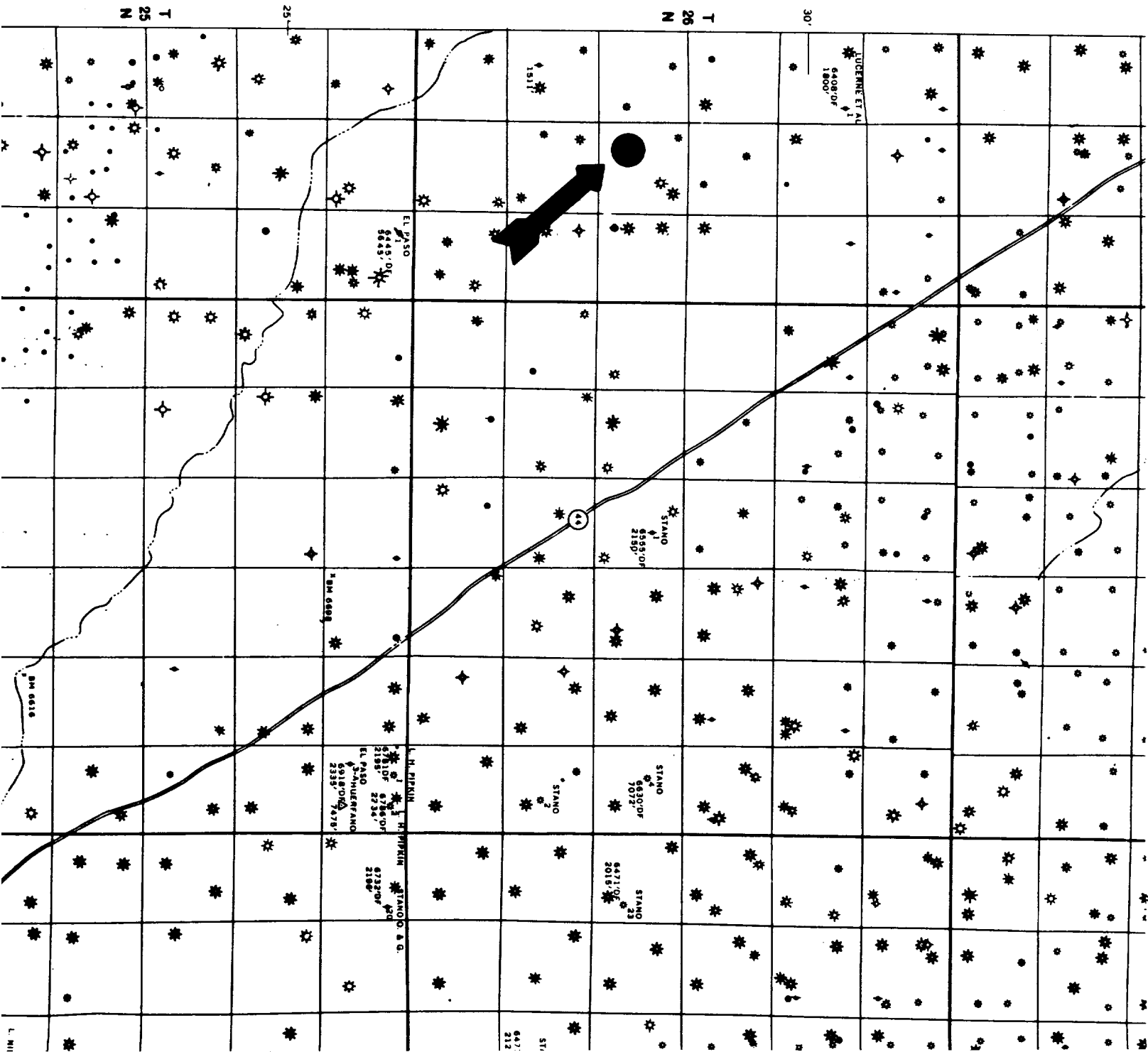
8. Ancillary Facilities - No camps or airstrips will be associated with this project.
9. Wellsite Layout - Please refer to the attached Plat No. 1.
10. Plans for Restoration of the Surface - After completion of the proposed project the location will be cleaned and leveled. The location will be left in 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 - Soil is a sandy, clayey loam. The area of the location consists of gently rolling sage flats draining in a northerly direction. Vegetation includes sage, snakeweed, and native plants & 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.



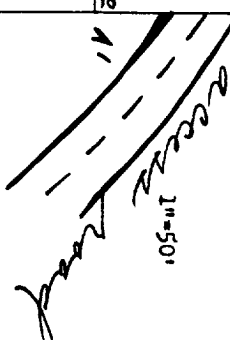
R. A. Mishler
Sr. Production Analyst



Vicinity Map for
TENNECO OIL CO. #2 BERGER
1560' FSL 1710' FWL Sec. 23-T26N-R11W



Plat # 1



B1
 Reserve Pit
 F50
 X1001

[illegible]

Kerr Land Surveying, Inc.