Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-045-24244

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM 016746

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT 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 [ ]

8. FARM OR LEASE NAME: Horton

2. NAME OF OPERATOR: Tenneco Oil Company

9. WELL NO.: 1E

3. ADDRESS OF OPERATOR: 720 South Colorado Blvd., Denver, Colorado 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: 1770' FNL, 890' FEL
At proposed prod. zone

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec, 28, T31N, R9W

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 6.5 Miles North North West of Navajo Dam P.O.

12. COUNTY OR PARISH: San Juan | 13. STATE: New Mexico

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
	240.00	N 319.10 ~~320.00~~
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**
	7650'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6127 GR

22. APPROX. DATE WORK WILL START*: A.S.A.P.

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	± 300'	Circulate to surface
8 3/4"	7" new	23#, K-55	± 3600'	Circulate to surface
6¼"	4½" new	1-.5#, 11.6#	± 7650'	Circulate through liner hanger

See Attached

The Gas is Dedicated

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DIST. 3

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 K. Lee Leaman TITLE Staff Production Analyst DATE 1-25-80

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED
MAR 18 1980
DISTRICT ENGINEER

ok Smith

*See Instructions On Reverse Side

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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	HORTON	1-E

Unit Letter	Section	Township	Range	County
H	28	31N	9W	San Juan

Actual Footage Location of Well:
1770 feet from the North line and 890 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
6127	Dakota	Basin Dakota	~~320.00~~ N 319.10 Acres

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

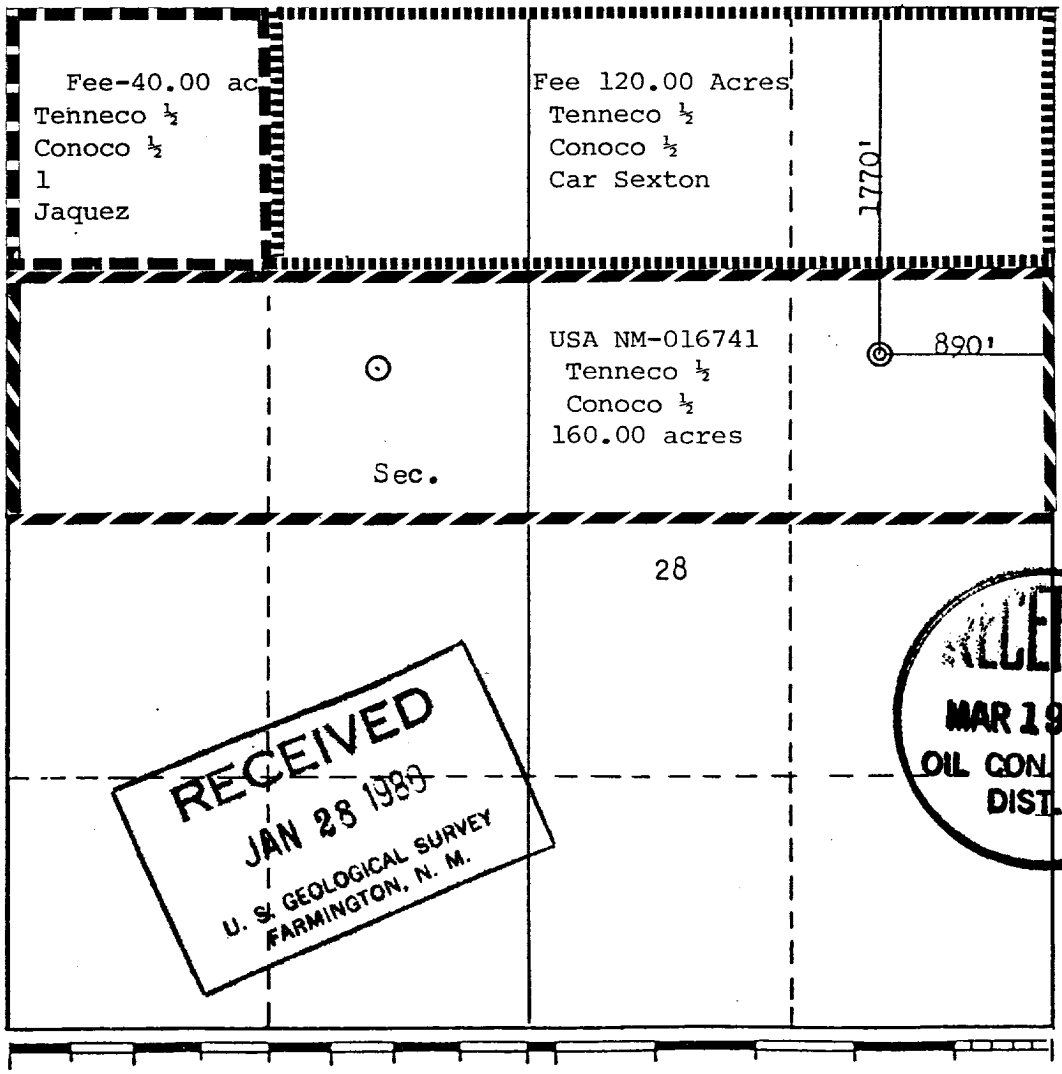
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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 Communitization

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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CERTIFICATION

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

M. Lee Freeman

Name: M. Lee Freeman
Position: Staff Production Analyst
Company: Tenneco Oil Company
Date: 1-25-80

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: October 22, 1979
Registered Professional Engineer and/or Land Surveyor: Fred B. Kerr, Jr.
Certificate No. 3950

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

TENNECO OIL COMPANY

PROGNOSIS TO DRILL AND COMPLETE

DIVISION: Rocky Mountain

DATE: September 12, 1979

LEASE: Horton

WELL NO.: 1-E

LOCATION: 1770' FNL, 890' FEL
Sec. 28, T 31N, R 9W
San Juan County, New Mexico

FIELD: Basin Dakota

ESTIMATED ELEVATION: 6140'

ESTIMATED TOTAL DEPTH: 7650'

PROJECTED HORIZON: Dakota

DRILLING, CASING AND CEMENT PROGRAM:

(1) MIRURT.

(2) Drill a 13-3/4" hole to 300±. Run 9 5/8", 36#, K-55, ST&C casing to T.D. and cement to surface. Use 2% $CaCl_2$ in cement.

(3) Cut off casing and weld on casing head. Pressure test weld to 1000 psi. NUBOP's and manifold. Pressure test casing, BOP's and manifold to 1000 psi for 30 minutes.

(4) Drill out shoe and reduce hole to 8 3/4". Drill 8 3/4" hole to 3600±. Run 7", 23#, K-55, ST&C casing to T.D. and cement to surface. (Set 7" 200-300' into Lewis shale.)

(5) Land casing is slips and cut off. Install drilling spool on casing head. Install rotating head, manifold and flare line. Pressure test blind rams, manifold and casing to 1000 psi for 15 minutes. Pick up drilling assembly and 3 1/2" drill

(6) Drill out of 7" with 6 1/4" bit. Drill to within 5' fo shoe and displace water with Nitrogen. Drill 5' of formation and blow with gas until well dusts. Drill to TD.

(7) Log the hole dry as directed by the wellsite geological engineer and gauge the natural flow from the Dakota.

(8) If productive, run 4 1/2" casing to T.D. as per casing design. Cement in one stage. Bring cement to above Mesaverde zone.

(9) If nonproductive, plug and abandon as per U.S.G.S. requirements.

ESTIMATED FORMATION TOPS: Surface formation San Jose

OJO Alamo	1670' (Water)	Point Look Out	5300' (Gas)
Pictured Cliffs	2930' (Gas)	Mancos	5570'
Lewis	3030' (Gas)	Gallup	6530'
Cliffhouse	4810' (Gas)	Greenhorn	7240'
Menefee	4880' (Gas)	Dakota "A"	7350'
		T.D.	7650' (Gas)

DRILLING MUD PROGRAM:

0 - 300' Spud Mud.

300' - 3600' Low solids fresh water mud. Use Benex to flocculate mud as needed. No WL control.

3600' - T.D. Gas.

CORING AND TESTING PROGRAM:

No cores or tests.

DEVIATION SURVEYS:

1. Survey surface hole at 100' intervals. Maximum allowable deviation at 250' is $\frac{1}{2}^{o}$.
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^{o} per 100'.

SAMPLES:

As directed by wellsite geological engineer.

WELL SURVEYS:

Majority of logs will be cased hole GR - Neutron or TDT.

A few will be open hole GR - Induction.

BOP:

PREVENTORS MUST BE CHECKED FOR OPERATION EVERY 24 HOURS, AND THE CHECK MUST BE RECORDED ON THE AAODC 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 costs, plus any other pertinent information; will be called into Tenneco Oil Company, Denver, Colorado between 7:30 A.M. and 8:00 A.M.

1. 303-758-7130 (office) - Don Barnes
   303-758-7287 - Don Barnes private line - Monday-Friday (before 7:45 A.M.)

2. 303-936-0704 (home) - Don Barnes - weekends and holidays

3. 303-795-0221 (home) - John Owen - if Don Barnes not available

The yellow sheet of the IADC Report to be filled out completely, the original copy of the drilling time recorder, and copies of any invoices from this well signed and received for Tenneco Oil Company will be mailed daily to:

TENNECO OIL COMPANY
PENTHOUSE
720 SOUTH COLORADO BOULEVARD
DENVER, COLORADO 80222

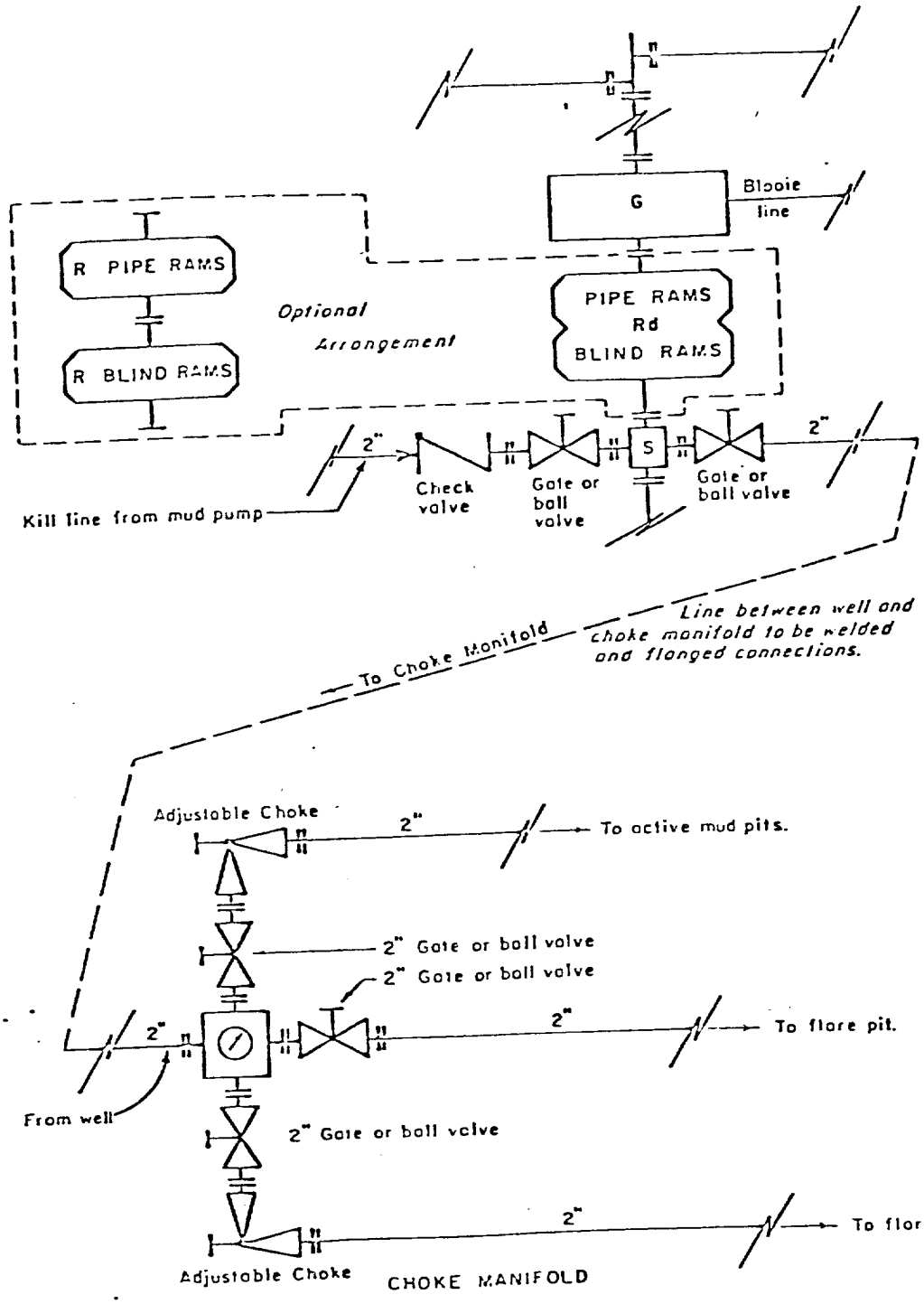
ATTENTION: DRILLING DEPARTMENT

In case of an emergency, notify the following:

1. Mr. Don Barnes, Division Drilling Engineer - 303-936-0704.

2. Mr. John Owen, Project Drilling Engineer - 303-795-0221

3. Mr. Mike Lacey, Division Production Manager - 303-979-0509.



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 10-26-78 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 lease 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 proposed site is located on a sage flat in the bottom of Little Pump Canyon. The soil is sandy, sandy loom supporting primarily sage and native grasses. The surface is privately owned with the minerals held by the public.

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 mad 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.

L. Freeman
Staff Production Analyst

LF/gh

TENNECO OIL COMPANY

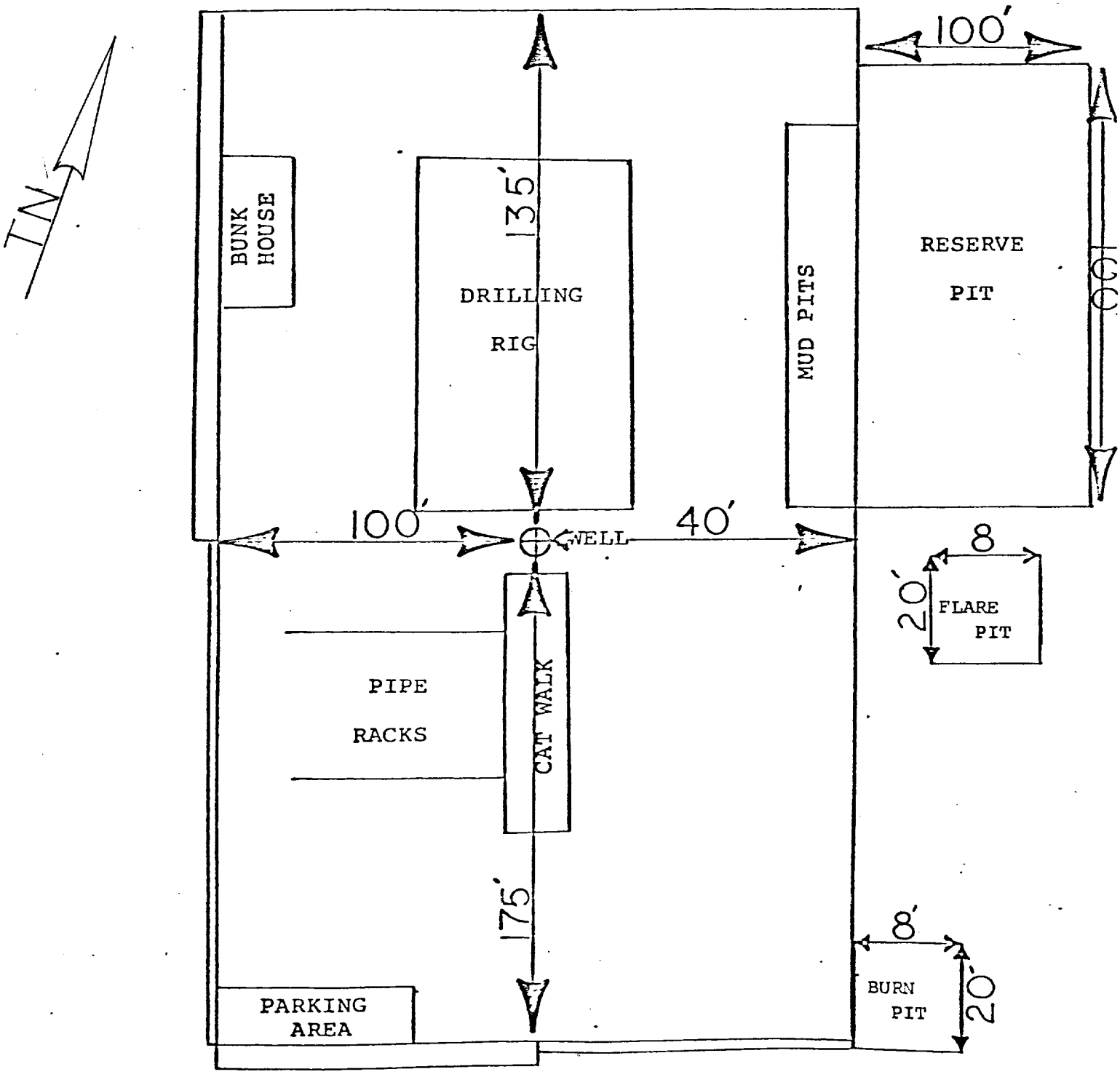
CALCULATION SHEET

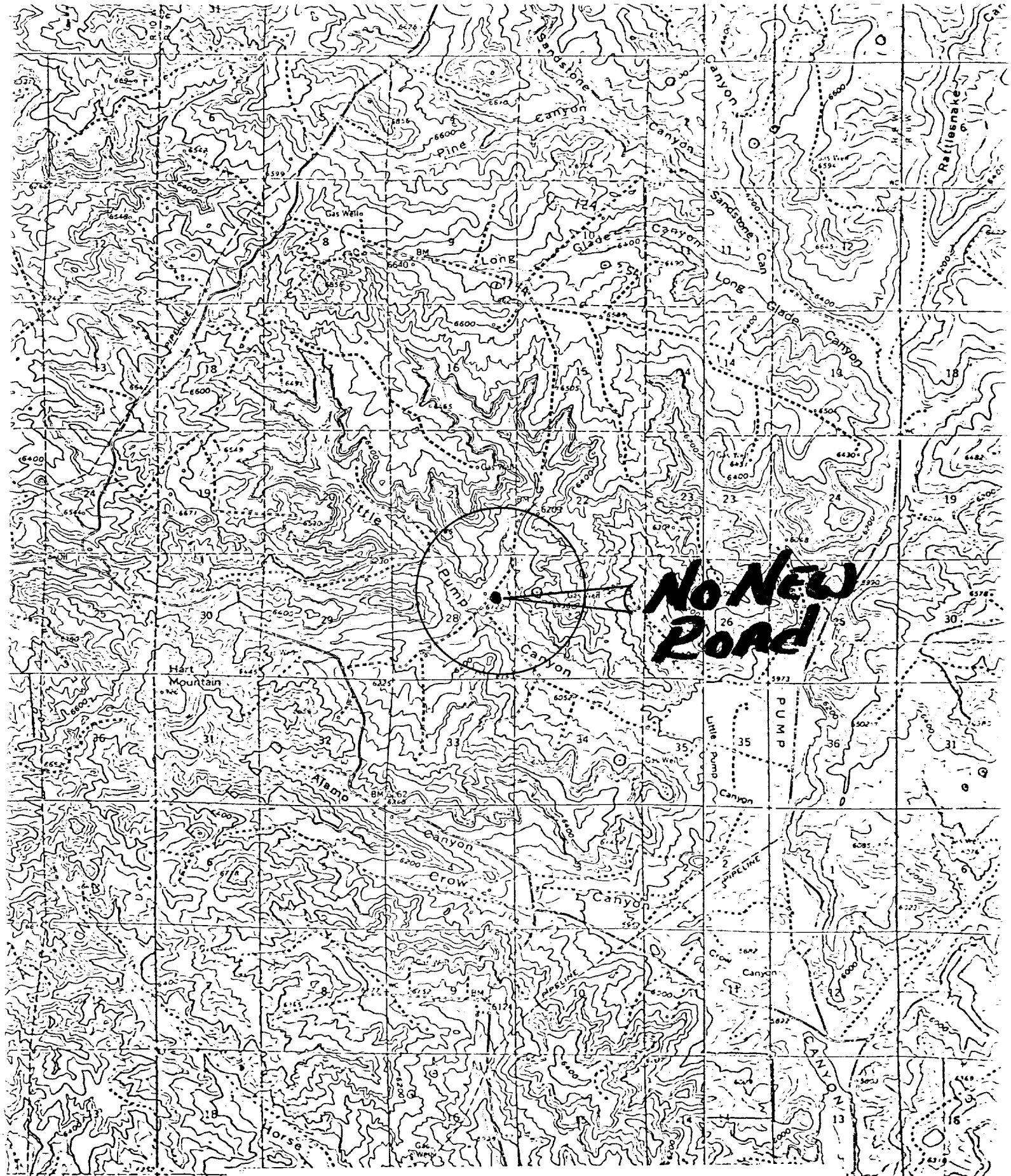
EXHIBIT

RILLING WELL SITE LAYOUT Horton 1E

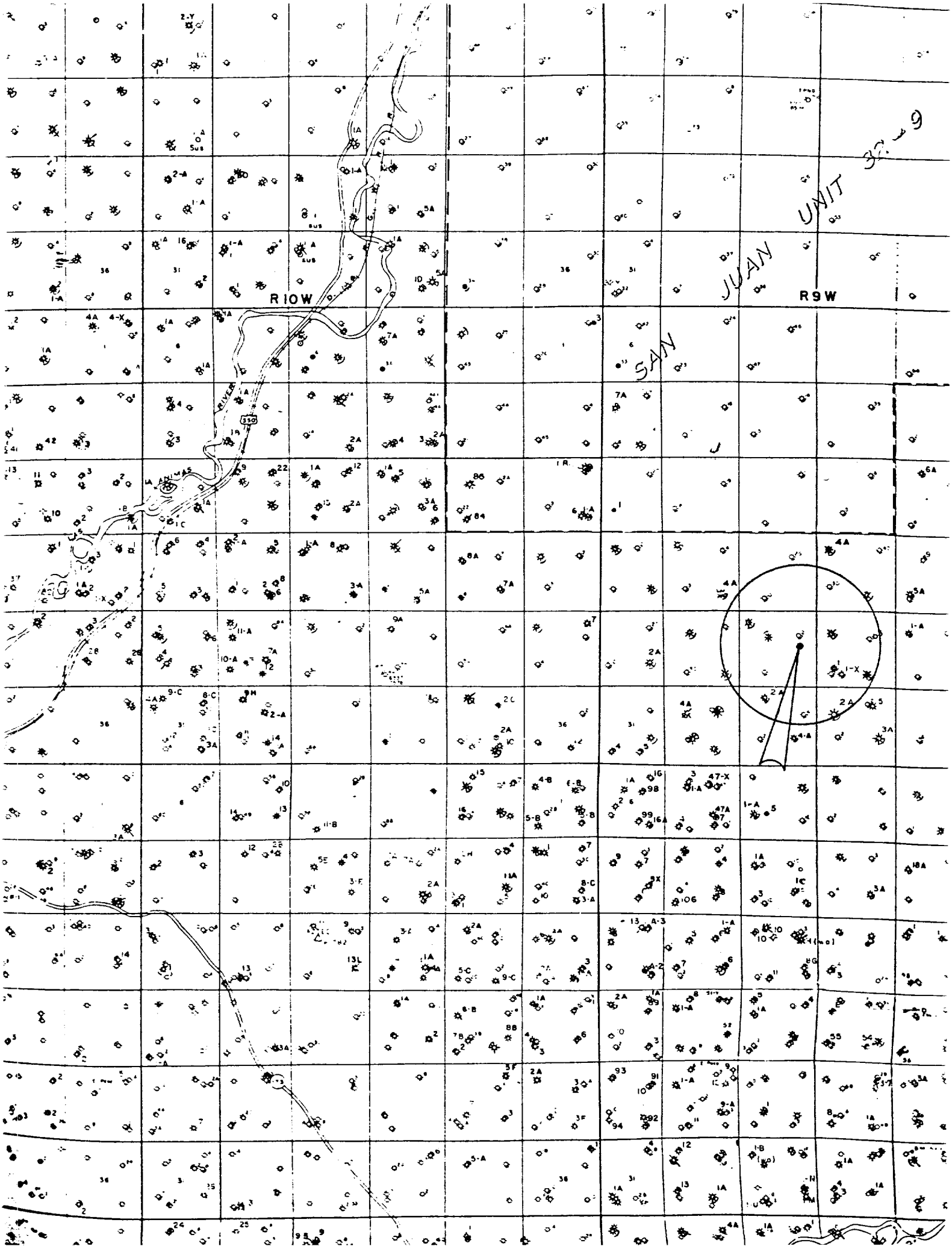
1770 FNL, 890 FEL Sec 28, T31N R9W DATE 1-14-80

Minimal cuts and fills, Adjacent to existing location, No new road construction





Vicinity Map for
TENNECO OIL COMPANY #1-E HORTON
1770'FNL 890'FEL Sec. 28-T31N-R9W
SAN JUAN COUNTY, NEW MEXICO


SAN JUAN UNIT
R10W
R9W
RIVER
350
ARKANSAS