

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

Great Western Drilling Company (Ph. 915-682-524)

3. ADDRESS OF OPERATOR

P. O. Box 1659, Midland Texas, 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

660' FNL & 1980' FEL of Section

At proposed prod. zone

same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

28 air miles north-northeast of Roswell, New Mexico

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

660'

16. NO. OF ACRES IN LEASE

1759.06

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

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19. PROPOSED DEPTH

5200' Penn

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

3822' G.L.

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48 #	450	475 Class "C" (Circ.)
*				
7 7/8"	4 1/2"	9.5#	5200	1000' above Abo Zone

* If drilling problems are encountered in the lower San Andres, 7 7/8" hole will be reamed to 11" or 12 1/4" and 8 5/8" (24#) casing will be run to 1500' and cemented.

Well will be drilled to the base of the Pennsylvanian formations and all potential zones will be evaluated. If commercial production is indicated, well will be selectively perforated and stimulated.

Attachments are:

1. Well Location & Acreage Dedication Plat..
2. Ten-Point Supplemental Drilling Data
3. Surface Use Plan

Gas for this acreage is not 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

James A. Knaut

TITLE Agent

DATE 2-10-81

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE MAR 04 1981

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

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.

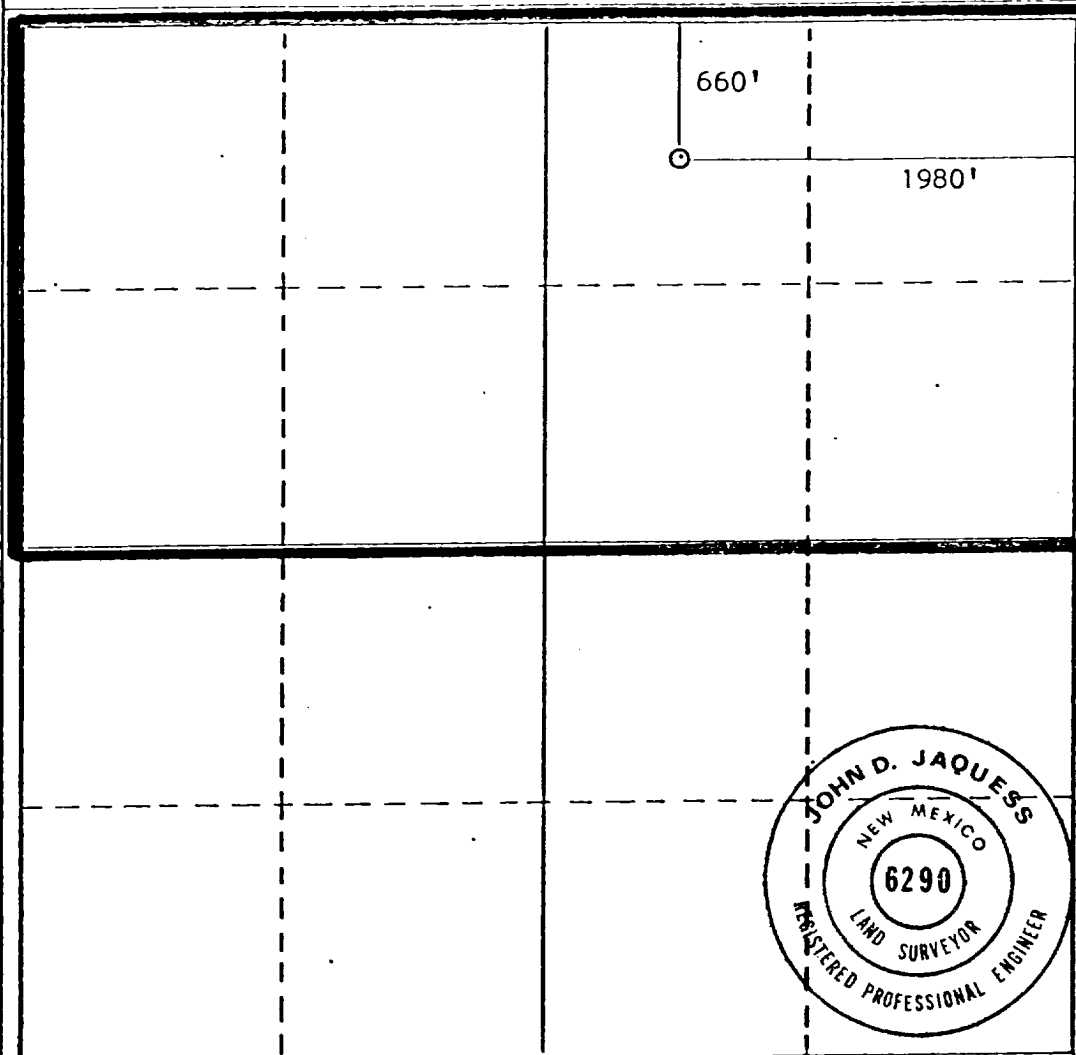
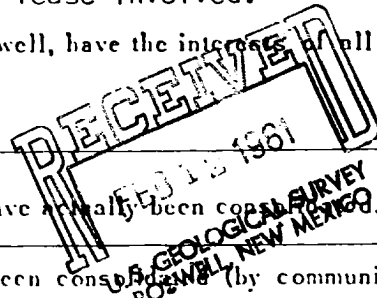
Operator Great Western Drilling Company		Lease Quail Federal		Well No. 2
Unit Letter B	Section 23	Township 6 South	Range 25 East	County Chaves
Actual Well Location of Well: 1980 feet from the East line and 660 feet from the North line				
Ground Level Elev. 3822	Producing Formation Pennsylvanian	Pool Wildcat	Dedicated Acreage: 320	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
N $\frac{1}{2}$ of Section is dedicated to well.
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). Federal Lease NM-15862 is only lease involved.
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 (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. (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.

James A. Knauf
Name
James A. Knauf

Position
Agent

Company
Great Western Drilling Co.

Date
2-10-81

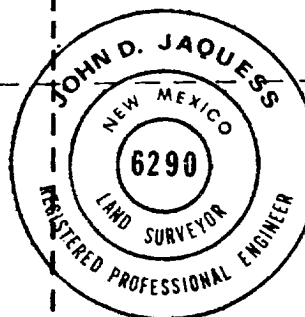
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
January 22, 1981

Registered Professional Engineer and/or Land Surveyor

John D. Jaquess
John D. Jaquess, P.E. & L.S.

Certificate No.
6290



0 330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600

SUPPLEMENTAL DRILLING DATA

GREAT WESTERN DRILLING COMPANY
WELL #2 QUAIL FEDERAL
660' FNL & 1980' FEL SEC 23-6S-25E
CHAVES COUNTY, NEW MEXICO

1. SURFACE FORMATION: Sandy alluvium (Artesia Group of Permian Age)

2. ESTIMATED GEOLOGIC TOPS:

San Andres	620'	Drinkard	3360'
Glorietta	1500'	Abo	3690'
Paddock	2550'	Wolfcamp	4475'
Blinberry	2850'	Pennsylvanian	4730'
Tubb	3150'	Mississippian	5290'

3. POSSIBLE WATER AND HYDROCARBON BEARING ZONES:

Water:	125 - 350'
Gas:	3740 - 3990'
Gas:	4750 - 4950'

4. PROPOSED CASING PROGRAM:

<u>Size</u>	<u>Interval</u>	<u>Weight</u>	<u>Grade</u>	<u>Joint</u>	<u>Condition</u>
13 3/8"	0 - 450'	48 #	H-40	STC	New
8 5/8"	0 - 1500'	24 #	K-55	STC	New
4 1/2"	0 - 5200'	9.5#	K-55	STC	New

5. PRESSURE CONTROL EQUIPMENT: Blowout preventer stack will consist of an annular-type preventer and a dual ram-type preventer with 2000 psi working pressure. A sketch of BOP is attached.

6. PROPOSED MUD PROGRAM:

0 - 450:	Fresh water with gel and lime.
450 - 1500:	Add lost circulation material as hole conditions dictate.
1500 - 3200:	Bring weight up to 10-10.2# with salt for salt zones.
3200 - 3500:	Bring fluid loss down to 15-20 cc.
3500 - 5200:	Add Saltwater Gel or Sea Mud with Drispak (or starch, if warranted). MW 10-10.2#, Vis 35-40, WL 6-8.

7. AUXILIARY EQUIPMENT:

- A. Kelly cock will be kept in string.
- B. Full opening safety valve will be kept on rig floor in open position at all times.

8. TESTING, LOGGING AND CORING PROGRAMS:

- A. DST's: None planned.
- B. Coring: None planned.
- C. Logging: Compensated Neutron/Formation Density Log (0-TD)
Dual Laterolog (shoe-TD).

9. ABNORMAL PRESSURES, TEMPERATURES OR HYDROGEN SULFIDE GAS:

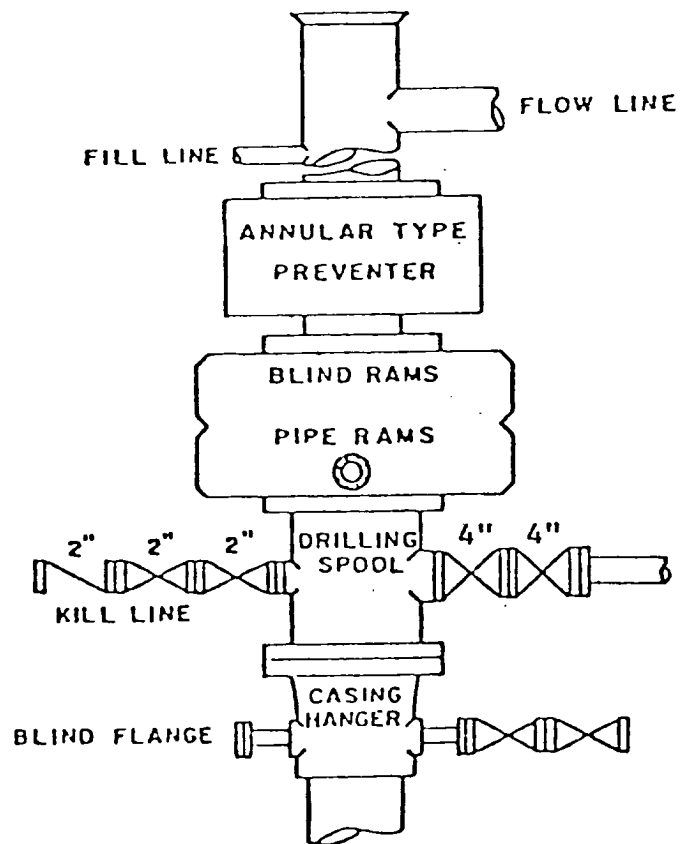
None anticipated.

10. ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS:

- A. Road and pad construction: February 25, 1981
- B. Spud well: March 15, 1981
- C. Duration of drilling and completion operations should be about 15-30 days.

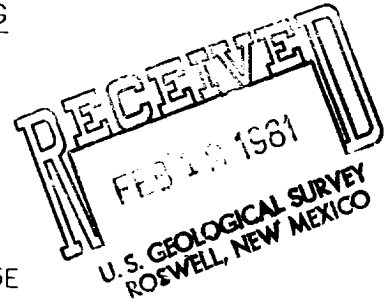
BLOWOUT PREVENTOR SKETCH

600 SERIES



SURFACE USE PLAN
FOR
DRILLING, COMPLETING AND PRODUCING

GREAT WESTERN DRILLING COMPANY
WELL #2 QUAIL FEDERAL
660' FNL & 1980' FEL SEC 23-6S-25E
CHAVES COUNTY, NEW MEXICO



LOCATED: 28 air miles north-northeast of Roswell, N. M.

FEDERAL LEASE NUMBER: NM-15862

LEASE ISSUED: 7-1-72 for a primary term of 10 years.

RECORD LESSEE: Great Western Drilling Co. (64.476%)
Davoil, Inc. (35.524%)

OPERATOR'S AUTHORITY: Record lessee and a Designation of Operator
from Davoil, Inc.

BOND COVERAGE: Lessees' \$150,000 Nationwide Bonds.

ACRES IN LEASE: 1759.06

SURFACE OWNERSHIP: Federal

GRAZING PERMITTEE: Thomas Cooper
410 First National Bank Bldg.
Las Cruces, New Mexico 88001

WELL SPACING: 320-acre (Wildcat area).

EXHIBITS:

- A. General Road Map
- B. Topographic Map
- C. Oil and Gas Map
- D. Sketch of Well Pad

ROAD LOG TO PROPOSED DRILLSITE

STARTING POINT is north of Roswell, N. M. on US-285 at Milepost-139.75. This point is 30.55 miles north of the intersection of US-285 and US-380 in Roswell.

- 0.00 Turn right (east) at cattleguard and follow main ranch road in an easterly direction for a distance of 7.90 miles to curve in road.
- 7.90 Bear to left (northeast) and follow main ranch road for a distance of 2.52 miles to the Mid-America Pipeline which runs northwest-southeast.
- 10.42 Turn right (southeast) and follow oilfield (pipeline) road in a southeasterly direction for a distance of 3.46 miles. (At mileage 12.72, is the turnoff for Well #1 Quail Federal).
- 13.88 Turn left (east) and follow oilfield road for a distance of 0.51 miles to the southwest corner of the Yates #1 South Alkali wellpad.
- 14.39 Turn right (south) and follow oilfield road in a southerly and southwesterly direction for a distance of 1.53 miles to the southwest corner of the Yates #3 Powers wellpad.
- 15.92 Proposed new road starts here. Turn right (west) and proceed in a westerly direction for 0.13 miles to the two-track ranch road which runs northwest-southeast.
- 16.05 Turn left (southeast) on ranch road and follow it for a distance of 0.30 miles to the gate at the north side of Section 23.
- 16.35 Go through gate and bear to right (southwest) and follow road for a distance of 0.15 miles.
- 16.50 Proposed new road starts here. Turn right (west) and proceed in a westerly direction for a distance of 0.21 miles to the southeast corner of the proposed wellpad.
- 16.71 DRILLSITE (Well #2 Quail Federal).

THIRTEEN POINT PROGRAM

1. EXISTING ROADS:

- A. Existing roads, which lead to the proposed drillsite, are shown on Exhibits "A" & "B". The two-track ranch road from mileage 16.05 to mileage 16.50 on the road log will be up-graded with caliche or gravel.

2. PROPOSED NEW ACCESS ROAD:

- A. Dimensions: Proposed new roads are shown on Exhibit "B" and will be 12' wide (20' ROW). One will originate at mileage 15.92 and will terminate at mileage 16.05. The other will start at mileage 16.50 and will terminate at mileage 16.71 at the southeast corner of the well pad.
- B. Surfacing Material: The new road will be surfaced with caliche or gravel.
- C. Maximum Grade: Less than one percent.
- D. Turnouts: One will be constructed at start of new road at mileage 16.50.
- E. Drainage Design: New road will be crowned with drainage to the side.
- F. Culverts: None required.
- G. Gates, Cattleguards: Gate at mileage 16.35 will be replaced with a cattleguard.

3. LOCATION OF EXISTING WELLS:

- A. Existing wells in the vicinity of the proposed drillsite are shown on Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There are no production facilities on the leasehold.
- B. If the well is productive, production and storage facilities will be located on the well pad.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is not planned to drill a water supply well. Water for leasehold operations will be purchased from a commercial water hauler.

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. Material for construction of the road and well pad will be obtained from a pit located in the NW-SE 7-6S-26E or from the access road or location itself. No surface materials will be disturbed except for those necessary for the actual grading and leveling the drillsite and access road.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the drilling pits.
- B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.
- C. Water produced during tests will be disposed of in the drilling pits.
- D. Oil produced during tests will be produced into temporary test tanks.
- E. Trash, waste paper, garbage, and junk will be buried in a trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind. Location of the trash pit is shown on Exhibit "D".
- F. All trash and debris will be buried or removed from the wellsite within 30 days after finishing each drilling and/or completion operation.

8. ANCILLARY FACILITIES:

- A. None anticipated.

9. WELLSITE LAYOUT:

- A. The wellsite has been surveyed, staked and flagged.
- B. The dimensions and relative location of the drill pad, mud pit, and trash pit with respect to the well bore are shown on Exhibit "D".

- C. The wellsite is nearly level and will hardly require any cut or fill.
- D. The well pad will be surfaced with caliche or gravel.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the wellsite in as aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. After abandonment, all equipment, trash and junk will be removed and the location cleaned. Any special rehabilitation and/or special revegetation requirements of the surface management agency will be complied with and accomplished as expeditiously as possible.

11. OTHER INFORMATION:

- A. Topography: The land surface at the drillsite is nearly level. From an elevation of 3822 feet at the drillsite, the terrain slopes gently toward the south.
- B. Soil: Loam.
- C. Flora and Fauna: The vicinity surrounding the drillsite is semi-arid desert rangeland. Vegetation consists of native grasses interspersed with mesquite and other desert plants. No wildlife was observed, but wildlife in this habitat consists mostly of quail, dove, rabbits, rodents, coyotes, and skunks.
- D. Ponds and Streams: None. The Pecos River lies approximately 4 miles to the east.
- E. Residences and Other Structures: Nearest occupied dwelling is 2 miles to the south. Nearest water well is $\frac{1}{2}$ mile to the south.
- F. Archaeological, Historical and Other Cultural Sites: None were observed in the area. An archaeological reconnaissance of the well pad and road area was made by Eastern New Mexico University.
- G. Land Use: Grazing and occasional hunting.

12. OPERATOR'S REPRESENTATIVE:

Representative responsible for assuring compliance with the approved Surface Use Plan:

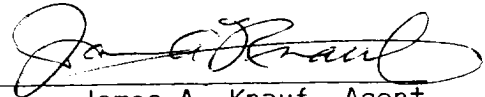
Kenneth W. Smith
Production Superintendent
Great Western Drilling Company
10 West Adams
Lovington, New Mexico 88260
Office 505-396-5538
Home 505-396-4180

13. CERTIFICATION:

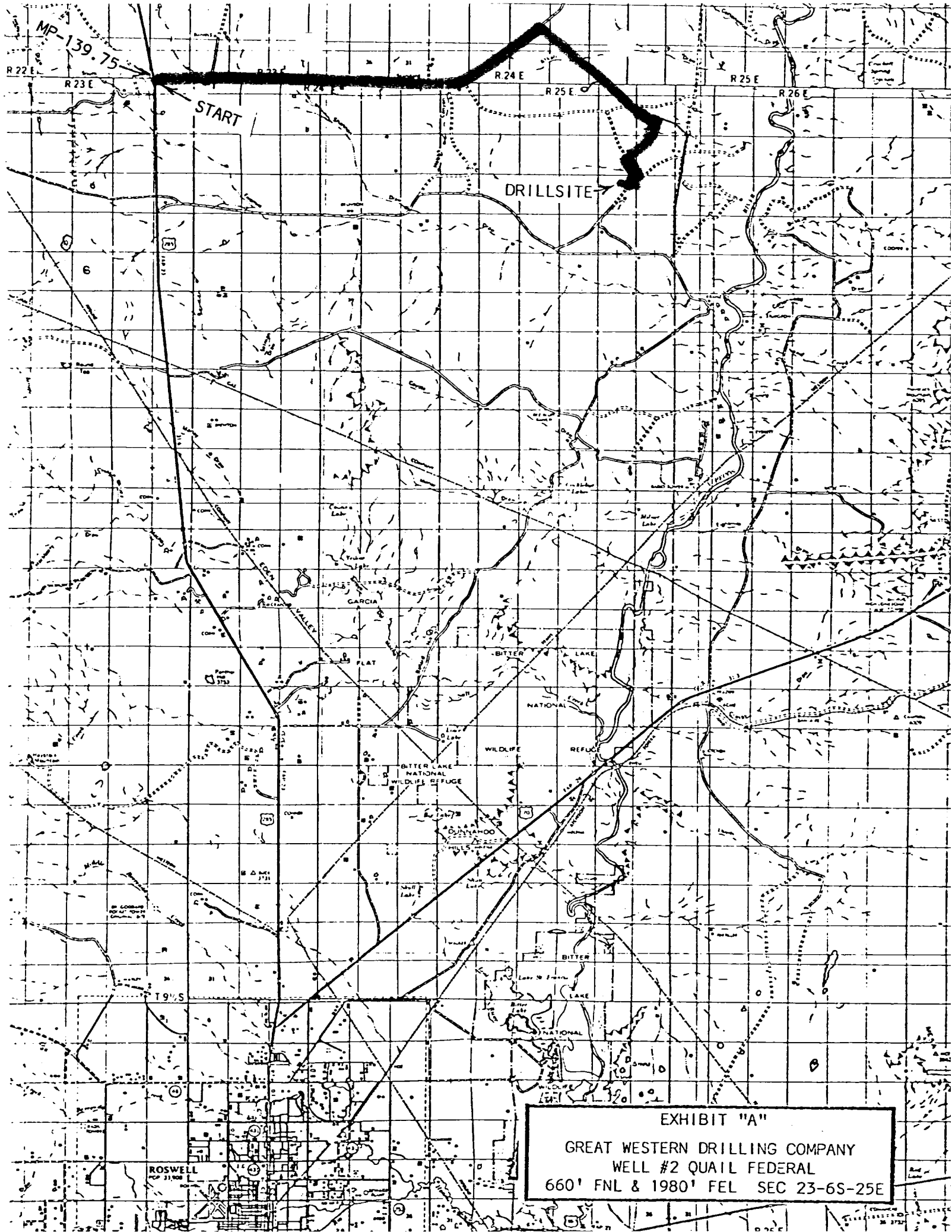
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge true and correct; and, that the work associated with the operations proposed herein will be performed by GREAT WESTERN DRILLING COMPANY and its sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

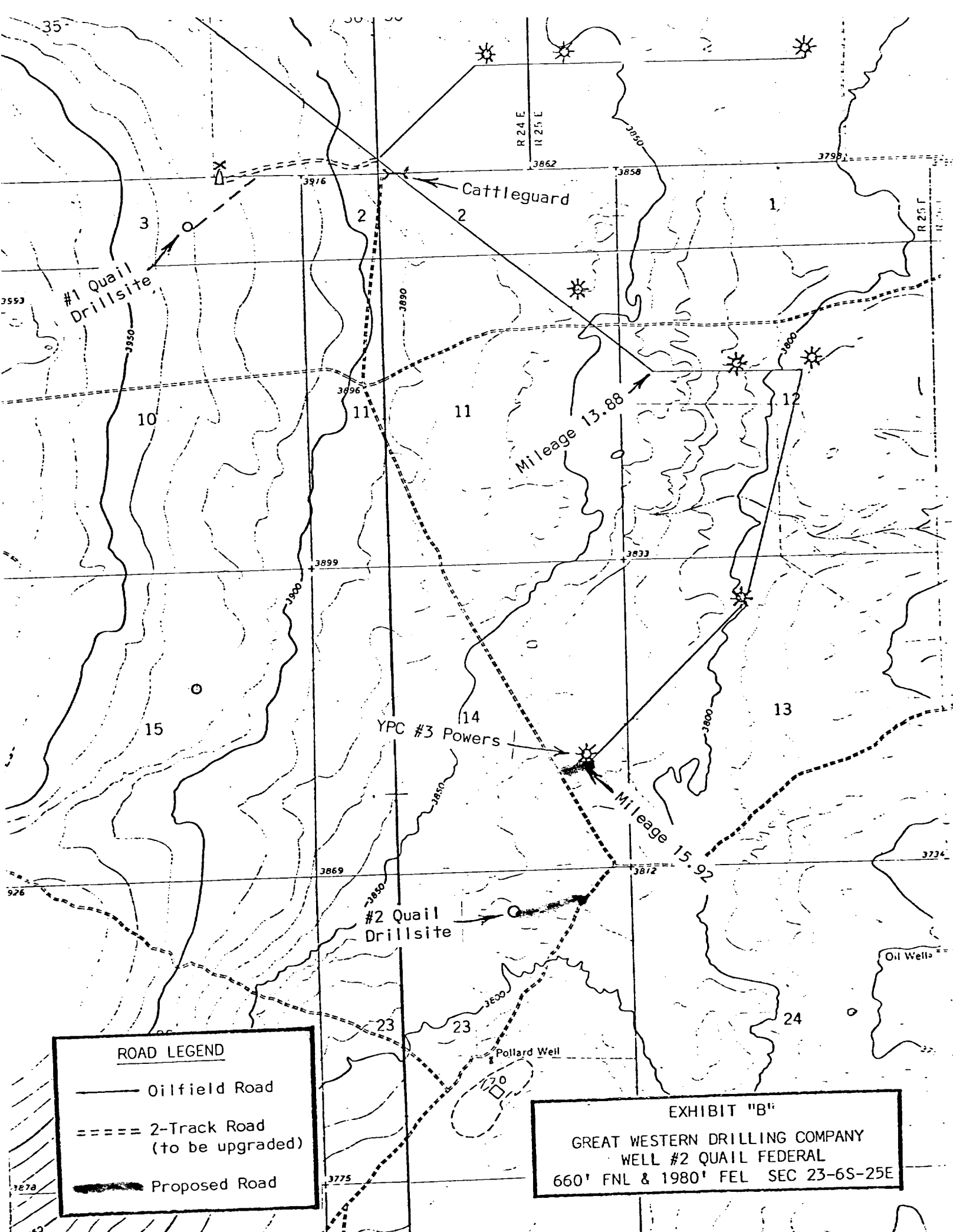
2-10-81

Date



James A. Knauf, Agent
GREAT WESTERN DRILLING CO.





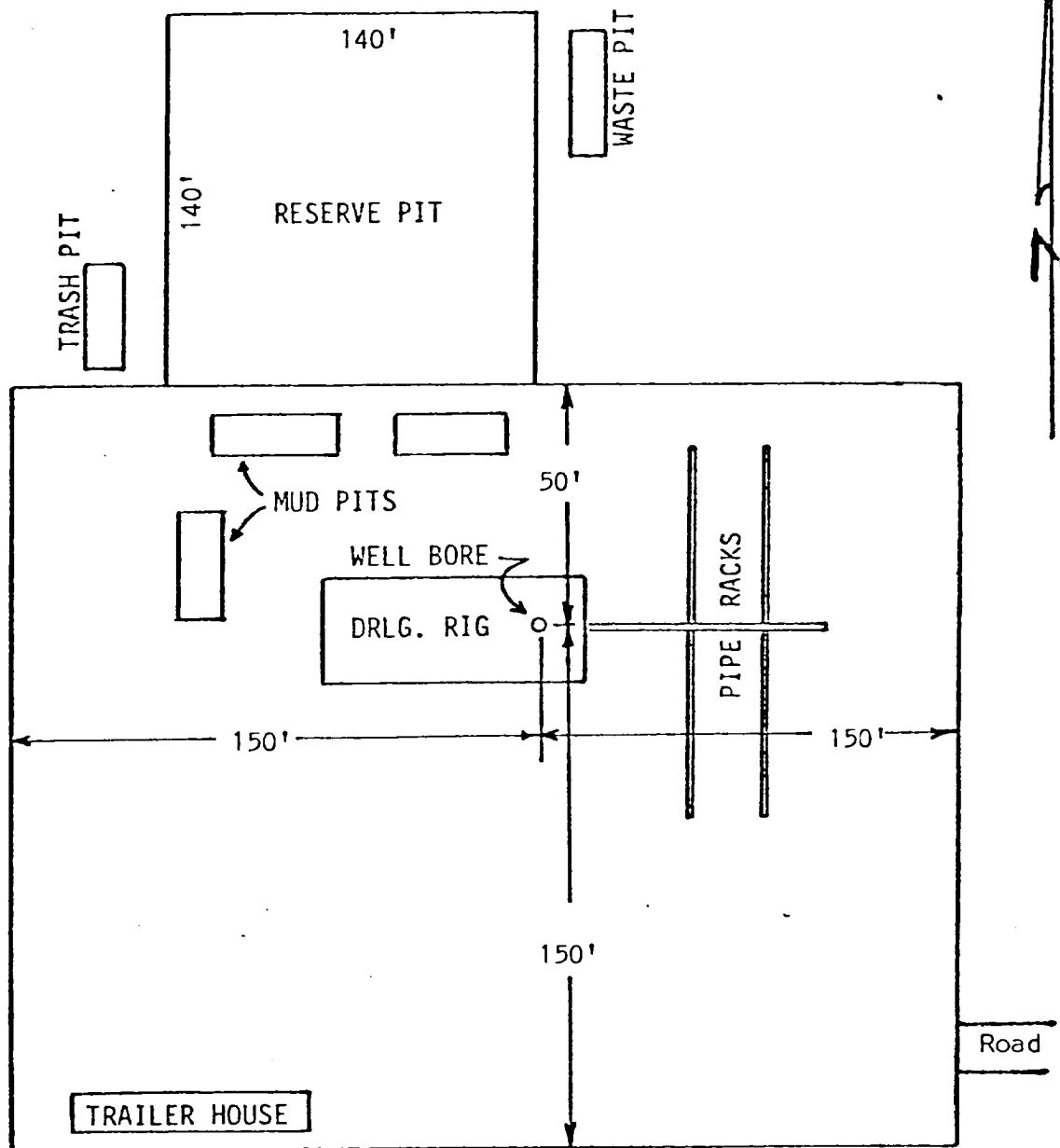


EXHIBIT "D"
GREAT WESTERN DRILLING COMPANY
WELL #2 QUAIL FEDERAL
660' FNL & 1980' FEL SEC 23-6S-25E