

Form 3160-3
(November 1983)
(formerly 9-331C)

NM Oil Cons. Commission

Drawer DD

Artesia, NM 88210

SUBMIT IN DUPLICATE*
(Other instructions on
reverse side)

30-014-62802

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

(Kenneth Smith)

(505-396-5538)

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

760' FSL & 900' FEL of Sec. 4-6S-25E

At proposed prod. zone

Same

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

30 air miles north-northeast of Roswell, New Mexico

10. DISTANCE FROM PROPOSED*

760'

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.

(735')

(Also to nearest drlg. unit line, if any)
18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

4200'

16. NO. OF ACRES IN LEASE

1759.06

19. PROPOSED DEPTH

4300' Abo

17. NO. OF ACRES ASSIGNED
TO THIS WELL

181.56

20. ROTARY OR CABLE TOOLS

Rotary

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

3989' G.L.

22. APPROX. DATE WORK WILL START*

October 7, 1990

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
14-3/4"	10-3/4"	32.75# H-40	900'±	Sufficient to circulate
9-7/8 & 7-7/8"	4-1/2"	9.50# K-55	4300'±	± 400 sacks

9-7/8" hole will be reduced to 7-7/8" at ±1800' (200-300' below top of the Glorieta).
Production casing will be cemented with sufficient cement to come back to a minimum of
600' above the Abo.

Abo pay zone will be selectively perforated and stimulated as needed for optimum
production.

Attached are: 1. Well Location & Acreage Dedication Plat
2. 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 depth. Give a brief description of the proposed program, if any.

24.

SIGNED

JERRY W. LONG

TITLE Permit Agent

DATE September 21, 1990

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

OCT 10 1990

APPROVED BY

/s/ Sandra L. Porenta

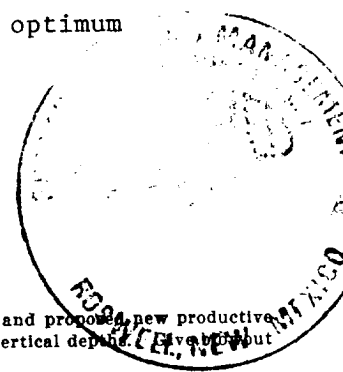
TITLE Area Manager

DATE

CONDITIONS OF APPROVAL, IF ANY:

PLEASE BE ADVISED THAT THERE WILL BE NO EXCAVATION
OF FEDERALLY OWNED MINERAL RIGHTS OR CONSTRUCTION
OF THE ACCESS ROAD OR OTHER STRUCTURE
IN ADVANCE OF U.S.C. Section 1001, makes it a crime for any person knowingly and voluntarily to make to any department or agency of the
United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVAL OF THIS APPLICATION DOES NOT WARRANT OR
CERTIFY THAT THE APPLICANT HOLDS LEGAL OR EQUITABLE
RIGHTS IN THE SUBJECT LEASE WHICH WOULD
ENTITLE THE APPLICANT TO OPERATE THEREON.



Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Denver DD, Artesia, NM 88210

DISTRICT III
1000 Rio Bonito Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT
All Distances must be from the outer boundaries of the section

Operator GREAT WESTERN DRILLING CO.			Lease Quail Federal		Well No. 8
Unit Letter P	Section 4	Township 6 South	Range 25 East	County Chaves	
Actual Footage Location of Well: 760 feet from the South line and 900 feet from the East line					
Ground level Elev. 3989.0	Producing Formation Abo		Pool Pecos Slope Abo		Dedicated Acreage: 181.56 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or machine 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).
SINGLE LEASE
3. If more than one lease of different ownership is dedicated to the well, have the interest 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 interest, has been approved by the Division.

* Operator will file a request for a Non-Standard Unit necessitated by a variation in the legal subdivision of the U.S. Public Land Survey.

OPERATOR CERTIFICATION

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

Signature
Jerry H. Long
Printed Name
JERRY W. LONG
Position
Permit Agent
Company
GREAT WESTERN DRILLING CO.

Date
September 21, 1990

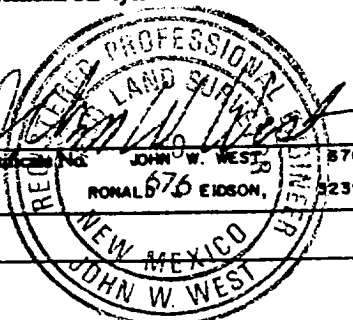
SURVEYOR CERTIFICATION

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
September 10, 1990

Signature & Seal of
Professional Surveyor

Signature
John W. West
Printed Name
JOHN W. WEST
Professional No.
876
New Mexico
RONALD B. EIDSON, 8239



SUPPLEMENTAL DRILLING DATA

GREAT WESTERN DRILLING COMPANY
No.8 Quail Federal
760'FSL 900'FEL Sec.4-6S-25E
Chaves County, N.M.

NM 15862

The following items supplement Form 3160-3 in accordance with instructions contained in Onshore Oil and Gas Order No.1:

1. SURFACE FORMATION: Artesia Group of Permian Age

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

San Andres	550'
Glorieta	1600'
Tubb	3000'
Abo	3650'

3. ESTIMATED DEPTHS TO WATER, OIL OR GAS FORMATION:

Water - 50' to 150' and 500' to 650'

Oil - 950' to 1200'

Gas - 3650' to 4300'

4. PROPOSED CASING PROGRAM:

10-3/4" Casing - 900' of 32.45#, H-40, ST&C

4-1/2" Casing - 4300' of 9.5#, K-55, ST&C

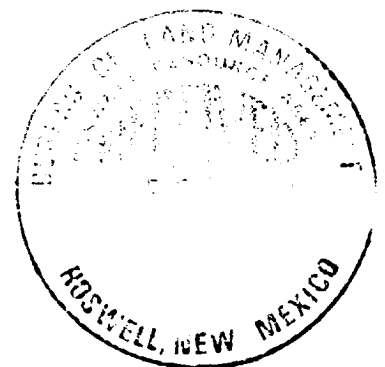
The surface and production casing strings will be tested to 1000 psi.

5. PRESSURE CONTROL EQUIPMENT: Pressure control equipment will include a 2000#WP blowout preventer stack, with Series 900 blind and pipe rams. The BOP stack will include a kill line and choke manifold tested to 1000 psi. BOP hydraulic controls will be operated at least daily. A diagrammatic sketch of the BOP stack is attached as Exhibit "D".

A request for pressure test Variance is attached.



6. CIRCULATING MEDIUM: Fresh water mud conditioned for control of weight, viscosity and water loss.
7. AUXILIARY EQUIPMENT: A full-opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times.
8. TESTING, LOGGING AND CORING PROGRAM:
 - Samples: Samples will be caught at 10' intervals below 900'.
 - DST and Cores: At discretion of well site geologist.
 - Logging: Neutron - Density Log (Surface to TD)
9. ABNORMAL PRESSURES, TEMPERATURES OR HYDROGEN SULFIDE:
None anticipated. Bottom-Hole pressure anticipated to be less than 900#.
10. ANTICIPATED STARTING DATE: Drilling will commence as soon as approval is obtained. Drilling and completion operations will last about 30 days.



PERTINENT INFORMATION

For

GREAT WESTERN DRILLING COMPANY
No.8 Quail Federal
760'FSL 900'FEL Sec.4-6S-25E
Chaves County, N.M.

LOCATED: 30 air miles north-northeast
of Roswell, New Mexico

FEDERAL LEASE NUMBER: NM-15862

LEASE ISSUED: July 1, 1972 - Held by Production

ACRES IN LEASE: 1759.06 Ac.

RECORD LESSEE: Great Western Drilling Company - 64.476%
Davoil, Inc. - 35.524%

BOND COVERAGE: Operators \$150,000 Nationwide Bond

AUTHORITY TO OPERATE: Operating Agreement

SURFACE OWNERSHIP: Public

GRAZING PERMITTEE: Corn Brothers, Inc.
HCR 31, Box 1098
Roswell, New Mexico 88201
Ph.505-623-4043

POOL RULES: 160 Ac. (Pecos Slope Abo Gas Pool)

EXHIBITS: A. Road and Contour Map
B. Lease and Well Map
C. Rig Layout
D. BOP Diagram



MULTI-POINT SURFACE USE AND OPERATIONS PLAN

GREAT WESTERN DRILLING COMPANY
No.8 Quail Federal
760'FSL 900'FEL Sec.4-6S-25E
Chaves County, N.M.

NM 15862

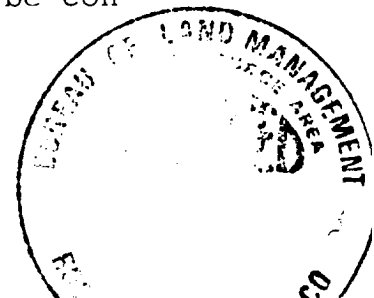
This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS:

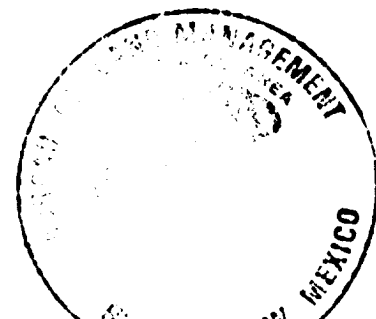
- A. Exhibit "A" is a portion of a road map showing the location of the proposed well as staked. The well is approximately 30 air miles north-northeast of Roswell, New Mexico.
- B. Directions: From Chaves County Courthouse in Roswell, N.M., go 30 miles north on Hwy. 285 to County Road C-38A. Turn east and go 7.9 miles. Turn southeast and go 2.5 miles on C.R. 45. Go northeast 0.5 mile on new road to the proposed No.8 location.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The new road will be about 0.5 mile long and about 20' wide, including the shoulders. The road centerline has been flagged.
- B. Surfacing Material: The new road will be surfaced with caliche, if necessary.
- C. Maximum Grade: Less than 1%
- D. Turnouts: Since the road is essentially flat, no traffic turnouts are necessary.
- E. Drainage design: The road will be constructed with about 4" of crown at the centerline. Water turnouts will be constructed at 300' intervals.



- F. Culverts: None necessary
- G. Cuts and Fills: The well pad will require about 2' of cut on the southwest corner and about 1' of fill on the north and east sides. About 5" of topsoil from the pad will be stock-piled on the north and east sides of the pit for use in rehabilitation.
- H. Gates, Cattleguards: None
- I. Right-of Way: A Public Land Right-of-Way is requested for the off-lease portion of the access road. The R-O-W will start 400' south of the gas well in the NE/4 Sec.9 and go about 3000' northeast to proposed location.
3. LOCATION OF EXISTING WELLS:
- A. Existing wells are indicated on EXHIBIT A.
4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
- A. If the well is productive, production, storage and measurement facilities will be constructed on the wellpad.
5. LOCATION AND TYPE OF WATER SUPPLY:
- A. Water for drilling operations will be purchased from a commercial water hauler.
6. SOURCE OF CONSTRUCTION MATERIALS:
- A. Necessary caliche for surfacing the road and pad will be obtained from a privately-owned pit located in the NWSE Sec.7-6S-26E.
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 test will be disposed of in the drilling pits. Oil produced during test will be stored in test tanks until sold.
- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.



E. Trash, waste paper, garbage, and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of soil. All waste material will be contained to prevent scattering by the wind. The trash pit will be located adjacent to the mud pit.

F. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and completion operations.

8. ANCILLARY FACILITIES:

A. None necessary

9. WELL SITE LAYOUT:

A. The wellsite and 400' X 400' area have been surveyed and flagged. Tentative location of the mud pit has been flagged at the request of BLM.

B. Dimensions and relative location of the drill pad, pit and equipment are shown on EXHIBIT C.

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 an aesthetically pleasing condition as possible.

B. Any unguarded pits containing fluids will be fenced until they are filled.

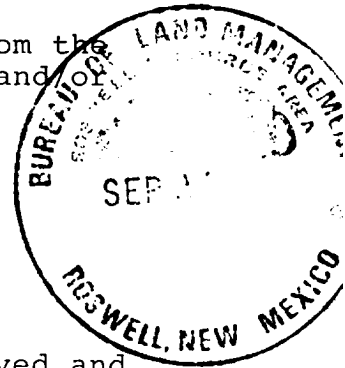
C. If the well is non-productive, the disturbed area will be rehabilitated to Federal Agency requirements and will be accomplished as expeditiously as possible.

11. OTHER INFORMATION:

A. Topography: The regional terrain is a rolling alluvial plain sloping to the east toward the Pecos River. The access road and wellsite is essentially level.

B. Soil: The soil at the wellsite is sandy clay loam with associated gravels.

C. Flora and Fauna: Flora consists of range grasses with some yucca and mesquite. Location was moved to protect salt water cedar growing east and southwest of the drill-site. No wild life was observed. Fauna probably includes reptiles, rodents and various birds.



- D. Ponds or Streams: There are no ponds near the wellsite. The Pecos River is 6 miles east.
- E. Residences and Other Structures: There are no occupied dwellings within 2 miles.
- F. Archaeological, Historical and Other Cultural Sites: Archaeology Survey Consultants, of Roswell, N.M., has made a survey of the proposed new road and wellsite. They have recommended that construction work be approved.
- G. Land Use: The vicinity surrounding the wellsite is semi-arid rangeland, used primarily for grazing.
- H. Surface Ownership: The new access road and wellsite are on Public Surface. The grazing lessee is Corn Brothers, Inc., HCR 31, Box 1098, Roswell, N.M. 88201.

12. OPERATOR'S REPRESENTATIVE:

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

Mr. Kenneth W. Smith, Division Supt.
10 West Adams
Lovington, New Mexico 88260
Phone 505-396-5538

13. CERTIFICATION:

I hereby certify that I, or person 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; 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. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

September 21, 1990
Date:


JERRY W. LONG, Permit Agent for:
GREAT WESTERN DRILLING COMPANY



GREAT WESTERN DRILLING CO NY
No. 8 Quail Federal
760' FSL 900' FEL Sec. 4-6S-25E
Chaves County, N.M.

NM 15862

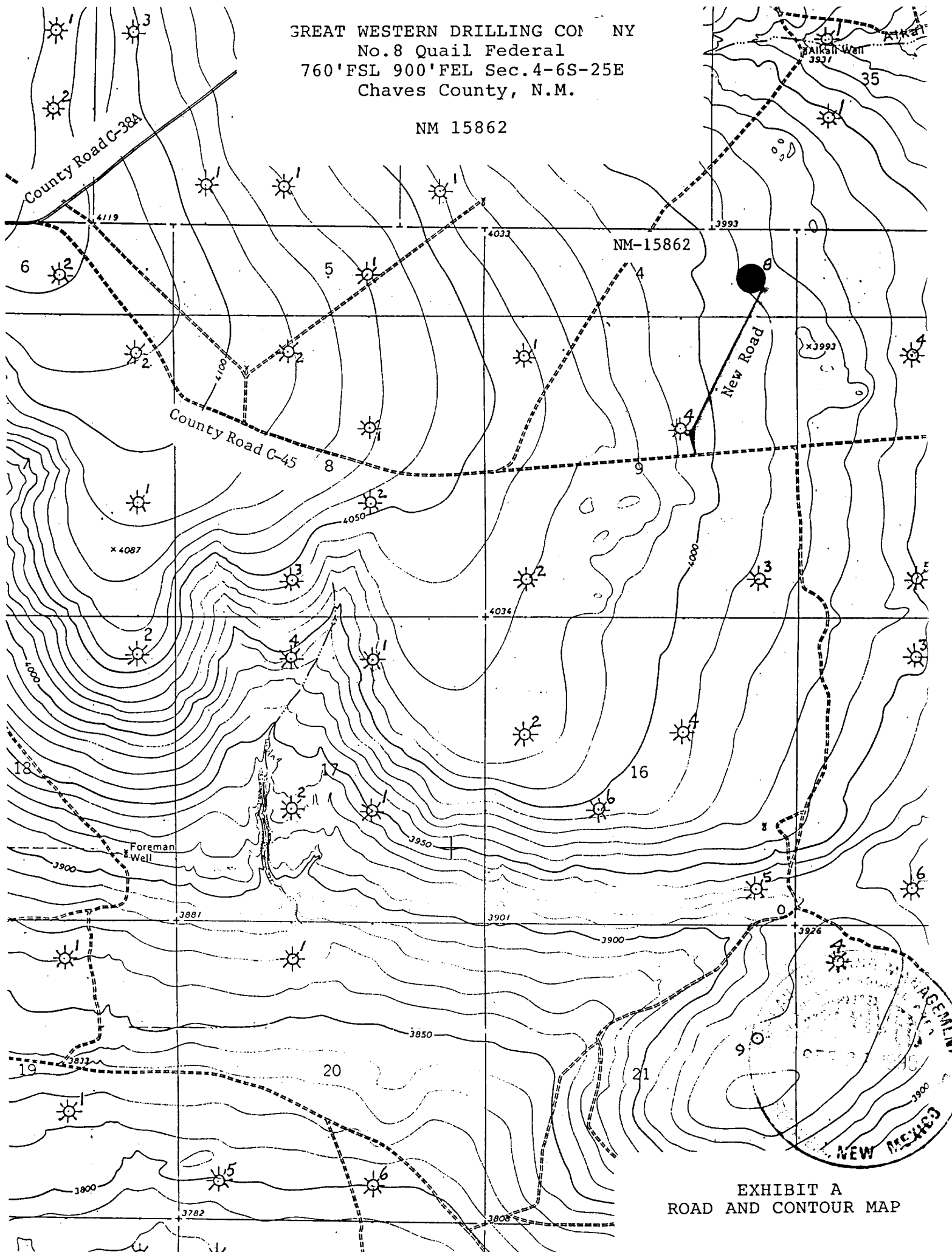
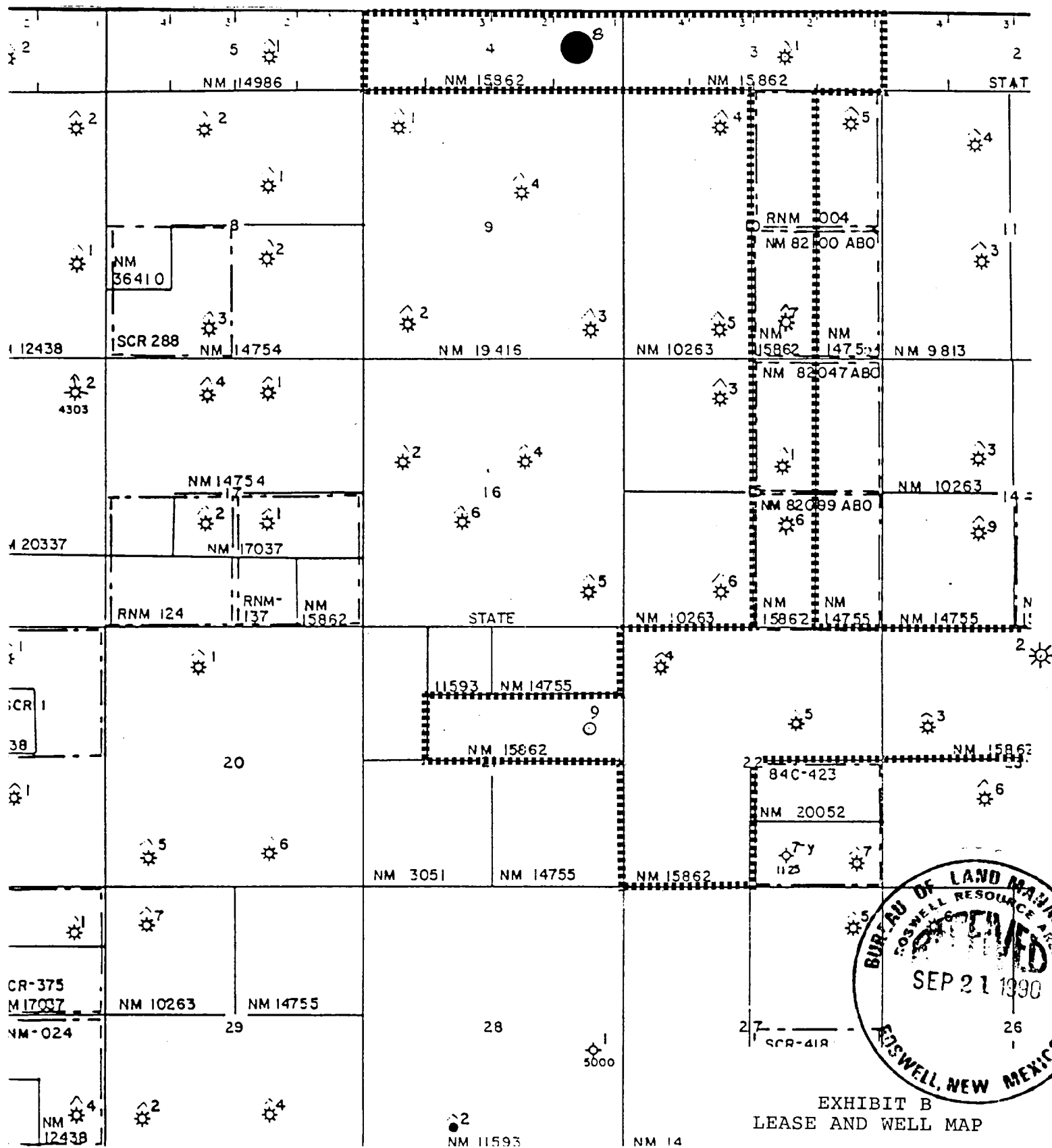


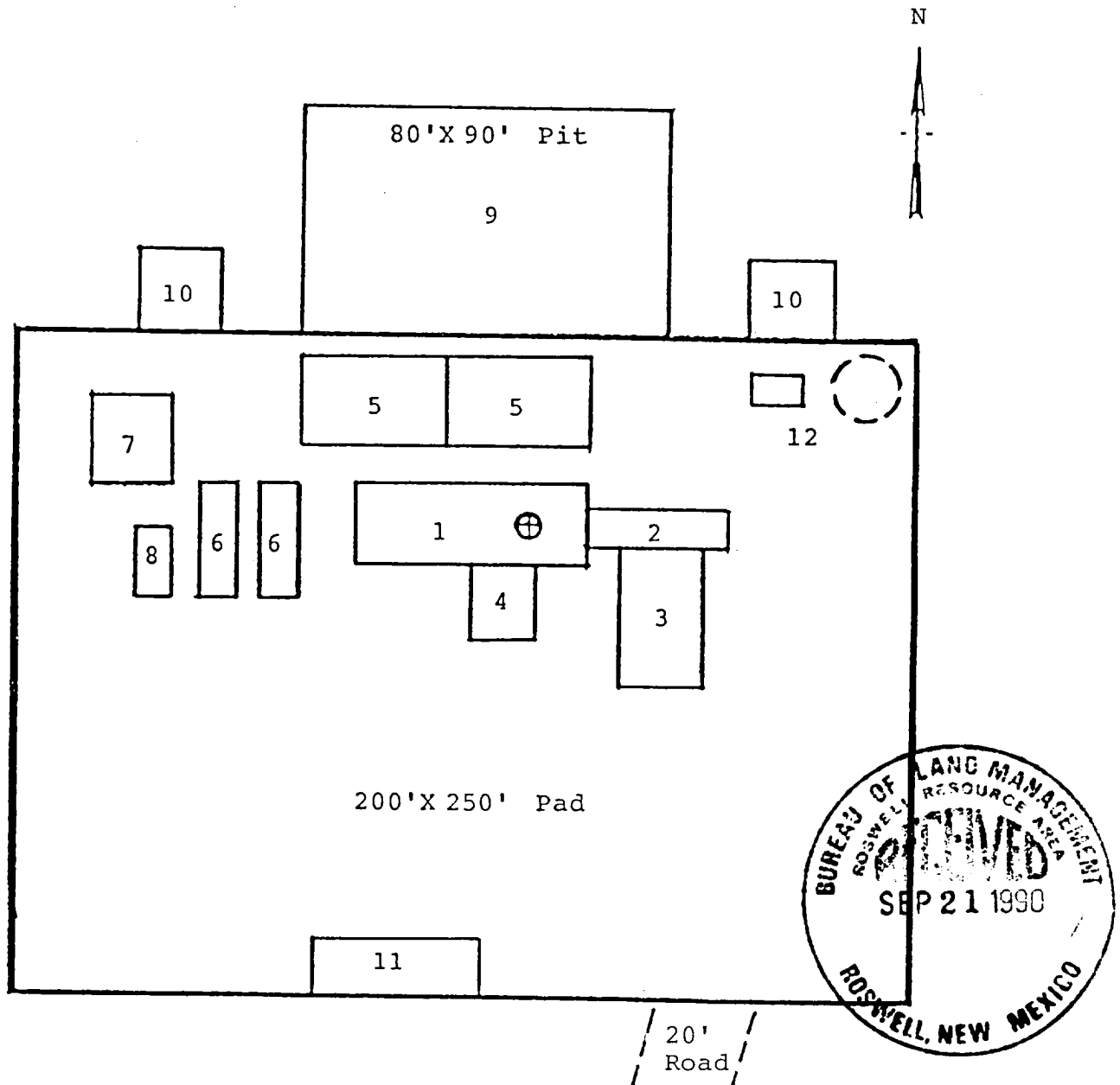
EXHIBIT A
ROAD AND CONTOUR MAP

NM 15862



GREAT WESTERN DRILLING COMPANY
No.8 Quail Federal
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Chaves County, N.M.

NM 15862

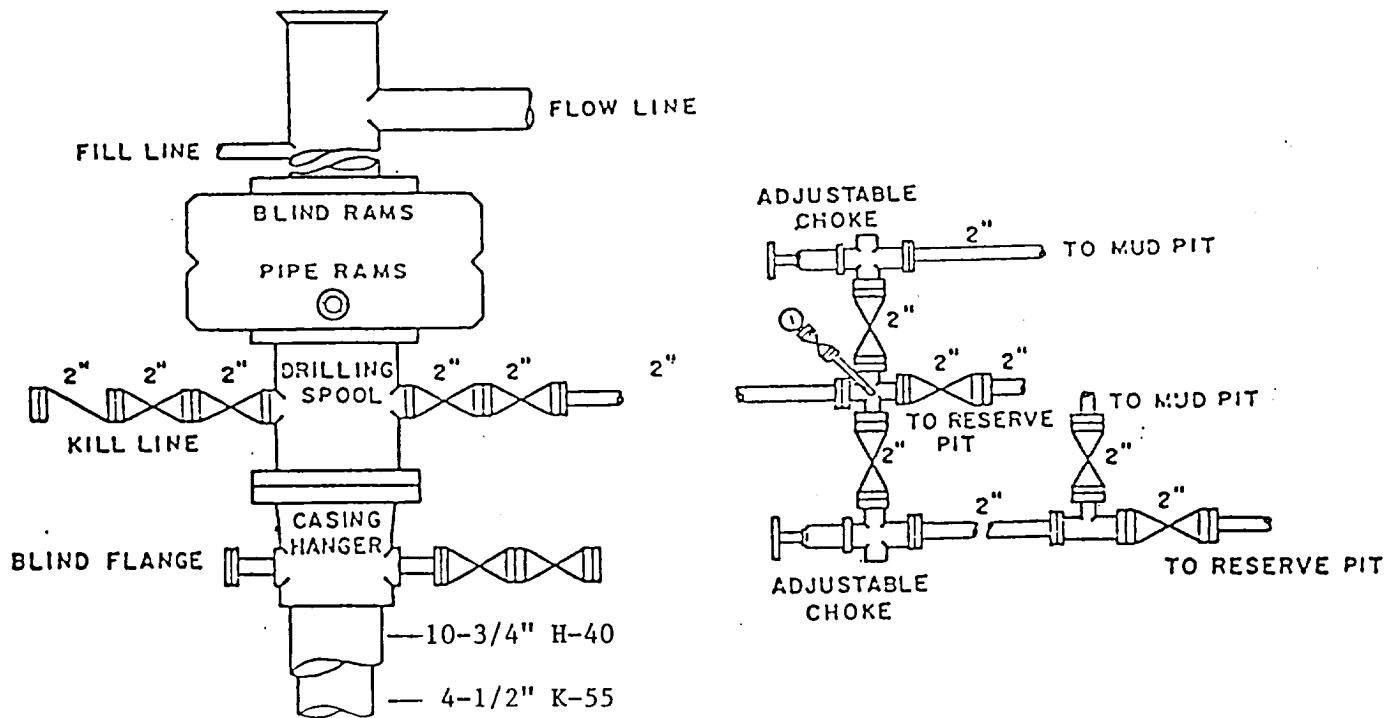


RIG LAYOUT

- | | |
|-----------------|---------------------------|
| 1. Substructure | 7. Water Tank |
| 2. Catwalk | 8. Light Plant |
| 3. Pipe Rack | 9. Reserve Pit |
| 4. Doghouse | 10. Trash Pit |
| 5. Mud Pits | 11. Trailer House |
| 6. Mud Pumps | 12. Production Facilities |

GREAT WESTERN DRILLING COMPANY
 No.8 Quail Federal
 760' FSL 900' FEL Sec.4-6S-25E
 Chaves County, N.M.

NM 15862



BOP DIAGRAM

2000# Working Pressure
 Rams Operated Daily



EXHIBIT D