

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒ JUL 19 1991 DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☒ GAS WELL ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR

ARTESIA, NM OFFICE
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
330' FNL, 860' FWL, Sec. 11-19S-30E
At proposed prod. zone

Same

(UNIT D)
(NWNW)

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

24 air miles northeast of Carlsbad, New Mexico

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

330'

16. NO. OF ACRES IN LEASE

2160.32

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

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

1000'±

19. PROPOSED DEPTH

3200'

20. ROTARY OR CABLE TOOLS

Rotary

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

3389.1' GL

22. APPROX. DATE WORK WILL START*

As Soon As Possible

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#	685'	750 sx "C" + 2% CaCl ₂ (Circ)
12-1/4"	8-5/8"	24#	1900'	1230 sx "C" + 2% CaCl ₂ (Circ)
7-7/8"	5-1/2"	14#	3200'	400± sx "C" + 2% CaCl ₂ Est. Top Cement - 1800'

Propose to drill to 3200'± to test Grayburg and intermediate formations.

This well is within the Designated Potash Area and NMOCD R-111-P Area.

Productive zones will be selectively perforated and stimulated.

See attached "SUPPLEMENTAL DRILLING DATA".

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

Jerry W. Long
JERRY W. LONG

TITLE Permit Agent

DATE June 5, 1991

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

Dir. Signed by Tom Hare

TITLE

AREA MANAGER
CARLSBAD RESOURCE

DATE

7-18-91

CONDITIONS OF APPROVAL, IF ANY:

APPROVAL SUBJECT TO

GENERAL REQUIREMENTS AND

SPECIAL STIPULATIONS

*See Instructions On Reverse Side

Section 1001, makes it a crime for any person knowingly and willfully 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.

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. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos 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 MABEL MABEL HALE FEDERAL		Well No. 4
Unit Letter D	Section 11	Township 19 SOUTH	Range 30 EAST	County EDDY	
Actual Footage Location of Well: 330 feet from the NORTH line and 860 feet from the WEST line					
Ground level Elev. 3389.1	Producing Formation Yates-SR-Q-Grayburg		Pool Shugart	Dedicated Acreage: 40 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).

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.?

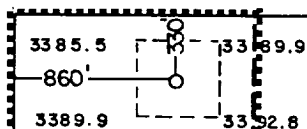
☐ Yes

☐ No

If answer is "yes" type of consolidation NA

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 CERTIFICATION

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

Signature

Printed Name

JERRY W. LONG

Position

Permit Agent

Company

GREAT WESTERN DRILLING CO.

Date

June 5, 1991

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.

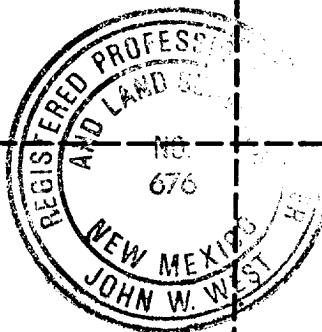
Date Surveyed

5-28-91

Signature & Seal of
Professional Surveyor

Certificate No. JOHN W. WEST, 676

RONALD J. EIDSON, 8239



SUPPLEMENTAL DRILLING DATA

GREAT WESTERN DRILLING COMPANY
No.4 Mabel Hale Federal
NWNW Sec.11-19S-30E
Eddy County, N.M.

NM-0560353

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

1. SURFACE FORMATION: Recent

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Salt	600'	Seven Rivers	2350'
Base Salt	1800'	Queen	2875'
Yates	2000'		

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

Water - Possible groundwater from 0' to 400'

Oil - 2000' to TD

Gas - None anticipated

4. PROPOSED CASING PROGRAM:

- 13-3/8" Casing - Set 685' of 45#⁴⁸, H-40, Surface Casing
Cement circulated to the surface.
Pressure tested to 600 psi.
- 8-5/8" Casing - Set 1900' of 24#, J-55
Salt Protection Casing Cemented to the surface.
Pressure tested to 1000 psi.
- 5-1/2" Casing - Set 3200' of 14#, K-55, Production Casing
Cemented to tie back to 8-5/8" Casing.
Pressure tested to 1000 psi.

5. PRESSURE CONTROL EQUIPMENT: Install a 2M, Series 600, Type "E" Shaffer Double Hydraulic BOP on the 8-5/8" Intermediate casing prior to drilling out cement. EXHIBIT D is a diagrammatic sketch of the BOP equipment.

6. CIRCULATING MEDIUM: Drill with fresh water mud from surface to setting depth of surface casing. Drill remainder of hole with brine water, using additives to control water loss, viscosity and mud weight.
7. AUXILIARY EQUIPMENT: Equipment will include a full-opening safety valve, to fit the drill string in use, on the rig floor during drilling operations.
8. TESTING, LOGGING AND CORING PROGRAM:
 - Samples: Samples will be caught at 10' intervals from below the surface casing to total depth.
 - DST and Cores: None anticipated
 - Logging: Density-Neutron Log
Gamma Ray-Neutron Log
DLL Log
9. ABNORMAL PRESSURES, TEMPERATURES OR HYDROGEN SULFIDE:

No abnormal pressures or temperatures anticipated.
Sufficient material will be kept on location to handle anticipated pressures.
10. ANTICIPATED STARTING DATE: Drilling will commence upon Federal approval. Drilling and completion will require about 30 days.

PERTINENT INFORMATION

For

GREAT WESTERN DRILLING COMPANY
No. 4 Mabel Hale Federal
NWNW Sec. 11-19S-30E
Eddy County, N.M.

LOCATED: 24 air miles northeast
of Carlsbad, New Mexico

FEDERAL LEASE NUMBER: NM-0560353

LEASE ISSUED: February 25, 1920 - HBP

ACRES IN LEASE: 2160.32 Ac.

RECORD LESSEE: Crescent Porter Hale Foundation

BOND COVERAGE: Operators \$150,000 Nationwide Bond

AUTHORITY TO OPERATE: Operating Agreement

SURFACE OWNERSHIP: Public

GRAZING PERMITTEE: Danny Bennett, Allot. No. 7012
Carlsbad, New Mexico 88220

POOL RULES: General Oil Rules - 40 Ac. Spacing
Potash Area

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.4 Mabel Hale Federal
NWNW Sec.11-19S-30E
Eddy County, N.M.

NM-0560353

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 29 air miles southeast of Artesia, New Mexico.
- B. Directions: Go east from Artesia, New Mexico on U.S. 82 a distance of 14 miles. Go south and southeast on NM 360 a distance of 14 miles to a lease road just north of the Amax Mine. Go northeast 1.5 mile to lease road. Turn southeast and go 0.5 mile on lease road to location.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The well pad is adjacent to the existing lease road.
- B. Surfacing Material: If necessary, road and well pad will be surfaced with 6" of caliche.
- C. Maximum Grade: Less than 1%
- D. Turnouts: No traffic turnouts are necessary.
- E. Drainage Design: The road will be maintained with a 6" crown and appropriate water turnouts to provide proper drainage.

F. Culverts: None necessary

G. Cuts and Fills: Construction of the drill pad will require about 1' of cut on the northeast side and 1' of fill on the southwest side.

H. Gates, Cattleguards: None necessary

3. LOCATION OF EXISTING WELLS:

A. See EXHIBIT B.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. No existing facilities

B. Temporary production and storage facilities will be located on the well pad. An application for permanent flow lines will be filed at a later date, if the well is commercial.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. Water for drilling and completion will be obtained from a commercial source and trucked over existing roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche for surfacing the road and pad will be obtained from a Federal pit located in the SENE Sec.8-19S-30E. This pit has had Archaeological clearance.

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/or completion operations.

8. ANCILLARY FACILITIES:

A. None required

9. WELL SITE LAYOUT:

A. The wellsite, surrounded by a 400' X 400' area, has been surveyed and flagged.

B. Dimensions and relative location of the drill pad and pit 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 wellsite is essentially flat. The project area drains to the southwest.

B. Soil: The surface soil is loamy sand with caliche and chert inclusions.

C. Flora and Fauna: Vegetation consists of mesquite, grease-wood and various weeds and grasses. Ground cover is about 5%. Wildlife in the area is that typical of semi-arid desert land, such as rodents, reptiles and small birds.

D. Ponds or Streams: None

E. Residences and Other Structures: The Amax Chemical Corporation potash mine and refinery are located about 1.5 miles to the west.

F. Archaeological, Historical and Other Cultural Sites:
A review by Archaeology Survey Consultants, of Roswell, N.M., determined that no cultural resources will be disturbed by this operation.

G. Land Use: The surface is used for cattle grazing.

H. Surface Ownership: The drillsite and access road are on Federal surface. The grazing lessee is Danny Bennett, P.O. Box 3182, Carlsbad, New Mexico 88221.

12. OPERATOR'S REPRESENTATIVE:

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

Mr. Kenneth W. Smith, Division Supt.
P.O. Box 515
Lovington, New Mexico 88260
Phone 505-396-5538

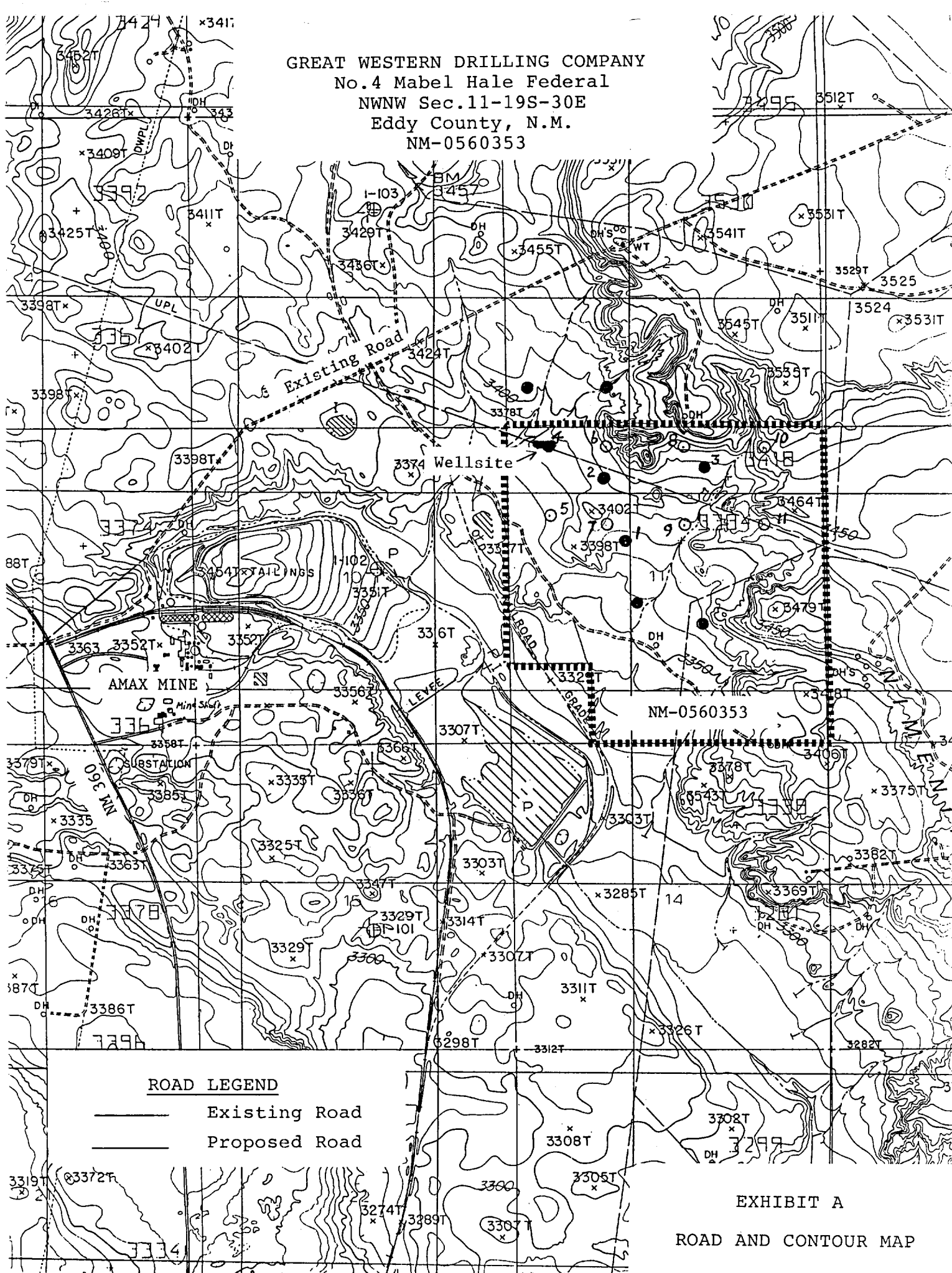
13. CERTIFICATION:

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.

June 5, 1991
Date:


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

GREAT WESTERN DRILLING COMPANY
No.4 Mabel Hale Federal
NWNW Sec.11-19S-30E
Eddy County, N.M.
NM-0560353

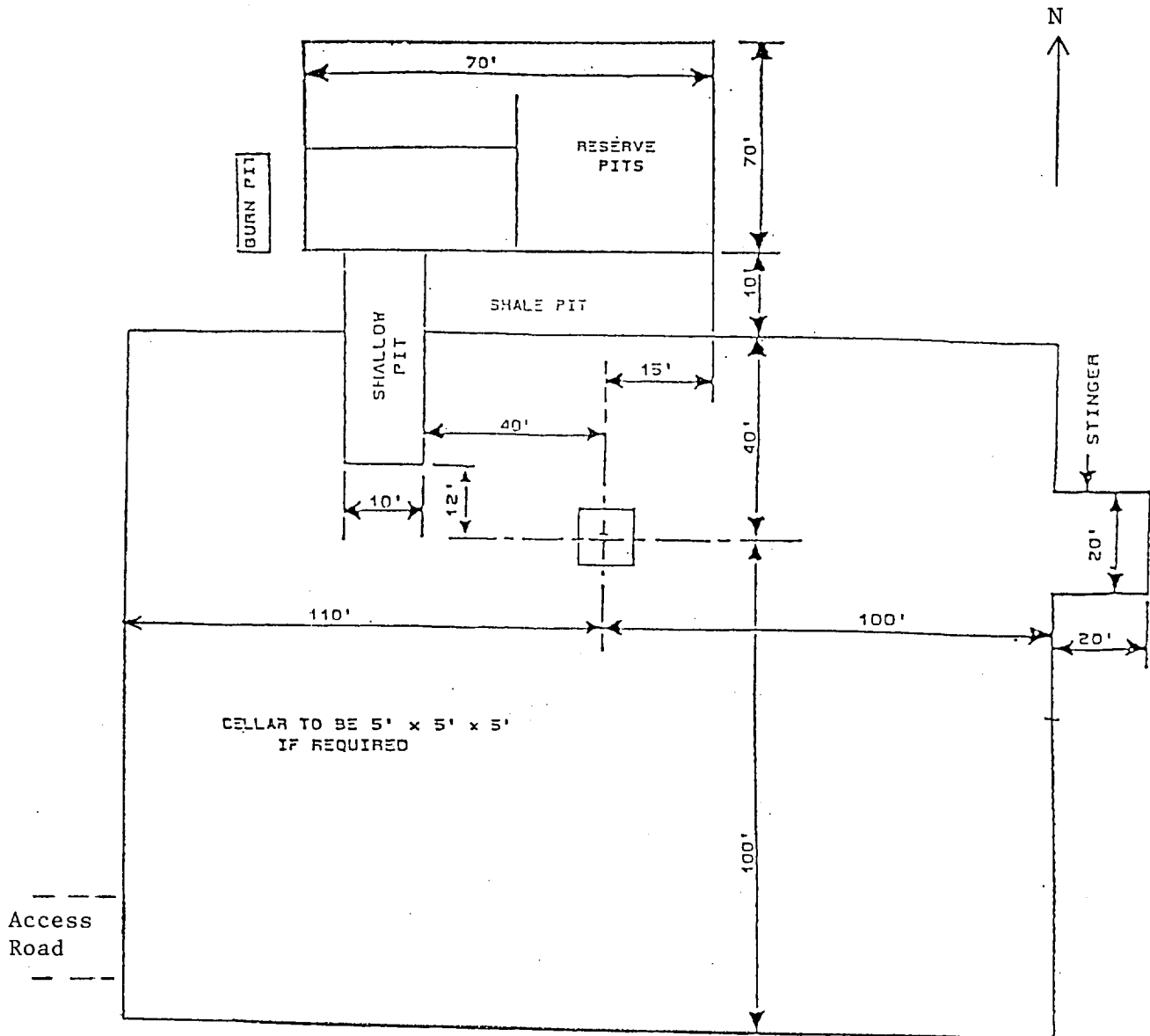


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EXHIBIT B
LEASE AND WELL MAP

GREAT WESTERN DRILLING COMPANY
No.4 Mabel Hale Federal
NWNW Sec.11-19S-30E
Eddy County, N.M.

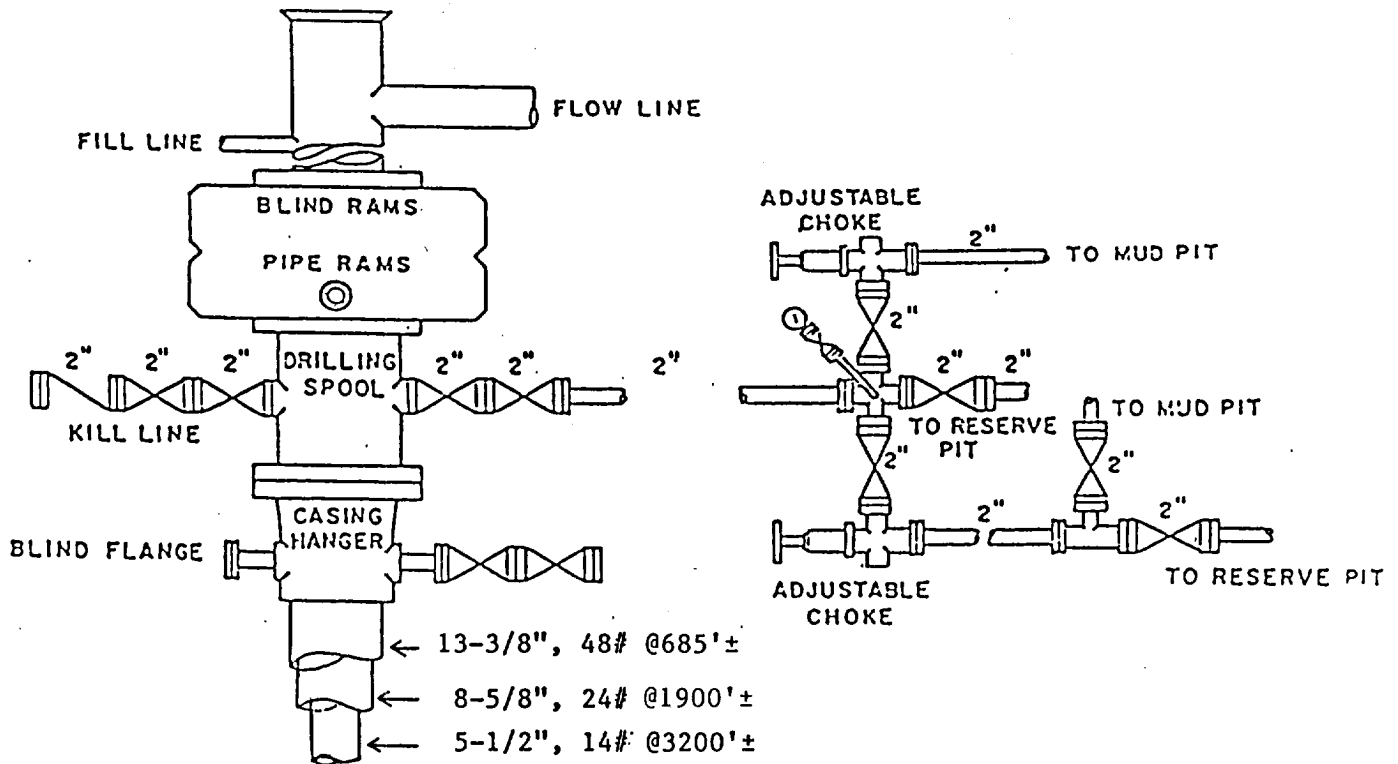
NM-0560353



DRILLPAD LAYOUT

GREAT WESTERN DRILLING COMPANY
 No.4 Mabel Hale Federal
 NWNW Sec.11-19S-30E
 Eddy County, N.M.

NM-0560353



BOP DIAGRAM

2000# Working Pressure
 Rams Operated Daily



JERRY W. LONG
CONSULTANT

CERTIFIED MAIL

June 5, 1991

AMAX CHEMICAL CORPORATION
P.O. Box 279
Carlsbad, New Mexico 88220

Attn: Mr. R.F. Kirby

Re: GREAT WESTERN DRILLING COMPANY
Mabel Hale Shallow Oil Development
N/2 Sec.11, T.19S., R.30E.
Eddy County, New Mexico

Gentlemen:

In compliance with NMOCD Order No. R-111-P, you are hereby notified that Great Western Drilling Company proposes to develop the N/2 Sec.11, T.19S., R.30E., for shallow oil formations above the base of the Delaware Mountain Group by drilling wells to about 3200', at the following locations:

Sec.11, T.19S., R.30E.

No.4 Mabel Hale Federal	-	330'FNL, 860'FWL
No.5 Mabel Hale Federal	-	1500'FNL, 660'FWL
No.6 Mabel Hale Federal	-	430'FNL, 1650'FWL
No.7 Mabel Hale Federal	-	1650'FNL, 1750'FWL
No.8 Mabel Hale Federal	-	430'FNL, 2310'FEL
No.9 Mabel Hale Federal	-	1650'FNL, 2310'FEL
No.10 Mabel Hale Federal	-	330'FNL, 760'FEL
No.11 Mabel Hale Federal	-	1340'FNL, 1300'FEL

If you are in agreement to the above, please indicate your acceptance in the space provided below. Return one signed copy to me at the letterhead address.

Thank you for your prompt attention to this matter.

Sincerely yours,

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

JWL/bl1

AGREED TO AND ACCEPTED THIS _____ DAY OF _____, 1991.

AMAX CHEMICAL CORPORATION

By _____

Title: _____