

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

C/SF
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
QUANAH PETROLEUM, INC.

3. ADDRESS OF OPERATOR
4835 LBJ Freeway, Suite 525, Dallas, Texas 75234

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface 660' FNL and 660' FWL
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
13 miles SW of Malaga

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 660'

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

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
3171.0 GL

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
14-3/4"	11-3/4	as available	500'	200 sx Class C
11	8-5/8	24#	1650'	100 sx Light 200 sx Class C
7-7/8	4-1/2	11.6#	9350'	240 sx Light 150 sx Class H

Please see the following attachments:

1. Surveyors plat.
2. Multi-purpose surface use and operations plan and maps.
3. 10 point drilling program.
4. B.O.P. schematic.
5. Archaeological survey.
6. Designation of Operators.

RECEIVED
SEP 22 1981

OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

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	TITLE Vice President Operations	DATE
(This space for Federal or State office use)		
PERMIT NO.	APPROVAL DATE	
APPROVED BY	TITLE	DATE
CONDITIONS OF APPROVAL, IF ANY:		

APPROVED
(9% Sgd.) GEORGE H. STEWART
OCT 8 1981
JAMES A. CHILHAM
DISTRICT SUPERVISOR

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form No. 1
Supersedes C-128
Effective 1-1-55

All distances must be from the outer boundaries of the Section

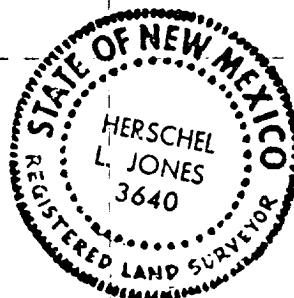
Operator QUANAH PETROLEUM, INC.		Lease Hay Federal-A		Well No. 1	
Section 11	Township 26 South	Range 27 East	County Eddy		
Well Location of Wells: 660 feet from the North line and 660 feet from the West line					
Ground Level Elev. 3171.0	Producing Formation Wolfcamp	Pool Wildcat	Dedicated Acreage 40		

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?

☐ 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.

Walter P. Oliver

Name

WALTER P. OLIVER

Position

VICE-PRESIDENT OPERATIONS

Company

QUANAH PETROLEUM, INC.

Date

7-10-55

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

August 17, 1954

Registered Professional Land Surveyor

Certificate No.

3640

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

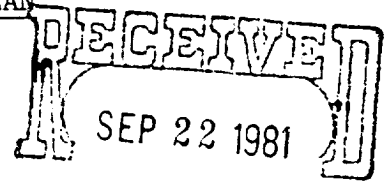
MULTI-POINT SURFACE USE AND OPERATIONS PLAN

QUANAH PETROLEUM, INC.

WELL NAME: NO. 1 HAY FEDERAL A

660' FWL 660' FNL Sec. 13, T26S-R27E

Lea County, New Mexico



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 topo map showing all existing roads within a one-mile radius of the wellsite and the planned access road.
- B. Only minor repairs will be made on existing roads.

2. PLANNED ACCESS ROADS:

- A. Length and Width: New road required will be 12 feet wide and 8400 feet long. This new road is labeled and color coded red on Exhibit "A". The center line of the proposed new road from the beginning to the wellsite has been staked and flagged with the stakes being visible from any one to the next.
- B. Surfacing Material: Six inches of caliche, water, compacted and graded.
- C. Maximum Grade: 3 percent.
- D. Turnouts: None required.
- E. Drainage Design: New road will have a drop of 6 inches from center line on each side.
- F. Culverts: None required.
- G. Cuts and Fills: None required.
- H. Gates, Cattleguards: No gates or cattleguards are required.

3. LOCATION OF EXISTING WELLS:

A. Existing wells within a one-mile radius are shown on Exhibit "B".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. There are no existing tank batteries on the lease.

B. If the well is productive, the tank battery and flow line will be located on the well pad and no additional surface disturbance will occur.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. Water for drilling will be purchased and trucked to location.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche for surfacing the road and the well location will be furnished from an existing pit in the NW/4 of SE/4, Section 9, T26S, R27E. The pit is on land owned by U.S.A., who is also the owner of the surface location.

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 pits are dry.

C. Water produced during tests will be disposed of in the drilling pits. Oil produced during tests 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 dirt. All waste material will be contained to prevent scattering by the wind. Location of trash pits is shown on Exhibit "C". (Alternate - all trash, junk and other waste material will be contained to prevent scattering and will be removed and deposited in an approved sanitary landfill.)

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. WELLSITE LAYOUT:

- A. Exhibit "C" shows the relative location and dimensions of the well pad, mud pits, reserve pit, trash pit and location of major rig components.
- B. Only minor leveling of the wellsite will be required. No significant cuts and fills will be necessary.
- C. The reserve pit will be plastic lined.
- D. The pad and pit area has been staked and flagged.

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 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 of the well, surface restoration will be in accordance with the agreement with the surface owner. Pits will be filled and location will be cleaned. The pit area, well pad, and all unneeded access road will be ripped to promote vegetation.
 - Rehabilitation should be accomplished within 90 days after abandonment.

11. OTHER INFORMATION:

- A. Topography: Land surface is flat with minor slope.
- B. Soil: Soil is a deep fine sand underlain by caliche.
- C. Flora and Fauna: The vegetation cover is generally sparse and consists of mesquite, yucca, sandsage and native range grasses. Wildlife in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove, quail and an occasional antelope.
- D. Ponds and Streams: There are no rivers, streams, lakes or ponds in the area.
- E. Residences and Other Structures: There are no occupied dwellings on the lease.
- F. Archaeological, Historical and Cultural Sites: None observed in the area.
- G. Land Use: Grazing and hunting in season.
- H. Surface Ownership: Wellsite is on surface owned by U.S.A. Approximately 8400 feet of the new road will be required.

12. OPERATOR'S REPRESENTATIVE:

The field representative responsible for assuring compliance with the approved surface use and operations plan is as follows:

Walter P. Oliver
4835 LBJ Freeway, Suite 525
Dallas, Texas 75234

Office Phone: (214) 386-7354
Home Phone: (214) 368-8220

13. CERTIFICATION:

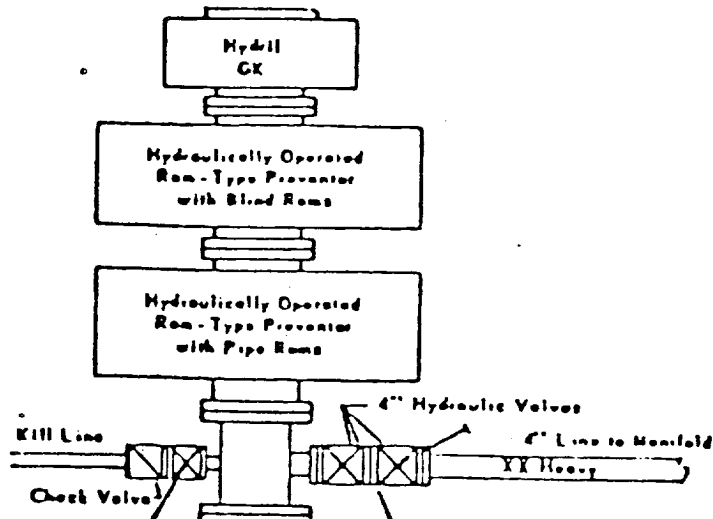
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge true and correct; and, that the work associated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

Date

Walter P. Oliver
QUANAH PETROLEUM, INC.
Vice President Operations

BOP SCHEMATIC

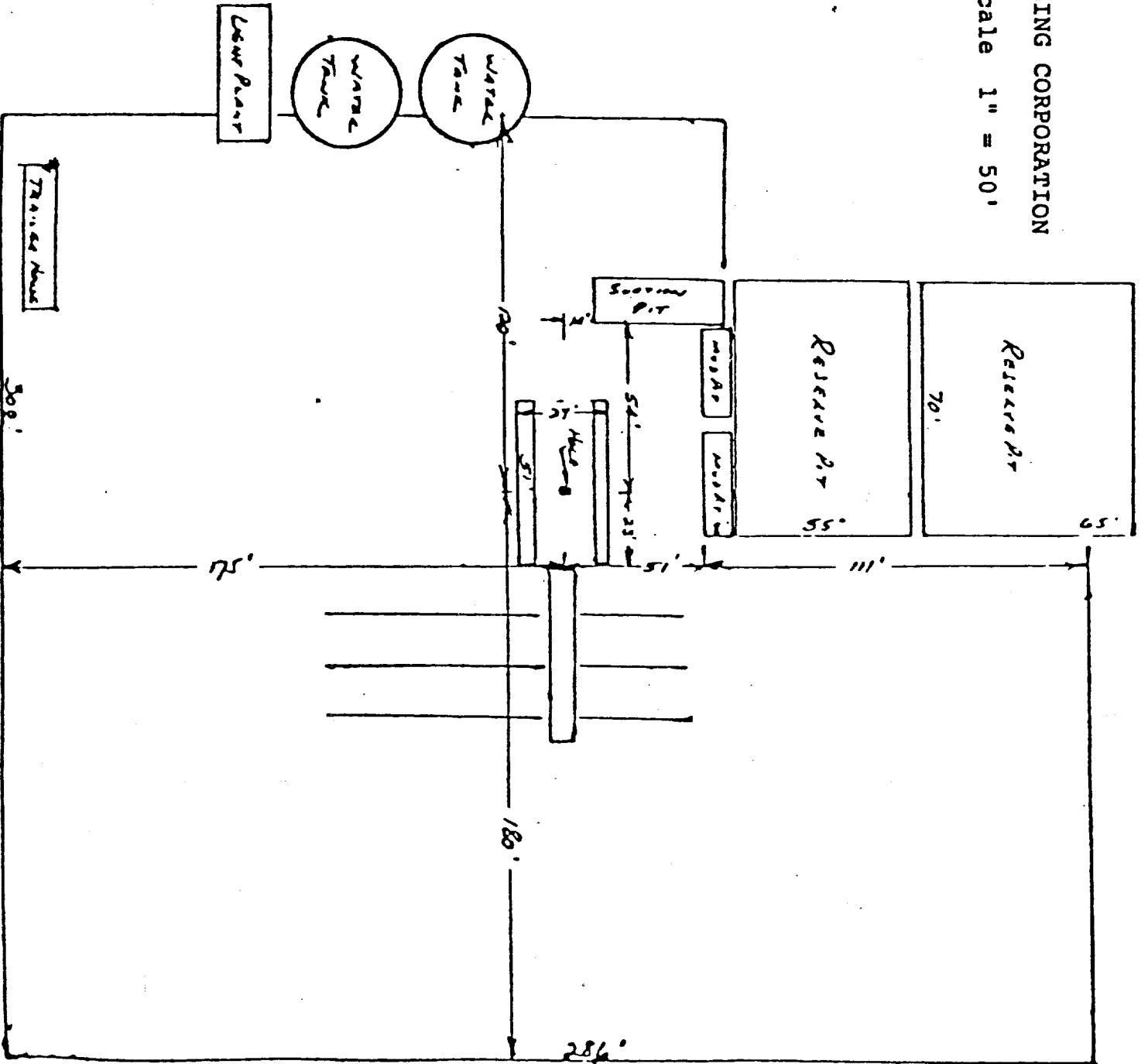
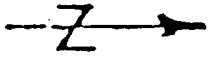
QUANAH PETROLEUM, INC.
HAY FEDERAL "A" NO. 1
SEC. 13 - T26S - R27E
EDDY COUNTY, NEW MEXICO



All preventers are rated 3000 psi
working pressure.

CACTUS DRILLING CORPORATION

Approx Scale 1" = 50'



Use Mercator grid ticks.

VEV

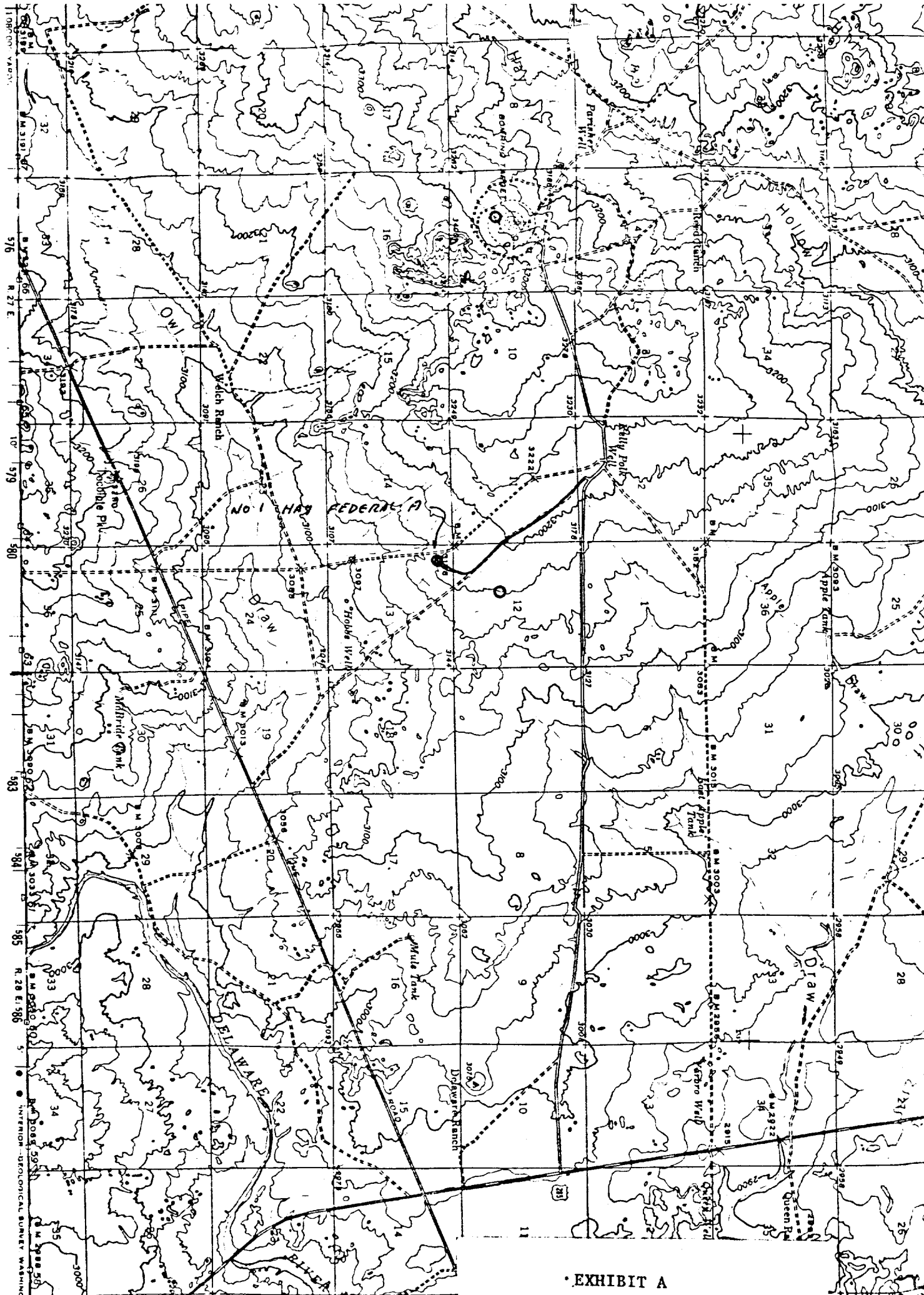
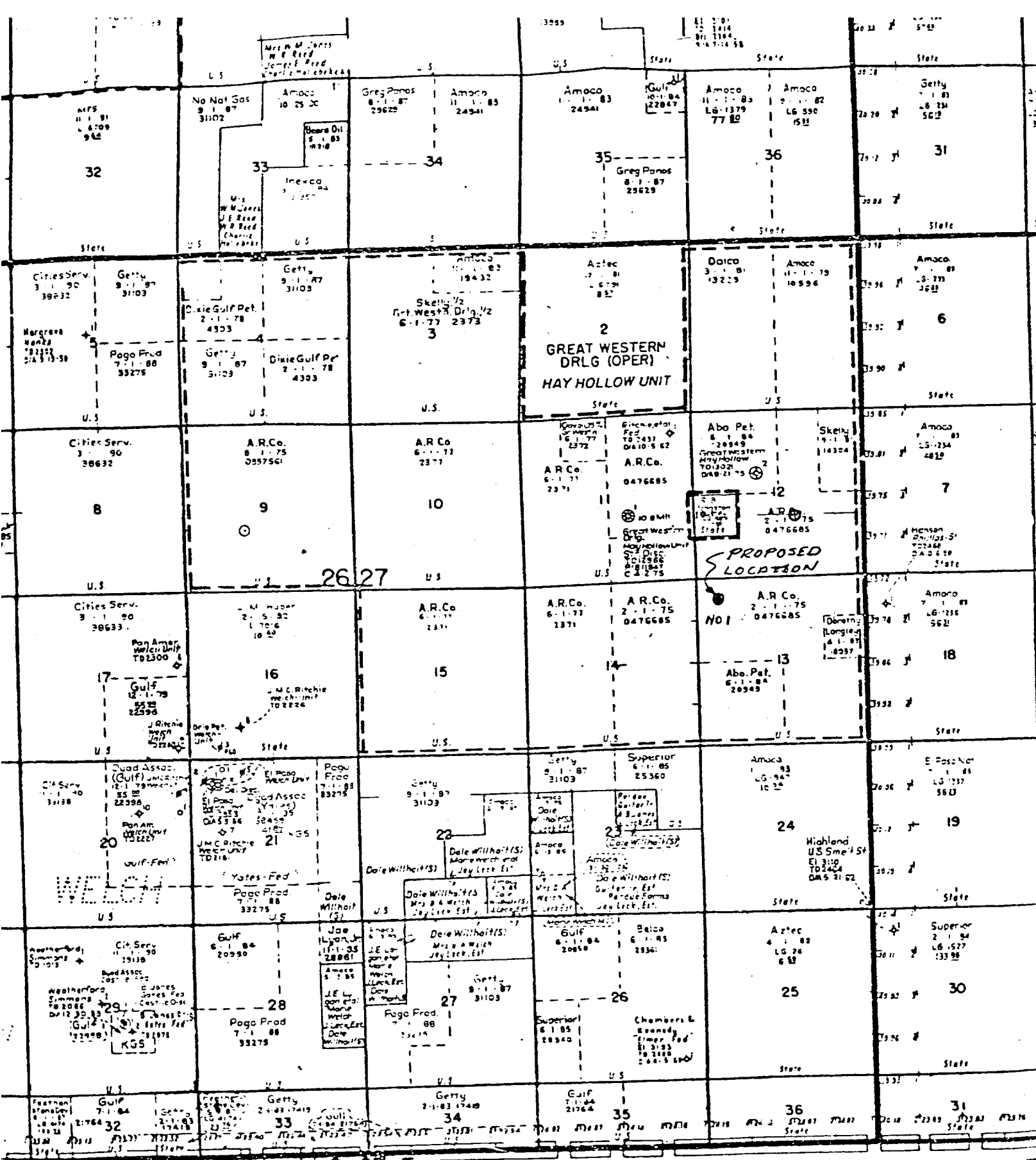


EXHIBIT A



R-27-E

EXHIBIT B

Quanah Petroleum, Inc.
Well No. 1 Hay Federal "A"
660' FNL & 660' FWL
Sec 13 - T26S - R27E
Eddy County, New Mexico

QUANAH PETROLEUM, INC.

DRILLING OPERATIONS PLAN

HAY FEDERAL A WELL NO. 1

SECTION 13, T26S, R27E

660' FNL and 660' FWL

ELEVATION: 3171.0 G.L.

LEA COUNTY, NEW MEXICO

1. Geologic Name of Surface: Castile

Salt	1300	Brushy Canyon	4390
Salt (Base)	1870	Bone Spring	6065
Delaware Lime	2315	Third Bone Spring	8755
Delaware Sand	2370	Wolfcamp Shale	9090
Cherry Canyon	3210		

2. Estimated Tops of Important Geologic Markers.

Salt	1300	Brushy Canyon	4390
Salt (Base)	1870	Bone Spring	6065
Delaware Lime	2315	Third Bone Spring	8755
Delaware Sand	2370	Wolfcamp Shale	9090
Cherry Canyon	3210		

3. Estimated Tops of Anticipated Water, Oil, Gas or other Mineral Bearing Formations.

Delaware Sand	2370 (oil)	Bone Spring	6065 (oil)
Cherry Canyon	3210 (oil)	Third Bone Spring Sand	8755 (oil)
Brushy Canyon	4390 (oil)	Wolfcamp Shale	9090 (oil)

4a. The Proposed Casing Program.

<u>Hole Size</u>	<u>Casing O.D.</u>	<u>Grade</u>	<u>Weight</u>	<u>Setting Depth</u>	<u>New or Used</u>
14-3/4"	11-3/4"	As available		500'	New
11"	8-5/8"	K-55	24#	2400'	New
7-7/8"	4-1/2"	K-55	11.6#	1000'	New
7-7/8"	4-1/2"	K-55	10.5#	6200'	New
7-7/8"	4-1/2"	K-55	11.6#	8500'	New

4b. Cementing Program, Including Types, Amounts and Additives.

The 11-3/4" casing will be cemented to surface with 200 sacks of Class C cement with 2% CaCl₂ - W.O.C. time, 8 hours.

The 8-5/8" casing will be cemented to surface with approximately 650 sacks of Class C cement with 4% gel, 1/4 lb/bbl. floccle and 2% CaCl₂, tailed by 200 C with 2% CaCl₂ - W.O.C. time, 12 hours.

The 4-1/2" production casing will be cemented with 450 sacks 50/50 Poz-Mix H with 10% salt, tailed with 200 sacks Class H.

The 8 5/8" casing will be cemented to surface with approximately 650 sacks of Class "C" cement with 4% gel, 1/4 lb/bbl. floccle and 2% Ca Cl₂, tailed by 200 "C" with 2% Ca Cl₂ - W.O.C. time, 12 hours.

The 4 1/2" production casing will be cemented with 450 sacks 50/50 Pox-Mix "H" with 10% salt, tailed w/200 sx Class H.

5. B.O.P. Specifications and Testing (See attached Schematic for size and pressure rating.)

One annular BOP (Hydril) and dual ram type BOP with pipe rams and blind rams. All equipment to have a 3,000 # or better working pressure. The accumulator to close and open all components of the BOP stack without operating pump. Blind and pipe rams will be tested to 3000 psi and the annular preventer to 1500 psi before drilling out.

6. Mud Program.

Run a low solids, non-dispersed mud utilizing lime to flocculate gel.

As long as possible, mix sweeps 4-6 hours before pumping.

Utilize a desander to control weight and minimize water used and cut mud costs.

Do Not add oil, diesel, Soltex or Bentonite extenders to mud.

Do Not mix mud additives for water loss control.

Most of all, exercise prudent judgment on materials added, i.e., if you don't need it, don't add it.

For lost circulation: DO NOT pre-treat with LCM for circulation loss. In the event we do lose circulation, utilize the information available to you to decide your plan of action.

Mud weights will not exceed 10.0 ppg and will be less if water conditions will permit.

Materials planned for use in mud system are gel, caustic soda, lime and soda ash. Dick's mud seal and cottenseed hulls shall be used to control any possible lost circulation.

7a. Type of Drilling Tools and Auxiliary Equipment.

A drilling rate recorder, calibrated to record drilling time for each one foot interval will be used.

A kelly cock will be used, a TIW safety valve and inside BOP will be available on the rig floor. A float valve will be used at the bit.

The mud system will be monitored by use of manually placed floats and markers.

7b. Deviation Control.

Deviation will be monitored by wireline surveys, every 500' on surface hole and on bit trips thereafter. A maximum dogleg severity of $1\frac{1}{2}^{\circ}$ per hundred feet will be maintained with a maximum of 7° at total depth.

8. Sample, Logging, Testing and Coring Program.

Drill cutting samples will be taken every 10 feet from 3500' to total depth.

A guard foroxo and a density neutron log will be run from the base of the surface casing to total depth.

Drill stem tests and cores will be at the discretion of the wellsite geologist. Possible DST's may be run in the San Andres and ABO formations.

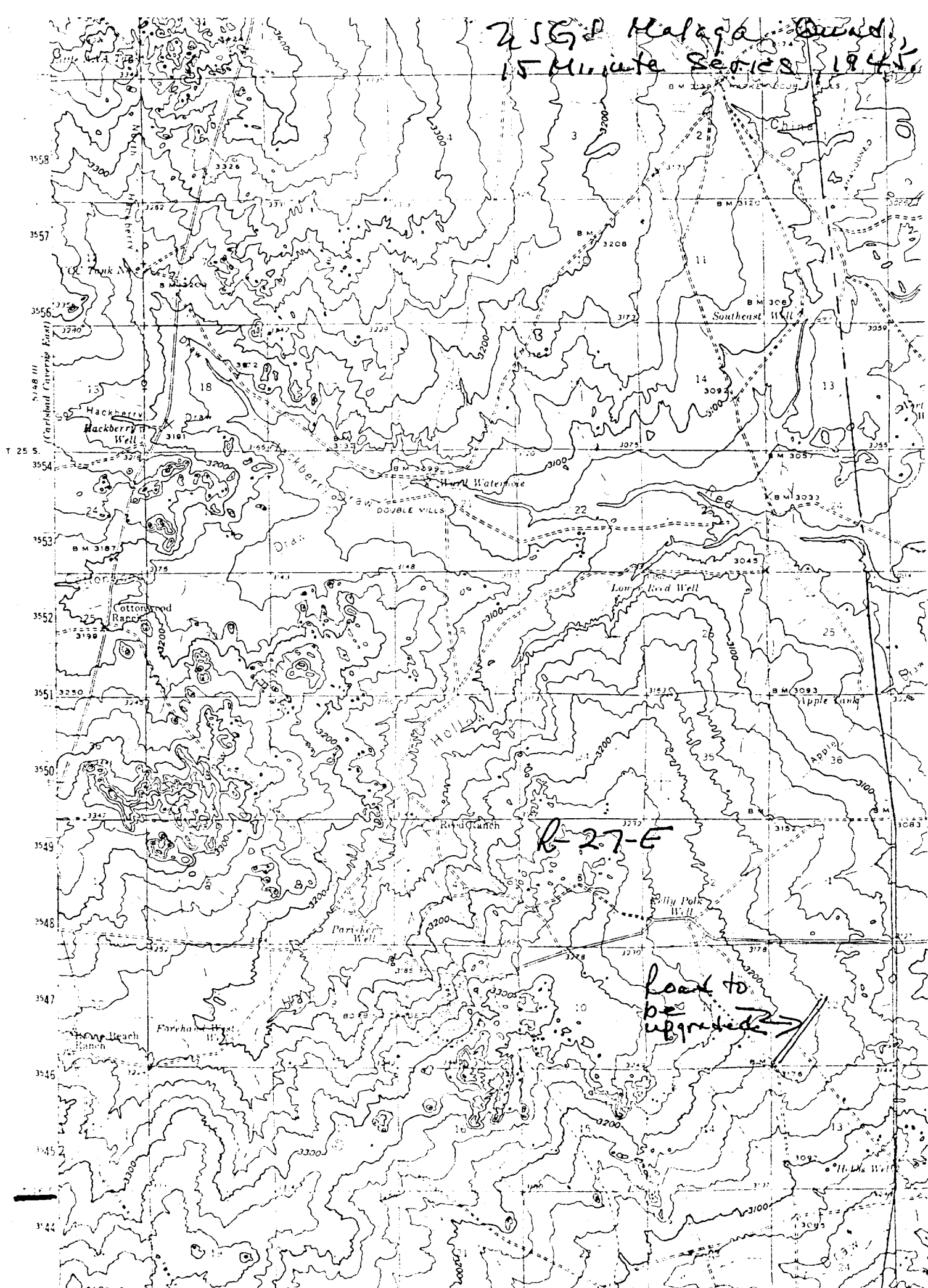
9. Anticipated Abnormal Pressure and Other Problems.

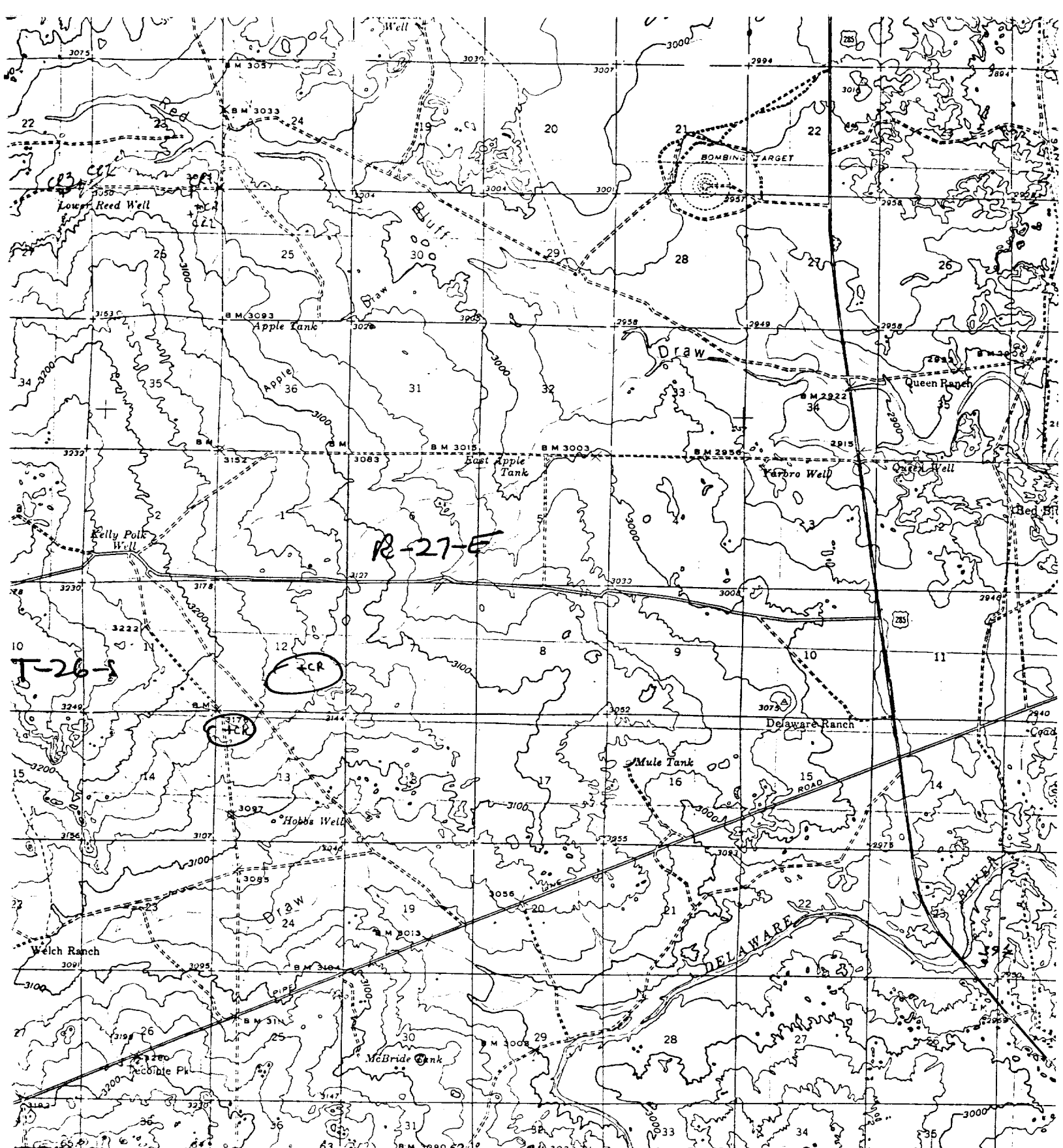
Normal pressure gradients are expected and no hydrogen sulfide or other potential hazards are expected.

10. Anticipated Starting Date and Duration.

The anticipated starting date, pending approval, will be November 1, 1981 due to rig availability. The duration will be approximately four weeks.

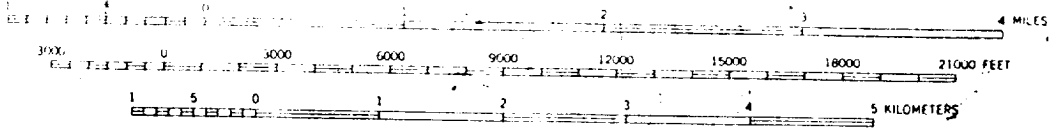
256 Malaga Bend
15 Minute Series, 1945





2665 Malaga Quad.
15 Minute Series, 1945.

SCALE 1:62,500



CONTOUR INTERVAL 25 FEET
DATUM IS MEAN SEA LEVEL

Interior-Geological Survey Washington D. C. 1:50,000

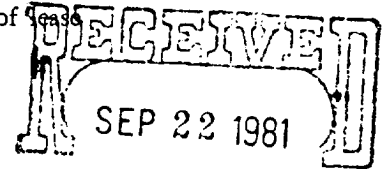
Road Classification 1945	
Designable hard-surface	Dry weather roads
Mainly duty road	Loose surface, graded
Secondary hard-surface	Unsurfaced, graded
all weather road	Dirt road

More than two lanes indicated along road with tick at point of change

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE: Roswell
SERIAL No.: NM-0557561



and hereby designates

NAME: QUANAH PETROLEUM, INC.
ADDRESS: Suite 525, 4835 LBJ Freeway
Dallas, Texas 75234

OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 26 South, Range 27 East, N.M.P.M.
Section 9
Eddy County, New Mexico

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

ATLANTIC RICHFIELD COMPANY

C. S. Cardwell Jr.
(Signature of lessee)

AH
OK

ATTORNEY-IN-FACT

P. O. Box 1610
Midland, Texas 79702

September 14, 1981

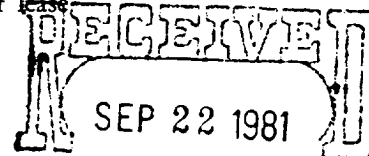
(Date)

(Address)

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE: Roswell
SERIAL No.: NM-0476685 (b)



and hereby designates

NAME: QUANAH PETROLEUM, INC.
ADDRESS: Suite 525, 4835 LBJ Freeway
Dallas, Texas 75234

OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 26, South, Range 27 East, N.M.P.M.
Section 13: NW/4, N/2 NE/4, SW/4 NE/4 and SE/4
Section 12: SE/4, S/2 SW/4, NE/4 SW/4 and W/2 NE/4
Eddy County, New Mexico

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

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ATLANTIC RICHFIELD COMPANY

C. E. Cardwell Jr.
(Signature of lessee)

AH
UK

ATTORNEY-IN-FACT

September 14, 1981

(Date)

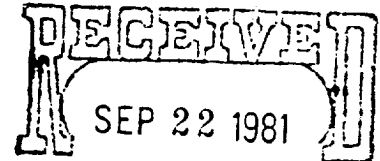
P.O. Box 1610
Midland, Texas 79702

(Address)

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE: Roswell
SERIAL NO. NM0557561



and hereby designates

NAME: QUANAH PETROLEUM, INC.
ADDRESS: Suite 525, 4835 LBJ Freeway
Dallas, Texas 75234

OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 26 South, Range 27 East, N. M. P. M.
Section 9

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

GREAT WESTERN DRILLING COMPANY

By W. J. [Signature]
Land Manager

Date

9-10-81

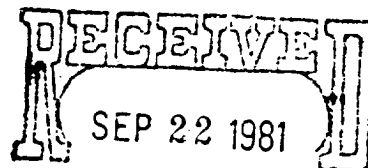
P. O. Box 1659

Midland, Texas 79702
Address

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE: Roswell
SERIAL NO. NM-0476685 (b)



and hereby designates

NAME: QUANAH PETROLEUM, INC.
ADDRESS: Suite 525, 4835 LBJ Freeway
Dallas, Texas 75234

OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWEEL, NEW MEXICO

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 26 South, Range 27 East, N. M. P. M.
Section 13: NW, N/2 NE/4, SW/4 NE/4 and SE/4
Section 12: SE/4, S/2 SW/4, NE/4 SW/4 and W/2 NE/4

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

GREAT WESTERN DRILLING COMPANY

By


Land Manager

9-10-81
Date

P. O. Box 1659

Midland, Texas 79702
Address