Magcobar
DRILLING FLUID SERVICES
OILFIELD PRODUCTS DIVISION
Dresser Industries, Inc.

SUGGESTED MUD PROGRAM

December 9, 1975

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U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

Mr. Lynn Jones
American Quasar Petroleum Company
606 Vaughn Building
Midland, Texas 79701

Dear Mr. Jones:

The following is a suggested drilling fluid and casing program with estimated mud cost for your Eddy County Prospect to be drilled in Section 6, T-18-S, R-31-E, Eddy County, New Mexico.

SURFACE: 720' of 13 3/8"

Suggest spudding with a fresh water, Magcogel and Lime type drilling fluid with a 40 to 60 sec/1000 cc viscosity and pretreating the system with loss circulation material.

COMMENT:

1. There is a possibility you may encounter loss circulation while drilling surface hole. If loss circulation occurs and one pit of mud loaded with loss circulation material does not restore circulation, suggest dry drilling to casing point and run casing.

INTERMEDIATE: 4,200' of 8 5/8"

Suggest drilling out from under surface with brine water (10.0 lbs/gal.), using Lime for pH control (10 to 11 pH).

This type drilling fluid should be sufficient to drill to 4,200'.

Prior to running 8 5/8" casing, suggest circulating a 100 barrel Visquik, Salt Gel sweep through hole.

COMMENTS:

1. The majority of the operators in this area drill out below surface with fresh water, letting the system saturate from drilled native salt section.

MAG 2774 ... THE TERMS AND CONDITIONS AS SET FORTH ON THE REVERSE SIDE

2. There is a possibility you may encounter a seepage to complete loss circulation. Normally a few sacks of Dicks Mud Seal added to the drilling fluid system is sufficient to control seepage.

   In the event you encounter loss circulation and one pit of mud loaded with loss circulation material does not restore circulation, suggest dry drilling on to casing point, pump a Visquik sweep through hole and run 8 5/8" casing.

3. Suggest circulating a portion of the reserve pit while drilling with brine water, returning to steel pits in the event mudding up becomes necessary.

4. For corrosion protection: see CORROSION SECTION.

PRODUCTION: 11,800' of 5 1/2"

Suggest drilling out with fresh water, using Lime for pH control (10.0 to 11.0 pH).

This type drilling fluid should be sufficient to drill to 9,000'.

COMMENT:

1. There is a good possibility you may encounter a seepage to mild loss circulation while drilling with fresh water down to 9,000'. In the event seepage or loss occurs, suggest slug batching loss circulation material through pump suction as seepage or loss occurs (10 to 25 sacks per batch).

At 9,000' suggest displacing the fresh water system with a 9.8 to 10.0 lbs/gal. brine water system, using Caustic Soda for pH control (10.0 to 11.0 pH).

NOTE: Suggest a 50 barrel slug of loss circulation material (10 to 20 lbs/bbl. L.C.M.) ahead of the brine water system.

This type drilling fluid should be sufficient to drill to 10,800' or prior to top of Morrow Section.

At 10,800' or prior to top of Morrow Section, suggest mudding up with a brine water, Drispac, My-Lo-Jel, Caustic Soda, Soda Ash type drilling fluid with the following characteristics:

Weight:	9.8 to 10.0 lbs/gal.
Viscosity:	30 to 34 sec/1000 cc
Water Loss:	10 cc or less
pH:	8.0 to 9.0

This type drilling fluid should be sufficient to drill to 11,800', with exception of weight and viscosity which may need altering as hole conditions dictate.

COMMENTS:

1. Suggest circulating a portion of the reserve pit, returning to steel pits at mud up depth.

2. There is a possibility the Lower Wolfcamp Section will carry a high pressure, low volume gas. Suggest installing a drilling head, Swaco choke manifold, and gas separator prior to drilling below 9,000'.

3. There is a possibility you may encounter seepage off and on while drilling with the brine water system down to 11,800'. In the event seepage occurs, suggest slug batching loss circulation material through pump suction as seepage occurs (10 to 25 sacks per batch).

GENERAL COMMENTS:

1. The proper use of drilling head equipment, Swaco's gas separator, d-gasser, adjustable chokes, etc. is very important from 9,000' to total depth. All of this equipment is necessary in the drilling of this well.

2. The following Swaco blowout control equipment will aid you in drilling under balance, successfully control gas kicks after trips, detecting gas kick and loss of drilling fluids: mud-gas separator, d-gasser, adjustable or super choke, pit volume totalizer, and flow sensor.

ESTIMATED MUD COST: $12,000.00 to $18,000.00

The above cost is under normal operating conditions and does not include any extensive loss circulation, gas problems, fishing jobs, etc. This cost is also based on a normal drilling rate per day; therefore, any excessive time spent on drilling due to crooked hole, testing, breakdown, etc. would increase mud cost.

I hope the above information will be of benefit to you and if we may be of further service, please do not hesitate to call.

Yours very truly,

MAGCOBAR

R. F. Parker
Tech Service Engineer

RFP:jt