PENROC *Oil Corporation*

P. O. DRAWER 831 · MIDLAND, TEXAS · 79702

Telephone (915) 683-1861

April 27, 1984

Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention Mr. Joe D. Ramey
Director

Re: Angell Ranch No. 1
B-Sec. 33, T19S, R28E
Eddy County, New Mexico

Dear Sir:

This is to request that the captioned well be placed in the "Hardship" classification in order that it will not be completely shut-in during a period of low gas demand.

If in fact the subject well is shut-in or curtailed below its ability to produce, "underground waste" will occurr.

The Angell Ranch No. 1 is in the Winchester-Morrow Gas Pool. It was completed 12/15/76 in the Upper Morrow sands through a series of perforations 10,912'-10,956'. Total depth 11,248'. PBTD 10,972'. Initial Potential - CAOF 3,242 MCFGPD plus 24 barrels condensate and 48 barrels water. Shut-in tubing pressure 2662#. Gas connection to El Paso sales line was 1/24/77.

Attachment I is a production decline curve plotted from date of first sales in January, 1977 through March, 1984. Included above the curve are annual produced volumes of gas. Well performance was good until approximately the middle of 1979 at which time decline of pressure coupled with water volume caused difficulty in maintaining flow. It became necessary to install a compressor in November, 1979 to keep the well on line.

We were asked to cut back on production in early 1982 and it was found that a decrease in daily volume below the fluid moving capacity afforded by formation pressure and compresser caused the well to load and attempt to die. A daily average volume of 450 MCFPD gas was produced during the months of April through July, 1982. This was down considerably from the 710 MCFGPD produced August, 1981 through February, 1982.

Then the well was shut-in by El Paso 9 days in August, all of September, and 24 days in October, 1982. The well was dead and had to be swabbed two days to produce.

Production from November 1982 through May, 1982 averaged only 422 MCFGPD. Then in June, 1983 the Angell Ranch loaded and ceased to produce. This time it was swabbed for four days before "Kicking-off".

That period of June, 1983 through March, 1984 shows a daily average gas production of 357 MCF.

Even though soap sticks have been used to help facilitate flow since late 1979 and this action continues on a twice a week basis, it is readily apparent that each time the well goes down a lower plateau of of daily gas volumes are experienced. If shut-downs are allowed even for short durations it will necessitate costly swabbing expense on top of already high operations costs. However, even more important, the observed lower plateaus of production will occurr more severly and the decline curve will plunge downward more rapidly. This simply means that "underground waste" will be a reflection of reserves that can never be recovered.

It is difficult to keep this well producing at its current rate so it is actually at or near its minimum sustainable producing rate which is approximately 350 MCFPD.

From May, 1980 to present date the amount of water to be moved has increased from .38 barrel/MCF to 1.18 barrel/MCF.

Attachment II is a Well Bore Sketch of the Angell Ranch well showing casing sizes and setting depths, cement amounts and position of cement as well as tubing, packer, perforations, etc. This illustrates a typical completed well situation for the area. No mechanical attempts have been made to alleviate water other than compressor installation.

The Winchester Morrow Gas Pool is non-prorated.

Attachment III is a plat of the area which shows the proration unit attributed to the Angell Ranch well being outlined in orange color and the well itself circled in orange. Lease ownership and other wells also are indicated.

It is requested that the Angell Ranch well be placed in the "Hardship" classification with a minimum sustainable flow rate of 350 MCF

gas per day. It is beleived that action is warrented based on the facts presented and made quite evident by the well performance shown on the decline curve.

Very truly yours,

PENROC OIL CORPORATION

Sterling J. Talley
President

SJT:msr

Attachments

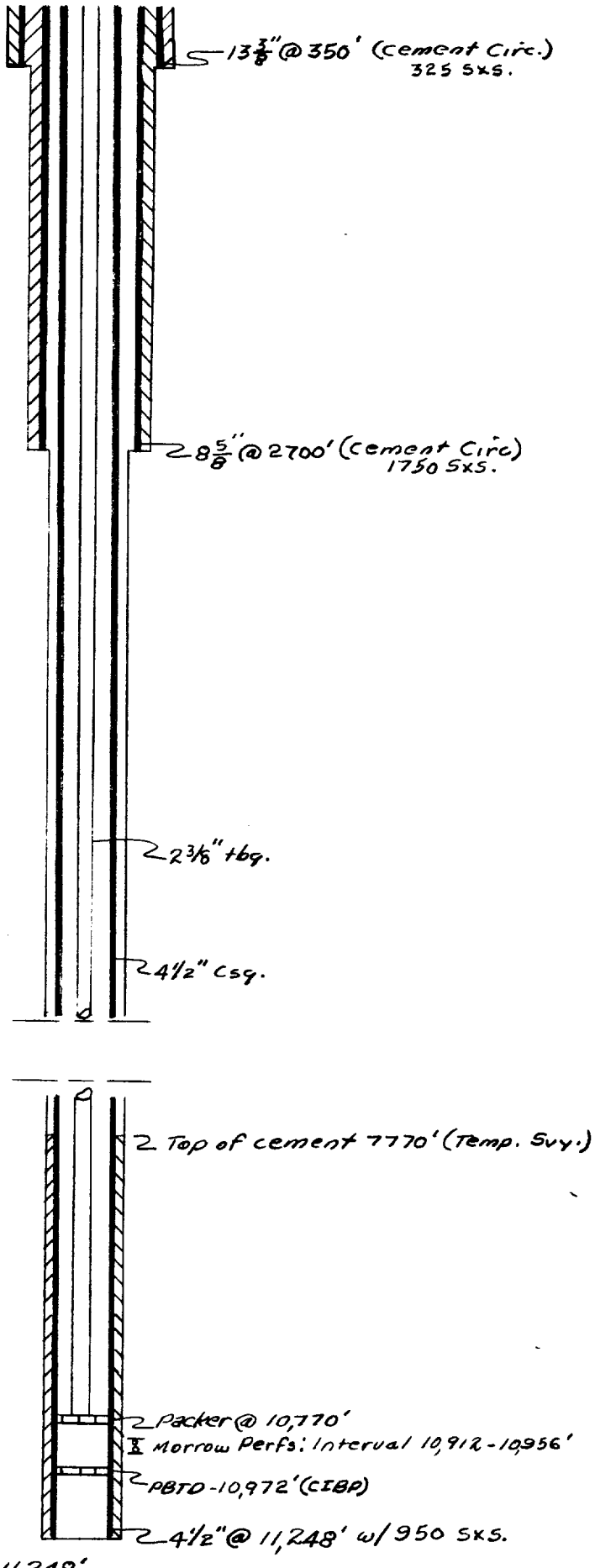
COPY

PENROC OIL CORPORATION

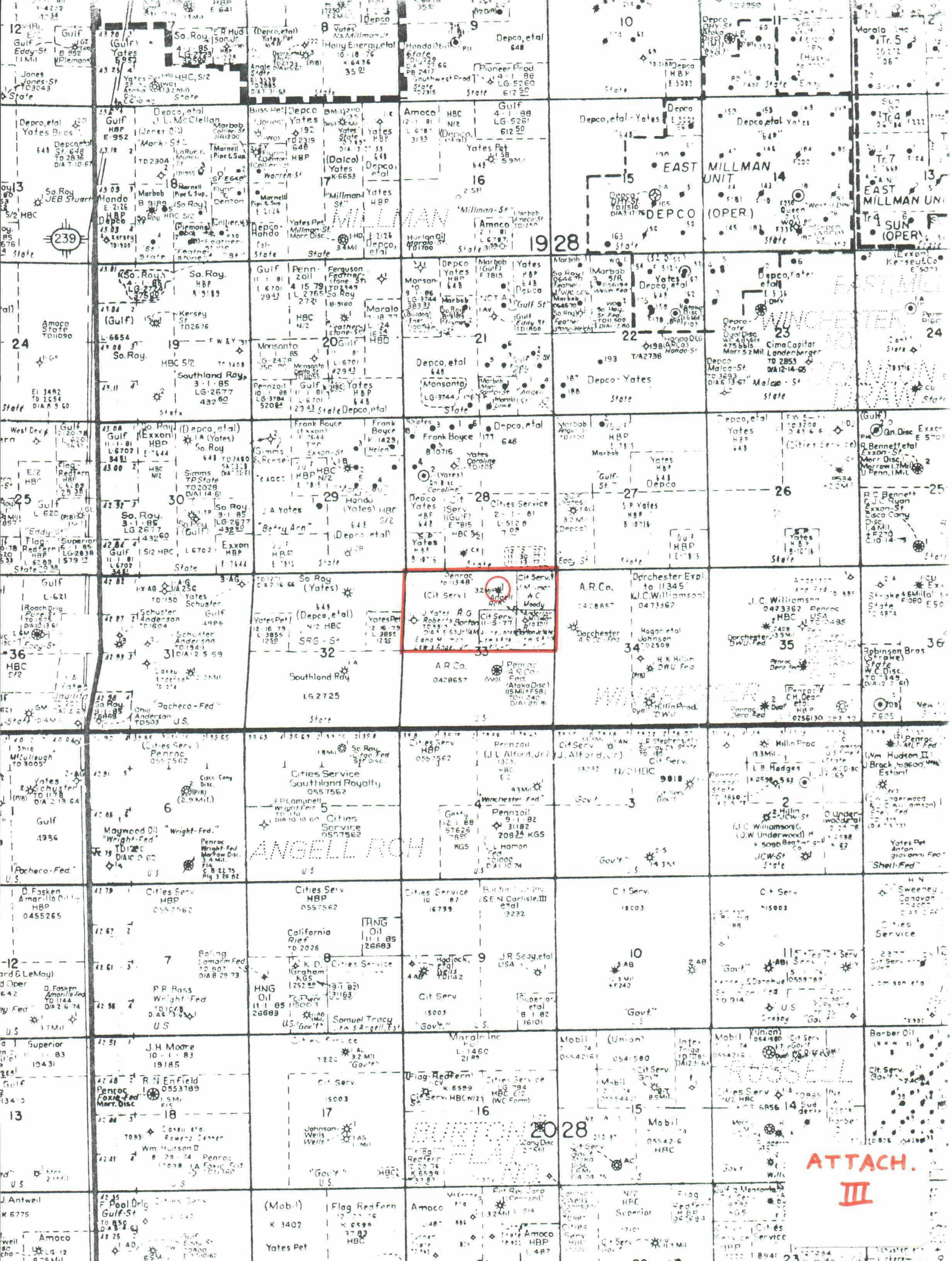
ANGELL RANCH NO. 1

1980' FEL, 660' FNL, 33-19S-28E Lea Co., New Mex.

Well Bore Sketch
(Not to Scale)



ATTACH
II



EAST MILLMAN UNIT
DEPCO (OPER.)
EAST MILLMAN UNIT
SUN (OPER.)
MILLMAN
19 28
Depco, etal - Yates
Depco, etal Yates
Millman St.
Amoco State TD11090
Southland Roy 3 · 1 · 85 LG-2677
Depco, etal 648
Monsanto LG-3744
Depco · Yates State
Cima Capitol Londenberger TD 2853 D/A 12-14-65
Frank Boyce
Depco, etal 648
Cities Service
So. Roy. 3 · 1 · 85 LG 2677
Simms TP State TD2028
Yates Caroline
Robinson Bros. (Strake) State W.C. Disc.
J. C. Williamson
A.R.Co.
Dorchester Expl. to 11345 J.C. Williamson
Southland Roy LG 2725
Cit Serv.
Pacheco - Fed
Schuster Anderson
Cities Service Southland Royalty 0557562
ANGELL RCH
Pennzoil 9 · 1 · 82 31182 KGS
Winchester Fed
Maywood Oil "Wright-Fed."
Pacheco-Fed.
Cities Serv HBP 0557562
California Rief TD 2026
HNG Oil 11 · 1 · 85 26683
Cities Service
Cit. Serv.
Samuel Tracy
J.H. Moore 10 · 1 · 83 19185
R.N. Enfield 0553789
Penroc Foxie-Fed Mort. Disc
Flag-Redfern
Mobil
Cities Serv
Johnson-Wells
20 28
(Mobil) K 3402
Flag Redfern
Amoco
Yates Pet
Superior
J. Antweil K 6775
F. Pool Drlg Gulf-St
Amoco

ATTACH.
III

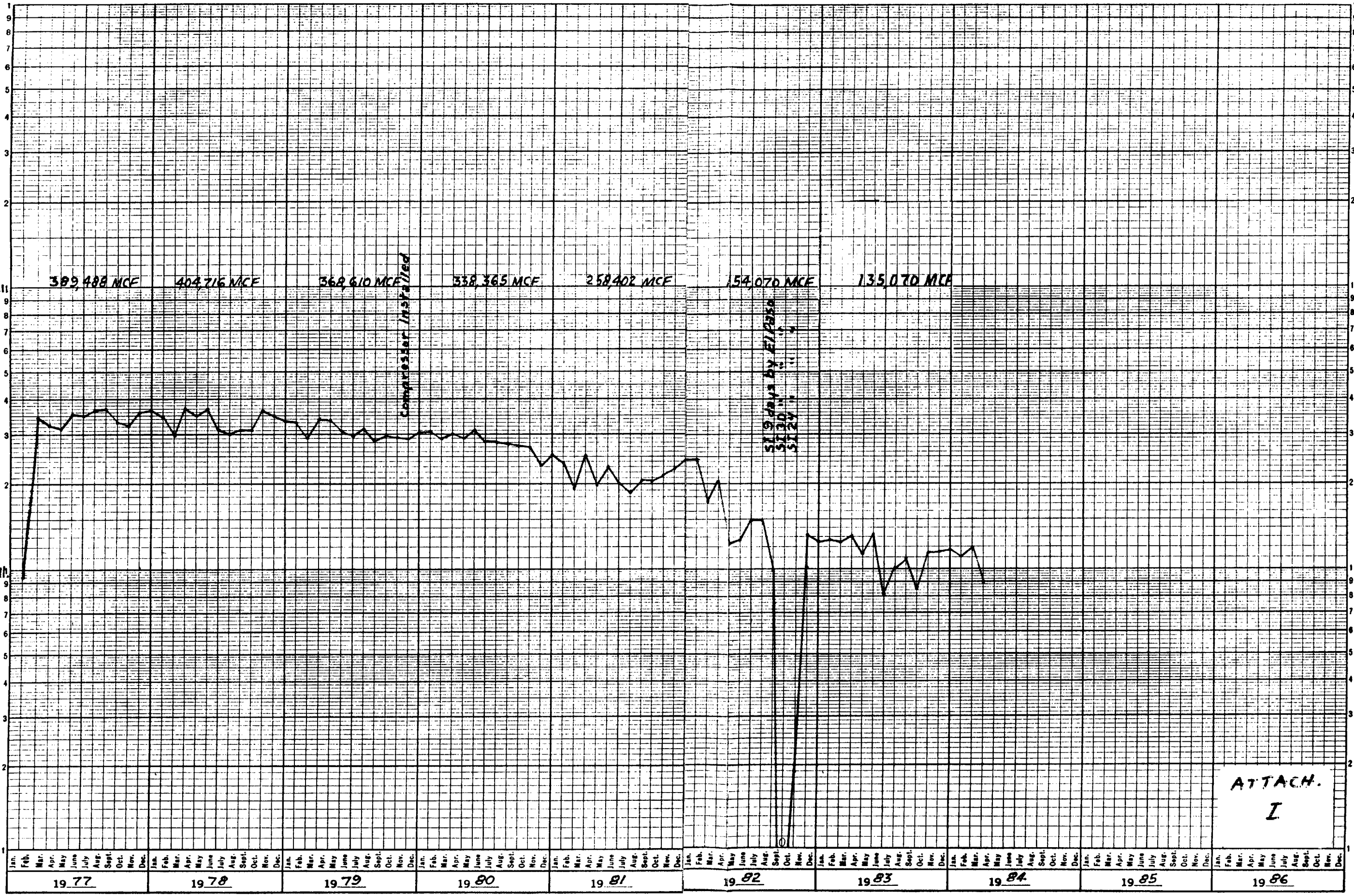
This Attachment IV is to certify that all the information submitted with this application is true and correct to the best of my knowledge.

It is further certified that one copy of this application has been transmitted to the Artesia Division District office and that notice of the application has been transmitted to the transporter/purchaser which in this case is El Paso Natural Gas Company.

Notice has also been provided to offset operators being Cities Service, Gulf, Dorchester, Southland Royalty and Hondo Drilling.

Sterling J. Talley
President
PENROC OIL CORPORATION

PENROC OIL CORP. ANGELL RANCH No. 1



ATTACH. I

KEUFFEL & ESSER CO. MADE IN U.S.A.
NO. X 3 LOG CYCLES

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. Box 2088
Santa Fe, New Mexico 87501

Adopted 1983-12-84
Side 1

RECEIVED BY
APR 30 1984
O. C. D.
ARTESIA, OFFICE

Case 8211

APPLICATION FOR CLASSIFICATION AS HARDSHIP GAS WELL

Operator PENROC OIL CORPORATION Contact Party STERLING J. TALLEY

Address PO DRAWER 831, MIDLAND, TEXAS 79702 Phone No. 915-683-1861

Lease ANGELL RANCH Well No. 1 UT B Sec. 33 TWP 19S RGE 28E

Pool Name WINCHESTER-MORROW GAS Minimum Rate Requested 350 MCFGPD

Transporter Name EL PASO NATURAL GAS CO. Purchaser (if different) —

Are you seeking emergency "hardship" classification for this well? X yes _____ no

Applicant must provide the following information to support his contention that the subject well qualifies as a hardship gas well.

1) Provide a statement of the problem that leads the applicant to believe that "underground waste" will occur if the subject well is shut-in or is curtailed below its ability to produce. (The definition of underground waste is shown on the reverse side of this form)

2) Document that you as applicant have done all you reasonably and economically can do to eliminate or prevent the problem(s) leading to this application.

   a) Well history. Explain fully all attempts made to rectify the problem. If no attempts have been made, explain reasons for failure to do so.

   b) Mechanical condition of the well(provide wellbore sketch). Explain fully mechanical attempts to rectify the problem, including but not limited to:

      i) the use of "smallbore" tubing; ii) other de-watering devices, such as plunger lift, rod pumping units, etc.

3) Present historical data which demonstrates conditions that can lead to waste. Such data should include:

   a) Permanent loss of productivity after shut-in periods (i.e., formation damage).

   b) Frequency of swabbing required after the well is shut-in or curtailed.

   c) Length of time swabbing is required to return well to production after being shut-in.

   d) Actual cost figures showing inability to continue operations without special relief

4) If failure to obtain a hardship gas well classification would result in premature abandonment, calculate the quantity of gas reserves which would be lost

5) Show the minimum sustainable producing rate of the subject well. This rate can be determined by:

   a) Minimum flow or "log off" test; and/or

   b) Documentation of well production history (producing rates and pressures, as well as gas/water ratio, both before and after shut-in periods due to the well dying, and other appropriate production data).

6) Attach a plat and/or map showing the proration unit dedicated to the well and the ownership of all offsetting acreage.

7) Submit any other appropriate data which will support the need for a hardship classification.

8) If the well is in a prorated pool, please show its current under- or over-produced status.

9) Attach a signed statement certifying that all information submitted with this application is true and correct to the best of your knowledge; that one copy of the application has been submitted to the appropriate Division district office (give the name) and that notice of the application has been given to the transporter/purchaser and all offset operators.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. Box 2088
Santa Fe, New Mexico 87501

Adopted 3-2-84
Side 1

Case 8211

APPLICATION FOR CLASSIFICATION AS HARDSHIP GAS WELL

Operator PENROC OIL CORPORATION Contact Party STERLING J. TALLEY

Address PO DRAWER 831, MIDLAND, TEXAS 79702 Phone No. 915-683-1861

Lease ANGELL RANCH Well No. 1 UT B Sec. 33 TWP 19S RGE 28E

Pool Name WINCHESTER-MORROW GAS Minimum Rate Requested 350 MCFGPD

Transporter Name EL PASO NATURAL GAS CO. Purchaser (if different) —

Are you seeking emergency "hardship" classification for this well? X yes _____ no

Applicant must provide the following information to support his contention that the subject well qualifies as a hardship gas well.

1) Provide a statement of the problem that leads the applicant to believe that "underground waste" will occur if the subject well is shut-in or is curtailed below its ability to produce. (The definition of underground waste is shown on the reverse side of this form)

2) Document that you as applicant have done all you reasonably and economically can do to eliminate or prevent the problem(s) leading to this application.

   a) Well history. Explain fully all attempts made to rectify the problem. If no attempts have been made, explain reasons for failure to do so.

   b) Mechanical condition of the well(provide wellbore sketch). Explain fully mechanical attempts to rectify the problem, including but not limited to:

      i) the use of "smallbore" tubing; ii) other de-watering devices, such as plunger lift, rod pumping units, etc.

3) Present historical data which demonstrates conditions that can lead to waste. Such data should include:

   a) Permanent loss of productivity after shut-in periods (i.e., formation damage).

   b) Frequency of swabbing required after the well is shut-in or curtailed.

   c) Length of time swabbing is required to return well to production after being shut-in.

   d) Actual cost figures showing inability to continue operations without special relief

4) If failure to obtain a hardship gas well classification would result in premature abandonment, calculate the quantity of gas reserves which would be lost

5) Show the minimum sustainable producing rate of the subject well. This rate can be determined by:

   a) Minimum flow or "log off" test; and/or

   b) Documentation of well production history (producing rates and pressures, as well as gas/water ratio, both before and after shut-in periods due to the well dying, and other appropriate production data).

6) Attach a plat and/or map showing the proration unit dedicated to the well and the ownership of all offsetting acreage.

7) Submit any other appropriate data which will support the need for a hardship classification.

8) If the well is in a prorated pool, please show its current under- or over-produced status.

9) Attach a signed statement certifying that all information submitted with this application is true and correct to the best of your knowledge; that one copy of the application has been submitted to the appropriate Division district office (give the name) and that notice of the application has been given to the transporter/purchaser and all offset operators.

PENROC Oil Corporation

P. O. DRAWER 831 · MIDLAND, TEXAS · 79702

Telephone (915) 683-1861

April 27, 1984

Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention Mr. Joe D. Ramey
Director

Re: Angell Ranch No. 1
B-Sec. 33, T19S, R28E
Eddy County, New Mexico

Dear Sir:

This is to request that the captioned well be placed in the "Hardship" classification in order that it will not be completely shut-in during a period of low gas demand.

If in fact the subject well is shut-in or curtailed below its ability to produce, "underground waste" will occurr.

The Angell Ranch No. 1 is in the Winchester-Morrow Gas Pool. It was completed 12/15/76 in the Upper Morrow sands through a series of perforations 10,912'-10,956'. Total depth 11,248'. PBTD 10,972'. Initial Potential - CAOF 3,242 MCFGPD plus 24 barrels condensate and 48 barrels water. Shut-in tubing pressure 2662#. Gas connection to El Paso sales line was 1/24/77.

Attachment I is a production decline curve plotted from date of first sales in January, 1977 through March, 1984. Included above the curve are annual produced volumes of gas. Well performance was good until approximately the middle of 1979 at which time decline of pressure coupled with water volume caused difficulty in maintaining flow. It became necessary to install a compressor in November, 1979 to keep the well on line.

We were asked to cut back on production in early 1982 and it was found that a decrease in daily volume below the fluid moving capacity afforded by formation pressure and compresser caused the well to load and attempt to die. A daily average volume of 450 MCFPD gas was produced during the months of April through July, 1982. This was down considerably from the 710 MCFGPD produced August, 1981 through February, 1982.

Then the well was shut-in by El Paso 9 days in August, all of September, and 24 days in October, 1982. The well was dead and had to be swabbed two days to produce.

Production from November 1982 through May, 1982 averaged only 422 MCFGPD. Then in June, 1983 the Angell Ranch loaded and ceased to produce. This time it was swabbed for four days before "Kicking-off".

That period of June, 1983 through March, 1984 shows a daily average gas production of 357 MCF.

Even though soap sticks have been used to help facilitate flow since late 1979 and this action continues on a twice a week basis, it is readily apparent that each time the well goes down a lower plateau of of daily gas volumes are experienced. If shut-downs are allowed even for short durations it will necessitate costly swabbing expense on top of already high operations costs. However, even more important, the observed lower plateaus of production will occurr more severly and the decline curve will plunge downward more rapidly. This simply means that "underground waste" will be a reflection of reserves that can never be recovered.

It is difficult to keep this well producing at its current rate so it is actually at or near its minimum sustainable producing rate which is approximately 350 MCFPD.

From May, 1980 to present date the amount of water to be moved has increased from .38 barrel/MCF to 1.18 barrel/MCF.

Attachment II is a Well Bore Sketch of the Angell Ranch well showing casing sizes and setting depths, cement amounts and position of cement as well as tubing, packer, perforations, etc. This illustrates a typical completed well situation for the area. No mechanical attempts have been made to alleviate water other than compressor installation.

The Winchester Morrow Gas Pool is non-prorated.

Attachment III is a plat of the area which shows the proration unit attributed to the Angell Ranch well being outlined in orange color and the well itself circled in orange. Lease ownership and other wells also are indicated.

It is requested that the Angell Ranch well be placed in the "Hardship" classification with a minimum sustainable flow rate of 350 MCF

gas per day. It is beleived that action is warrented based on the facts presented and made quite evident by the well performance shown on the decline curve.

Very truly yours,

PENROC OIL CORPORATION

Sterling J. Talley
President

SJT:msr

Attachments

PENROC OIL CORP. ANGELL RANCH No. 1

GAS - VOLUME

100 Mill.

10 Mill.

389,488 MCF

404,716 MCF

368,610 MCF

Compressor Installed

338,365 MCF

258,402 MCF

154,070 MCF

135,070 MCF

SI 9 days by El Paso
SI 30 "
SI 24 "

ATTACH. I

1977 1978 1979 1980 1981 1982 1983 1984 1985 1986

KEUFFEL & ESSER CO. MADE IN U.S.A.

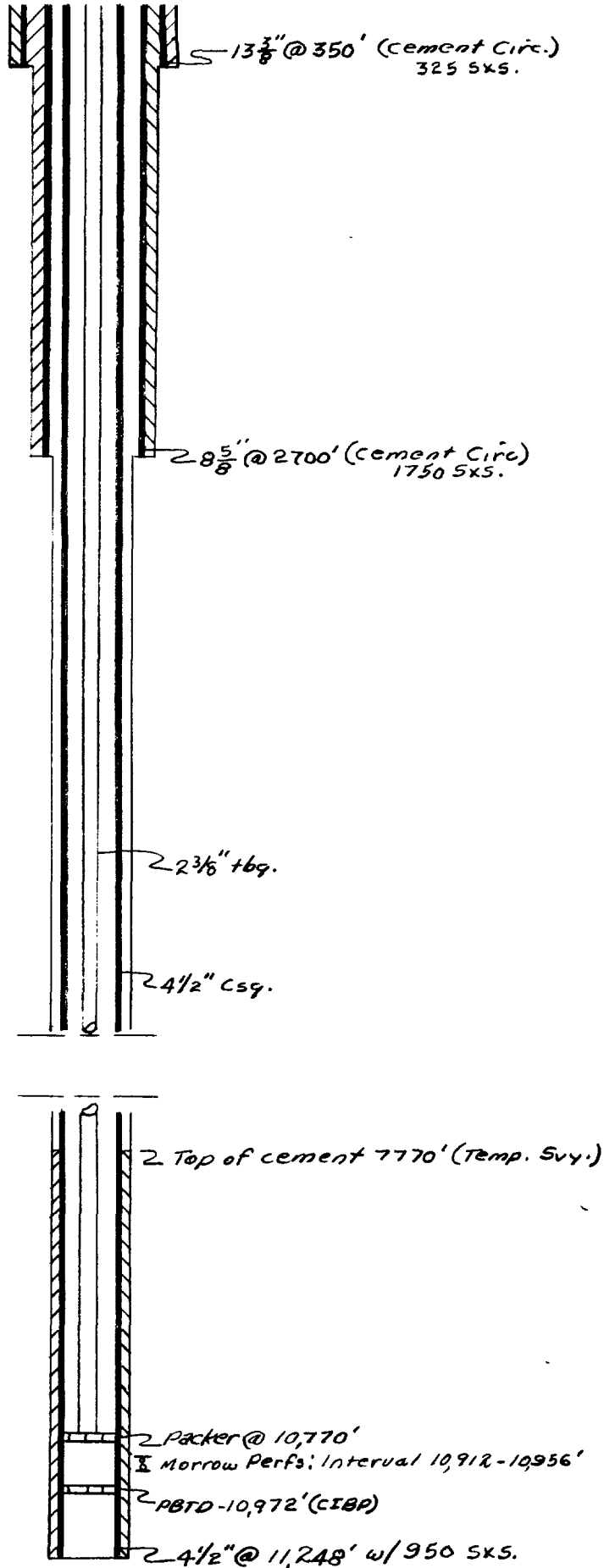
KYE X 3 LOG CYCLES

PENROC OIL CORPORATION

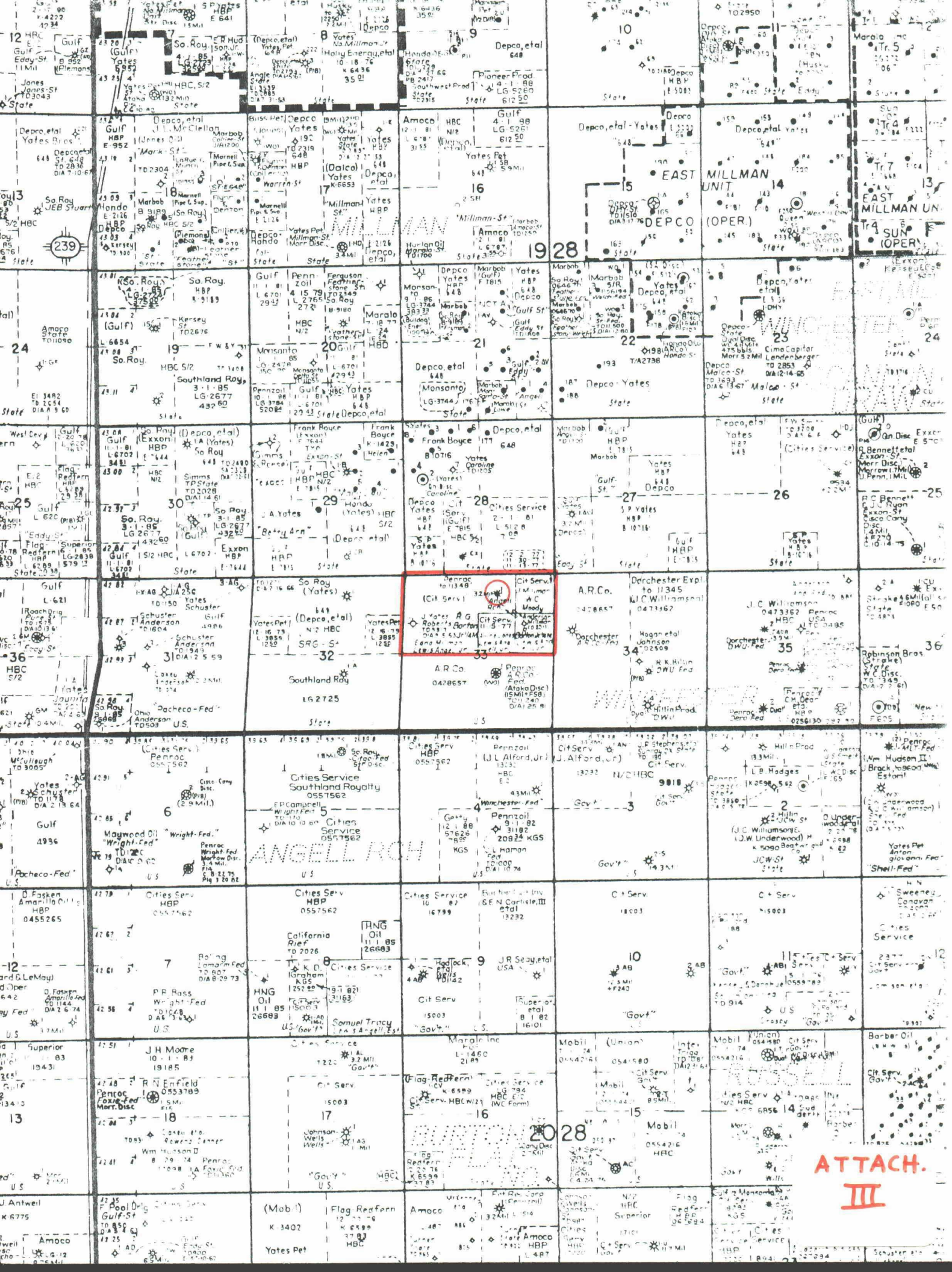
ANGELL RANCH NO. 1

1980' FEL, 660' FNL, 33-19S-28E Lea Co., New Mex.

Well Bore Sketch
(Not to Scale)



ATTACH
II


MILLMAN
EAST MILLMAN UNIT
MILLMAN (OPER.)
EAST MILLMAN UN
DEPCO
ANGELL RCH
ATTACH. III

This Attachment IV is to certify that all the information submitted with this application is true and correct to the best of my knowledge.

It is further certified that one copy of this application has been transmitted to the Artesia Division District office and that notice of the application has been transmitted to the transporter/purchaser which in this case is El Paso Natural Gas Company.

Notice has also been provided to offset operators being Cities Service, Gulf, Dorchester, Southland Royalty and Hondo Drilling.

Sterling J. Talley
President
PENROC OIL CORPORATION