Memo

From
FRANK T. CHAVEZ
District Supervisor

To Dick

Recommend denial or docketing for hearing.

(1) Small above tubing not run
(2) No history of shut-ins

Oil Conservation Aztec, New Mexico

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

APPLICATION FOR CLASSIFICATION AS HARDSHIP GAS WELL

Operator Northwest Pipeline Corporation Contact Party Mark McCallister

Address P.O. Box 90 - Farmington, NM 87499 Phone No. 505/327-5351

Lease San Juan 29-5 Unit Well No. 90 UT B Sec. 35 TWP 29N RGE 5W

Pool Name Basin Dakota Minimum Rate Requested 95 MCF/D

Transporter Name El Paso Natural Gas Company 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 (Agent's name) and that notice of the application has been given to the transporter/purchaser and all offset operators.

RECEIVED
MAR 12 1985
OIL CON. DIV.
DIST. 3

GENERAL INFORMATION APPLICABLE TO HARDSHIP GAS WELL CLASSIFICATION

1) Definition of Underground Waste.

> "Underground Waste as those words are generally understood in the oil and gas business, and in any event to embrace the inefficient, excessive, or improper use or dissipation of the reservoir energy, including gas energy and water drive, of any pool, and the locating, spacing, drilling, equipping, operating, or producing, of any well or wells in a manner to reduce or tend to reduce the total quantity of crude petroleum oil or natural gas ultimately recovered from any pool, and the use of inefficient underground storage of natural gas."

2) The only acceptable basis for obtaining a "hardship" classification is prevention of waste with the burden of proof solely on the applicant. The applicant must not only prove waste will occur without the "hardship" classification, but also that he has acted in a responsible and prudent manner to minimize or eliminate the problem prior to requesting this special consideration. If the subject well is classified as a "hardship" well, it will be permitted to produce at a specified minimum sustainable rate without being subject to shut-in by the purchaser due to low demand. The Division can rescind approval at any time without notice and require the operator to show cause why the classification should not be permanently rescinded if abuse of this special classification becomes apparent.

3) The minimum rate will be the minimum sustainable rate at which the well will flow. If data from historical production is insufficient to support this rate (in the opinion of the Director), or if an offset operator or purchaser objects to the requested rate, a minimum flow ("log off") test may be required. The operator may, if he desires, conduct the minimum flow test, and submit this information with his application.

4) If a minimum flow test is to be run, either at the operator's option or at the request of the Division, the offset operators, any protesting party, the purchaser and OCD will be notified of the date of the test and given the opportunity to witness, if they so desire.

5) Any interested party may review the data submitted at either the Santa Fe office or the appropriate OCD District Office.

6) The Director can approve uncontested applications administratively if, in his opinion, sufficient justification is furnished. Notice shall be given of intent to approve by attaching such notice to the regular examiner's hearing docket. Within 20 days following the date of such hearing, the affected parties will be permitted to file an objection. If no objection has been filed, the application may be approved.

7) Should a protest be filed in writing, the applicant will be permitted to either withdraw the application, or request it to be set for hearing.

8) An emergency approval, on a temporary basis for a period not to exceed 90 days, may be granted by the District Supervisor, pending filing of formal application and final action of the OCD Director. This temporary approval may be granted only if the District Supervisor is convinced waste will occur without immediate relief. If granted, the District Supervisor will notify the purchaser.

9) After a well receives a "hardship" classification, it will be retained for a period of one year unless rescinded sooner by the Division. The applicant will be required to certify annually that conditions have not changed substantially in order to continue to retain this classification.

10) Nothing here withstanding, the Division may, on its own motion, require any and all operators to show cause why approval(s) should not be rescinded if abuse is suspected or market conditions substantially change in the State of New Mexico.

11) A well classified as a "hardship well" will continue to accumulate over and under production (prorated pools). Should allowables exceed the hardship allowable assigned, the well will be permitted to produce at the higher rate, if capable of doing so, and would be treated as any other non-hardship well. Any cumulative overproduction accrued either before or after being classified "hardship" must, however, be balanced before the well can be allowed to produce at the higher rate.

NORTHWEST PIPELINE CORPORATION
PRODUCTION & DRILLING
P.O. BOX 90
FARMINGTON, NEW MEXICO 87499

March 7, 1985

Mr. Frank Chavez
New Mexico Oil Conservation Div.
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: San Juan 29-5 Unit #90

Dear Frank:

The San Juan 29-5 Unit #90 Dakota was completed on August 11, 1978. A stopcock was installed in August of 1980 to maintain bottom hole pressure and ensure enough gas volume is available to lift fluid from the wellbore.

An initial liquid production test run in November of 1980 indicated the well was producing 14 BWPD. The water production was decreased to less than 5 BWPD with the stopcock set for 6-1/2 hours on and 1-1/2 hours on. The well logged off at this time setting.

This well required six days swabbing before it could be unloaded. An intermitter was installed to keep the well unloaded. The well was put back on line after 3 days on intermitter. At a cost of $1200 per day to swab the well it costs $7200 to swab this well after it logs. At the current production rate of 127 MCFD, one swabbing operation takes 24 days to pay out. To date approximately $36,000 has been spent on swabbing operations.

As the well production declines, it will log off more and require more time to unload with a swabbing unit. If the well is logging off once every 3 months, it will be prematurely abandoned when it is capable of producing 35 MCFD. The well will be abandoned because it will not pay for swabbing operations. This amounts to a loss of approximately 55.3 MMCF recoverable reserves and $186,900 in gross revenue.

As can be seen from the attached production curve, after the well was swabbed in, it was producing 39% of the rate at which it was producing before it logged off. This is an indication of underground waste and a decrease in the relative permeability to gas.

If this well were given a hardship classification, small bore tubing will be run. Small bore tubing will allow fluid to be lifted from the wellbore with a

decreased volume of gas. When produced continually the wellbore will remain free of fluid and it will not log off. When the well is shut in, the fluid in the wellbore will increase to the point where the hydrostatic pressure is greater than the formation pressure. Under these conditions the size of tubing is irrelevant, the well will have to be swabbed.

The minimum producing rate required to lift fluid from the wellbore is 575 MCFD in 2-3/8" tubing and 375 MCFD in 1-1 2" tubing. This well cannot maintain a producing rate of 375 MCFD without the use of a stopcock. The wells production history indicates a stopcock time setting of 9 hours off and 3 hours on will maintain enough gas volume to lift fluid from the wellbore. Based on a minimum flow rate of 375 MCFD, this well will require an average minimum flow rate of 95 MCFD to lift fluid from the wellbore.

Sincerely,

Mark McCallister

M.A. McCallister
Production & Drilling
Engineer

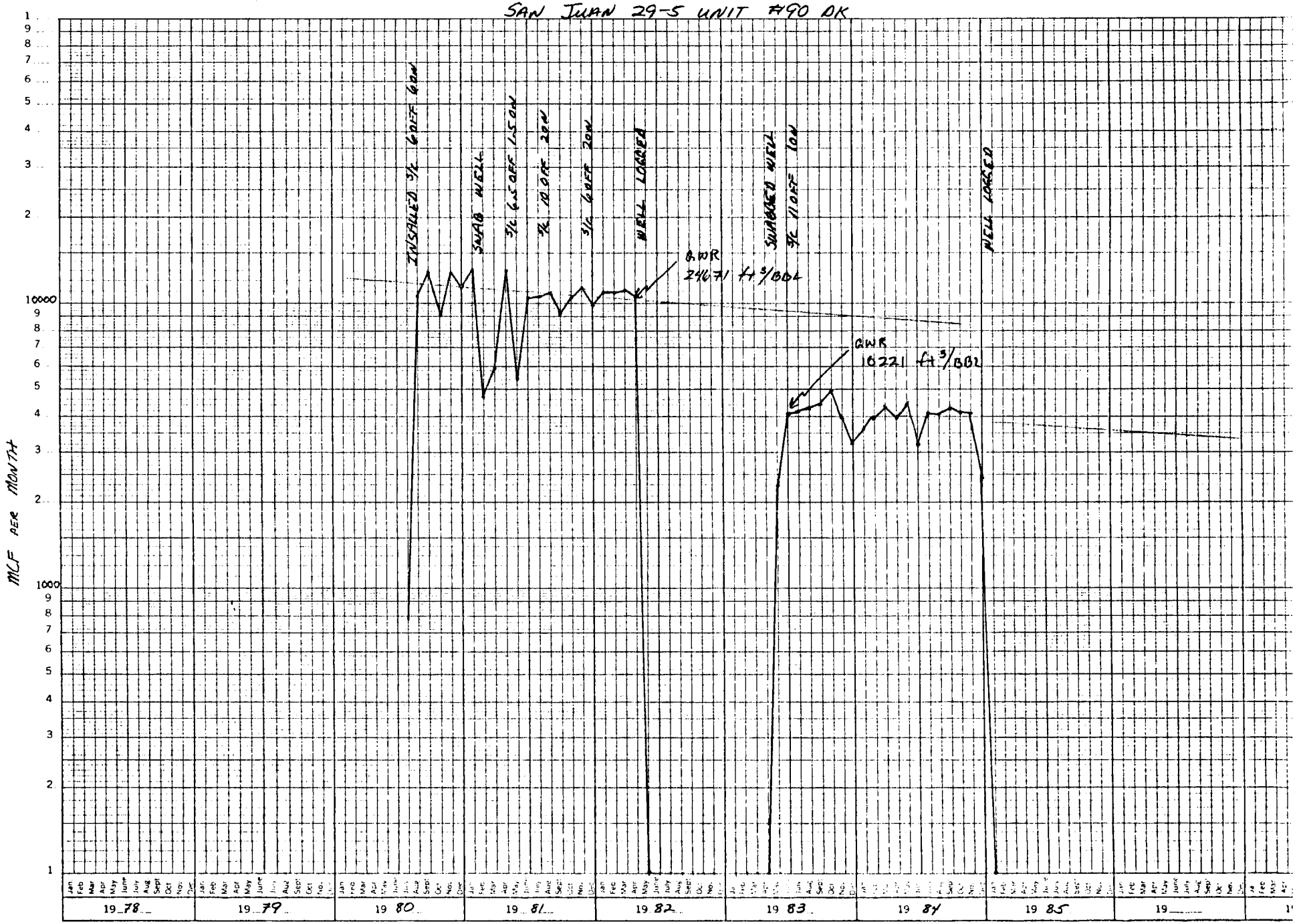
MAM lsm

PRODUCTION HISTORY

SAN JUAN 29-5 UNIT #90

The San Juan 29-5 Unit #90 Dakota was first delivered on July 21, 1980. The well required swabbing before it could be first delivered. After 10 days production the well logged. The well was manually unloaded by equalizing the casing and tubing and dropping soap sticks down the tubing. A stopcock was installed on August 8th, 1980, set on 6 hours off and 6 hours on. The well produced approximately 400 MCFD for 10 months. At this time, the stopcock time was changed to 6-1 2 hours off and 1-1 2 hours on, in an attempt to reduce water production (14 BWPD from I.L.P.T.). The well produced approximately 1 year at this time setting until it logged off in May of 1982. The well was swabbed but logged again in 5 days. Due to roads and weather, the well was not swabbed until October of 1982. After 2 days swabbing, the well unloaded and the rig was released. The next day the well had logged again. In April of 1983 the well was swabbed for 4 days and put on line. After producing for 3 days the well logged off. The well was swabbed in and an intermitter was installed to keep the well unloaded. The well was produced to atmosphere for 3 days with the intermitter. The well was put back on line with the stopcock set at 7 hours off and 1 hour on. After 14 days production the well was logging. The tubing unloaded a heavy slug of water to atmosphere. The stopcock time was changed to 11 hours off and 1 hour on. The well produced good for approximately 14 months being blown to atmosphere periodically. The well logged off in December of 1984 while producing.

MAM/lsm
3-7-85



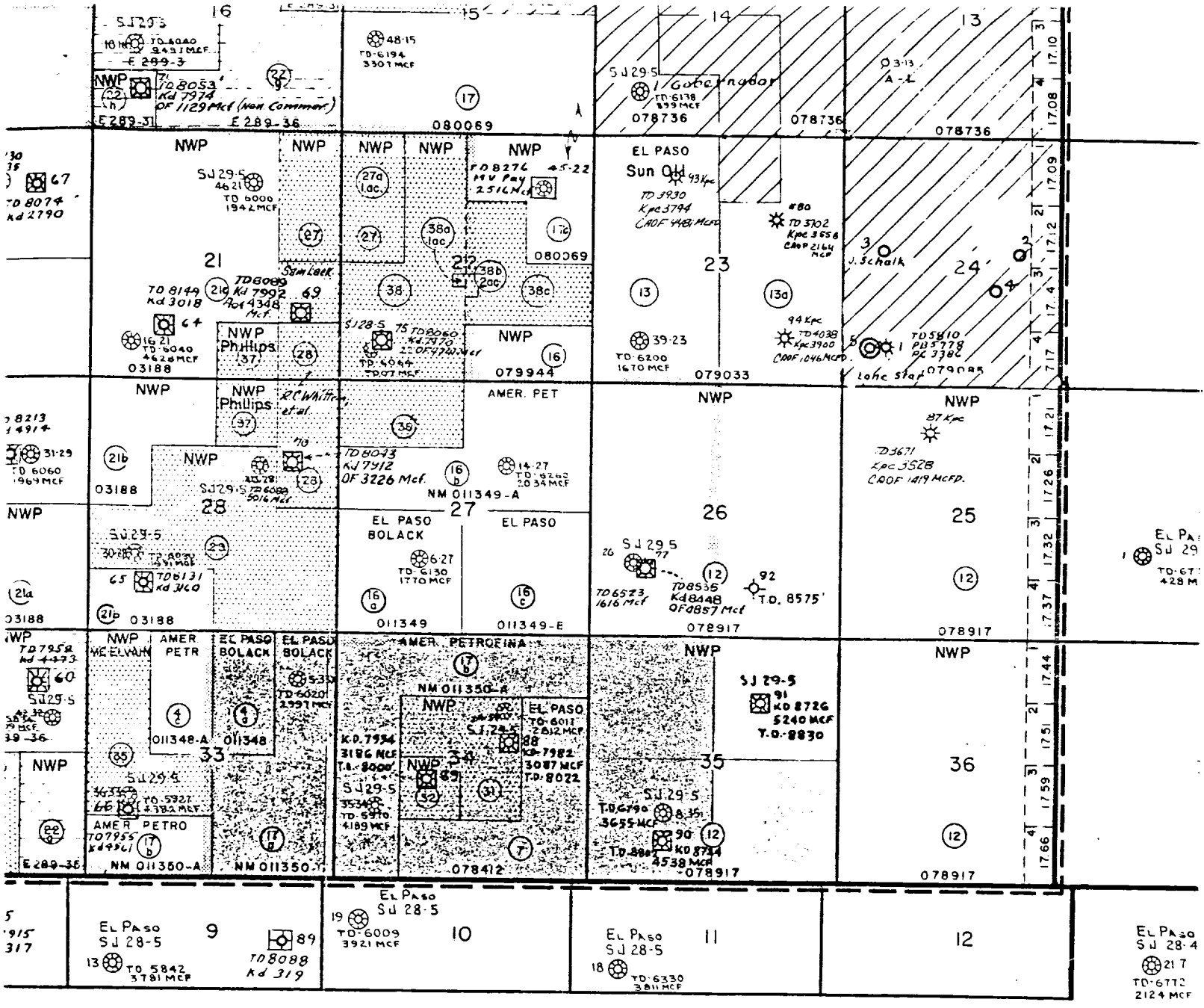


EXHIBIT "A"

SAN JUAN 29-5 UNIT

RIO ARRIBA COUNTY NEW MEXICO

APPROVED 21 NOVEMBER 1952

UNIT AGREEMENT NUMBER: 14-08-001-437

FIRST SALE OF UNITIZED SUBSTANCE 10-27-54

SCALE 1" = 3000

AUTOMATIC ELIMINATION 10-27-54

DAKOTA PARTICIPATING

12th Expansion 8-1-78

13th Expansion 9-1-78

SAN JUAN 29-5 UNIT #90