BelNorth Petroleum Corporation

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Energy and Minerals Department
Oil Conservation Division
P.O. Drawer DD
Artesia, New Mexico 88210

April 4, 1984

Case 8178

Attn: Mr. L.A. Clements

RE: Union Mead #3
J-Sec. 5, T-22-S, R-27-E
Carlsbad, S. (Morrow) Field
Eddy Co., New Mexico

Dear Sir:

Attached is application for "Hardship" allowable on referenced well.

Carl M. Hansen
Production Superintendent

CMH/jr

Attachments

cc: Mr. Perry Pearce
Mr. Thomas Kellahin

10000 Old Katy Road Houston, Texas 77055 Telephone (713) 932-4700

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 8178

APPLICATION FOR CLASSIFICATION AS HARDSHIP GAS WELL

Operator Belco Development Corp Contact Party Carl M. Houser

Address 10000 Old Katy Rd Suite 100 Houston, Texas 77055 Phone No. (713) 932-4700

Lease Union Mead Com, Well No. #3 UT J Sec. 5 TWP 22S RGE 27E

Pool Name S. Carlsbad Morrow Minimum Rate Requested 850 MCF/D

Transporter Name Llano Purchaser (if different) _____

Are you seeking emergency "hardship" classification for this well? XXX 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.

GENERAL INFORMATION APPLICABLE TO HARDSHIP GAS WELL CLASSIFICATION

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."

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.

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.

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.

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

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.

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.

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.

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.

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.

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.

Union Mead Com 3
Carlsbad, S. (Morrow)
Eddy Co., New Mexico
J- Sec S, T-22-S, R-27-E

Application for Classification as Hardship Gas Well

1) During February, 1984 this well produced at an average daily rate of 713 mcf, 0.3 BC & 118 BSW on compression. Daily production for April 3, 1984 was 720 mcfd (field calculation), 0 BC & 125 BSW on 3/4" choke with flowing tubing pressure of 200 psig and line pressure of 600 psig.

   Attempts to cut flow rate on this well have resulted in dropping of fluids causing "logging off." Experience has shown that approximately 10-12 hour flowing to atmosphere is required to regain flow. It is very doubtful if flow could be reestablished if well was permitted to completely "log off", and as a result underground waste would occur.

2) Attempts made to improve flow characteristics.

   a) A brief history of this well is as follows: Well was completed March 22, 1973 with sales being initiated September 15, 1973. Additional intervals were perforated June 20, 1974. After cleaning up wellbore, records do not show any water production from this well until July, 1976, at which time reported water production was 1 BPD. No increase in water production was observed until April, 1979, at which time reported water production was 12 BPD. In May, 1980, well started loading up due to increased water; however, flow could be maintained by unloading. On July 31, 1980 a bottom hole pressure was taken at 11,500' (-8,323') which was 1977 psig. Other information obtained showed the top of fluid to be located at 7340' with water at 8200'. During the next two months, attempts to unload and maintain flow were not successful. To obtain better flow characteristics, 2-7/8" OD tubing was replaced with 2-3/8" tubing on October 20, 1980. To establish flow, it was necessary to swab well twelve days; and alternately flow to sales and unload for the next eight days. On January 26, 1982, compression was installed as flow could not be maintained because of excessive water production. During the latter part of March 1982, well loaded up and died. To reestablish flow, it was necessary to swab well ten days before it "kicked off" and started unloading. Before sales could be started, an additional 5 days of cleaning to pit were required. Since this date, flow has been maintained by close observation and immediately unloading if any mechanical problems are found to exist.

      Any remedial operations to shut-off water encroachment in this wellbore would possibly result in loss of well due to the sensitivity of the Morrow sand. This statement is made as remedial operations to shut-off water production in the west offsetting well were not successful and resulted in near loss of total productivity.

b.) Wellbore schematic is attached and attempt to rectify loading problem discussed in well history.

3.) Conditions that can lead to waste

a.) The Morrow sand is an extremely sensitive formation that is susceptable to either damage by extraneous fluids or formation fluids if allowed to remain in contact with the wellbore interface. If a Morrow well ceases to flow and is not swabbed up immediately, formations damage will generally result.

b.) After swabbing during March 1982, well has not been swabbed again. However, frequent unloading to atmosphere has been required to maintain flow.

c.) The length of time required to return well to production is shown in well history.

d.) Average monthly operating expense for the period from August 1983 through January 1984 was $7185. The majority of this expenditure can be attributed to saltwater disposal and compression charges. No swabbing expenditure occurred during this period.

4.) Estimated reserves that would be lost if well should be prematurely abandoned.

Gas reserves as of January 1, 1984 - 1,366,412 mcf.

Condensate reserves as of January 1, 1984 - 545 bbls.

5.) Minimum sustanable producing rate

a.) A minimum flow or complete "log off" test has not been run on the well. As noted above, it has been observed that dropping of fluids occurs rapidly with reductions of rate. Thus, to avoid swabbing or prevent damage, test was never concluded.

b.) Presented on Daily Record of Crude Production and Runs sheets attached.

6.) Map attached showing proration unit and offsetting operators.

7.) Morrow wells located in this section of the reservoir are increasing in daily water production. Remedial operations on west offsetting well was not successful in restoring productivity and can be attributed to formation damage caused during workover operations. Production logs run in the Jarvis Mead 1 (west offset) showed water encroachment to be from a Lower Morrow stringer located near the top of this designated section, thus, if remedial work was successful, gas from the lower stringers would still be lost resulting in waste.

8.) This well is located in the South Carlsbad (Morrow) field, a prorated gas pool. As of February 1984 overproductions from this well totaled 87,254 mcf.

9.) This is to certify that all information submitted with this application is true and correct to the best of my knowledge and that has been submitted to the Artesia District office with copies notice of applications being given to the transporter and purchaser and offsetting operators.

BelNorth Petroleum Corporation

Carl M. Houser

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Production Superintendent