file

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

January 30, 1987

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Case 9103

National Cooperative Refinery Assn.
415 W. Wall
Suite 2215
Midland, Texas 79701

Attention: Mr. B. J. Hinson

Subject: Federal 11-20-34 No. 1 well,
Lea County, New Mexico

Gentlemen:

Your application dated October 1, 1986 requesting hardship classification for subject well was received but not timely acted on because it was incomplete for administrative action and not docketed for hearing due to some breakdown in our Santa Fe office.

We will set this application for hearing March 4, 1987. It is suggested you contact Mr. Jerry Sexton, OCD district supervisor at Hobbs for arranging a log-off test for the well. You requested a minimum flow rate of 150 Mcfd but there is no data submitted that would show the well cannot maintain flow at a lower rate.

We also note that no produced water is reported in 1985 and only small amounts in 1986. You should be prepared to show a real need for a continuous minimum flow plan rate to prevent waste in order to justify your application for hardship classification. You should also substantiate your estimate of reserves that would be lost in the absence of the requested classification as a hardship well.

Because of the inadvertent delay in processing this application, the temporary hardship classification is extended to April 1, 1987.

Yours very truly,

VICTOR T. LYON,
Chief Petroleum Engineer

VTL/dr

cc: Jerry Sexton
Oil Conservation Division - Hobbs

Phillips 66 Natural Gas Co.
Odessa, Texas

National Cooperative Refinery Association

1775 SHERMAN STREET, SUITE 3000 • DENVER, COLORADO 80203 • 303/861-4883

Crude Oil Division Office

March 16, 1987

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

Attention: Mr. Victor T. Lyon

Re: Case 9103
Application for Hardship Classification
Federal 11-20-34 No. 1
Lea County, New Mexico

Gentlemen:

Reference is made to our application dated October 1, 1986, and your reply dated January 30, 1987. This letter provides the additional information requested by Mr. Lyon during our March 13, 1987, telephone conversation to expedite administrative approval of the subject application.

As suggested in your letter, NCRA performed a log-off test for the subject well. This test was witnessed by Mr. Jerry Sexton of your Hobb's office. The results of the test are shown in Attachment No. 1.

Prior to commencing the log-off test the well was treated with soap and shut-in to build up pressure. This allowed the well to unload and begin the test on February 9, 1987, producing 261 MCFD, 44 BCPD, and 8 BWPD on a 20/64 inch choke. Gradually decreasing the choke setting over a 10 day period to 7/64 resulted in the well loading up and logging off. After building pressure, the choke was opened to 10/64 and the well produced for nearly five days at a rate of about 52 MCFD. Unfortunately, this rate is not sufficient to keep the wellbore free of fluids, as evidenced by the amount of fluid recovered by swabbing. The well probably would have logged off completely if it had been allowed to produce another day or two against a 10/64 inch choke. The log-off test indicates that the well may be loading up even at a choke setting of 20/64. Therefore, a flow rate of 150 MCFD is the absolute minimum rate required to keep the well flowing continuously.

Attachment No. 2 shows the calculated flowing rates the Federal 11-20-34 No. 1 well will be producing at when the different economic limits are reached. The first calculation assumes that the well will be allowed to produce at capacity with no additional expenses required to keep it flowing. The second calculation uses the actual operating costs experienced during periods of curtailment and high line pressure to calculate the economic producing limit under curtailed conditions. Attachment No. 3 shows the reserves remaining to be recovered for each economic limit. The difference between the two estimates in remaining reserves is the amount of gas that will be wasted if Hardship Classification is not granted for the Federal 11-20-34 No. 1. Attachment No. 4 is a performance curve for the subject well which shows where values for the reserve calculations were obtained.

If any additional information is required to obtain administrative approval of NCRA's application or if questions arise concerning the information provided, please contact the undersigned at (303) 861-4883.

Sincerely yours,

A. M. O'Hare

A. M. O'Hare
Joint Operations Supervisor

AMO/sm
attachments (4)

cc: Jerry Sexton, w/attachment
Oil Conservation Division
Phillips 66 Natural Gas Co.
Odessa, Texas

Attachment No. 1
Federal 11-20-34 No. 1

LOG OFF TEST

Date	Gas	Oil	GOR	Water	Choke/64"
2-09-87	261	44.14	5.89	8	20
2-10-87	179	22.08	8.11	7	20
2-11-87	179	11.03	16.23	-	20
2-12-87	179	16.56	10.81	-	20
2-13-87	168	0	-	-	20
2-14-87	168	0	-	-	20
2-15-87	168	0	-	-	20
2-16-87	168	7.61	22.08	2.2	20
2-17-87	158	0	14.49	0	20
2-18-87	105	5.53	18.99	0	15
2-19-87	105	0.70	150	0	10
2-20-87	0	0		0	7
2-21-87	52	0	-	0	10
2-22-87	52	0	-	0	10
2-23-87	52	2.7	19.26	0	10
2-24-87	52	0	-	0	10
2-25-87	52	0	-	0	10
2-25-87 (Swabb Well)	516	66.0	7.82	6	10
2-26-87	263	0	-	2.27	7
2-27-87	316	5.52	57.25	0	20
2-28-87	158	5.52	28.62	0	20
					20
	3351	187.39	17.88	19.47	

FDS/cb

Floyd Steed

Floyd Steed

Attachment No. 2
Economic Limit
Federal 11-20-34 No. 1

Economic Limit = (ADOC) (WI)/(ATGP)(NRI)

Where: ADOC = Average Daily Operating Cost
WI = Working Interest
ATGP = After Tax Gas Price
NRI = Net Revenue Interest

ADOC: Monthly operating cost from Lease Operating Statement divided by number of wells divided by 30.4 days per month.

Gas Price: Average after tax price received from 6/86 through 11/86

Economic Limit for Uncurtailed Production

Monthly Operating Cost (Averaged for months of Feb., March, April, June, and August, 1986)	$ 1,800
Number of Wells	2
ADOC [($1,800/mo.)/2 wells/30.4 days per mo.]	$ 29.61/day
ATGP	$ 0.62/MCF
WI	1.00
NRI	0.845
Economic Limit (29.61)(1.00)/(0.62)(0.845)	57 MCFD

Economic Limit for Curtailed Production

Monthly Operating Cost (Averaged for months of Jan., May, July, Sept., Oct., Nov., Dec., 1986)	$ 2,125*
Number of Wells	2
ADOC [($2,125/mo.)/2 wells/30.4 days per mo.]	$ 34.95/day
ATGP	$ 0.62/MCF
Economic Limit (34.95)(1.00)/(0.62)(0.845)	67 MCFD

* Increase is due to swabbing and soaping costs required during the noted months.

Attachment No. 3
Remaining Reserves
Federal 11-20-34 No. 1

$$\text{Reserves} = \frac{(Q-Qa)365}{D}$$

Where: Q = Current Daily Rate from performance curve (Proj. for Jan.).
Qa= Abandonment rate calculated from economic limit.
D = Continuous decline rate from performance curve.

	Uncurtailed Production	Curtailed Production
Current Rate (Q)	159 MCFD	159 MCFD
Abandonment Rate (Qa)	57 MCFD	67 MCFD
Decline Rate (D)	0.0469	0.0469
Remaining Reserves	793,500 MCF	715,700 MCF

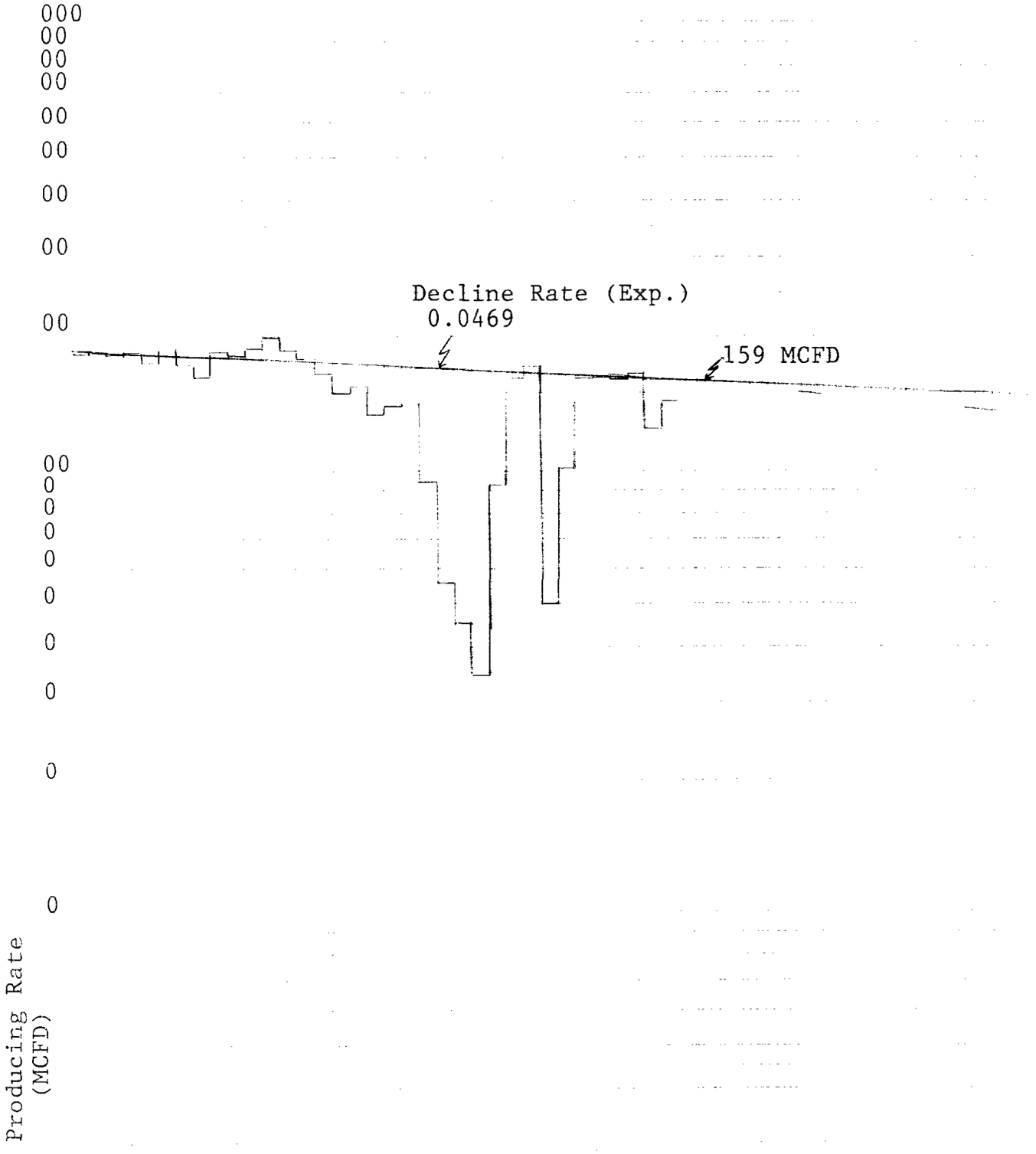
Anticipated Loss in Reserves without Hardship Classification

793,500 - 715,700 ≈ 78,000 MCF or 78 MMCF

$\frac{793,500}{150 \text{ MCF}} = 14.5 \text{ yrs}$

$\frac{793,500}{17.92} = 44,279 \text{ MCF (init.}$

Attachment No. 4
Federal 11-20-34 No. 1
Performance Curve



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

March 23, 1987

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

National Cooperative Refinery Association
1775 Sherman Street
Suite 3000
Denver, Colorado 80203

Attention: Mr. A. M. O'Hare

Re: Case 9103, Application for Hardship Classification - Federal 11-20-34 No. 1, Lea County, New Mexico

Gentlemen:

Thank you for your letter of March 16, 1987 and attachments thereto. The subject case was dismissed per your instructions by telephone March 17.

Upon review of the data submitted it appears the well makes only 5.8 barrels of water per MMCF gas and only one-tenth barrel of water per barrel of condensate. Without casing or tubing pressures to match your flow rates it is impossible to verify any tendency to load up with liquids.

The GOR of the well, without having API gravity, indicates it could be an oil well. Casinghead gas carries a high priority of access to market.

The fact you were able to kick the well off with soap sticks, that it can be kicked off by shutting in to build pressure and that there is no showing of irreparable damage to the reservoir leads us to believe there is no question of physical waste demonstrated in the data. It appears you could be aided by considering a plunger lift or smaller tubing (tubing size is not given).

Your case appears to rest on economic conditions rather than a potential for physical waste. While this is an undesirable condition it is also one shared by hundreds of other wells. In the gas market situation today there are many wells which are being shut in due to uneconomic rates.

To attempt to preserve for all of them an economic producing rate would result in crowding other wells out of today's limited market.

In summary, we regretfully deny your application for hardship classification because it does not qualify under the requirements of Rules 408 and 409. Should you wish to pursue the matter further we will, if you so request, set the matter again for hearing. Unless you have persuasive evidence of probable physical waste that would result from curtailment and/or periodic shut-in the decision after hearing would undoubtedly be the same.

Yours very truly,

VICTOR T. LYON,
Chief Engineer

VTL/dr

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

March 23, 1937

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STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

National Cooperative
Refinery Association
1775 Sherman St., Suite 3000
Denver, Colorado 80203

Re: CASE NO. 9103
ORDER NO. R-8416

Applicant:

National Cooperative Refinery Association

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

FLORENE DAVIDSON
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other